the Research Group on
Medical & Welfare Architecture
in Kogakuin University

Notes on Hospital Building

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Outpatient department
Diagnostic and treatment department
Nursing unit
Administrative, management, and supply department
General and common issues

INTRODUCTION

This "Note" is intended for designers/planners and clients/users to mutually evaluate and confirm design documents when planning and designing medical and welfare facilities, and to obtain a common understanding.
It provides the evaluation viewpoints (evaluation axes) to be considered and its specific items (check lists, hereinafter CL), and is published by the Research Group on Medical & Welfare Architecture in Kogakuin University.

HOW TO READ THIS BOOKLET

This Note can be used as CLs for hospital space configuration. The CLs in chapter A (Outpatient department) through chapter D (Administrative, management, and supply department) are organized by department, room, place (location) and section for ease of use to check your hospital floor plans. Chapter E (General and common issues) describes general and common issues in design.
Each CL item is described from the perspective of 13 "evaluation axes" categorized below.
The CLs also provide specific examples of architectural and facility measures along with the evaluation items and axes. It is hoped that readers will use this information to better organize their individual design proposals.

(Evaluation Axes)	(Number and abbreviation)
00 Basic considerations	(00 Basic)
01 Guarantee of medical treatment	(01 Medical)
02 Guarantee of basic living activities	(02 Lifestyle)
03 Assurance of safety	(03 Safety)
04 Privacy considerations	(04 Privacy)
05 Comfort considerations	(05 Comfort)
06 Environmental engineering performance	(06 Environment)
07 Information provision	(07 Information)
08 Considerations for physical functional decline	(08 Physical)
09 Performance of various facilities and equipment	(09 Equipment)
10 Improving operational efficiency	(10 Duties)
11 Growth and change considerations	(11 Growth)
12 Environmental considerations for staff	(12 Staff)

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A. Outpatient department

A.1. Outpatient administration

A.1.1. Reception and counter

☐A.1.1.1 (00 Basic)

Ensure outpatients can be guided smoothly.

Reception counters carry out various administrative functions ranging from processing patients (first visit/ follow-up visit, admittance and discharge, referrals) to accounting and prescriptions, but their location and methods vary among hospitals. Accordingly, formulate plans so that the reception system, including the afore-mentioned functions are easy for hospital visitors to understand. Automated reception machines, etc., are also used for performing these functions. Because lines of people may form in front of reception counters and machines, sufficient queuing space needs to be secured so that these lines do not prevent smooth movement.

[Specific Examples]

- *Place the reception counter in an easily seen location near the entrance.*
- *When return visit reception machines or other such devices are used with patients, place the reception machines on the flows for hospital visitors and pay attention to securing space where hospital visitors cluster together.*
- *Place a general reception desk near the entrance and secure spaces where staff members can be located so as to be readily visible to hospital visitors at locations where machines are used to deal with hospital visitors.*
- *At approaches to check-in counters and other contact points, secure spaces located on the flows for hospital visitors where visitors can fill in forms (writing counters), receive help, and handle formalities.*

☐A.1.1.2 (00 Basic)

Ensure hospital visitors and patients can be attended to at reception counters and other contact points in accordance with their situation or purpose.

Because it is expected that people experiencing various different situations will come to the hospital, counters for each aspect of outpatient administration need to be positioned appropriately so that hospital visitors and patients can be attended to in accordance with their situation or purpose.

[Specific Examples]

- *Reception functions include the following items:*
  General information, reception (first visits, return visits), referral reception, cashier, consultation about department to visit, help with application for medical consultation, admission and discharge, prescription, medical social work (MSW), regional liaison, at-home medical care, family members and patient visitors, home visits, consultation of every kind
- *There are various systems of reception for diagnosis and treatment, such as central reception, block reception, department reception, and so on, and systems are adopted according to their purpose.*
- *Set up to ease the anxieties of hospital visitors by adopting an open counter system or other such measures.*

☐A.1.1.3 (00 Basic)

Ensure the space and facilities required for conducting medical affairs activities are appropriately secured.

At reception counters, secure sufficient space to enable installation of the equipment/facilities necessary for reception administration as well as for the staff working at the counter to move about so that the reception counter can be installed with computers, printers, registers, telecommunications devices, and other equipment.

[Specific Examples]

- *Some work is done sitting in chairs, so secure space for that purpose as well as adequate counter height on the reception side.*
- *Secure adequate passage space for staff members to come and go behind the counters.*
- *Make good use of the area below the counter and secure necessary storage space as appropriate.*
- *Set up reception and information counters.*

☐A.1.1.4 (04 Privacy)

Ensure confidentiality of information is maintained and attention is paid to security.

From the perspective of protecting patients' personal information, consideration is given to calling patients using a number rather than their name. To ensure that conversations with patients or hospital visitors cannot be overheard, consideration needs to be given to the privacy of patients and others.

[Specific Examples]

- *Set up individual partitions and cubicles at reception.*
- *Pay attention to the layout of waiting areas, reception areas, counters, and other visitor contact points so that computer screens will not be visible to visitors.*
- *In consideration of patient privacy, call patients by number rather than by name.*

☐A.1.1.5 (08 Physical)

Ensure hospital visitors can be attended to and provided with guidance in accordance with their condition.

Because elderly people, people in a wheelchair or on crutches, people with disabilities, and others with decreased physical functions can be expected to visit the hospital, consideration needs to be given to ensuring that hospital visitors are able to check-in smoothly.

[Specific Examples]

- *Install tactile floor tiles for guidance, provide voice guidance, and place hospital floor guides and tactile maps.*
- *Set up reception and writing counters with height, width, and under counter space that support the condition of wheelchair users and hospital visitors.*
- *Set up counters where people can write while sitting down.*
- *Set up umbrella hangers and walking stick hooks at counters.*
- *Secure space near entrances where wheelchairs can be put for use by hospital visitors.*

A.1.2. Medical affairs section

☐A.1.2.1 (00 Basic)

Ensure space and facilities required for performing medical administration activities are appropriately secured.

Medical administration (medical affairs section) mainly handles duties such as patient reception, accounting, admittance and discharge procedures, and organization/storage of medical service payments and medical records, and so is differentiated from general administration (general affairs, personnel, outsourcing management, facility management, etc.).

[Specific Examples]

- *Even when individual reception counters and other contact points are set up, the medical affairs section office conducts common planning for them and seeks greater efficiency in use of space.*

☐A.1.2.2 (10 Duties)

Plan with consideration to connections between related departments.

It is important that the medical affairs section, which oversees patients' counters and cashier functions, is able to liaise easily with reception counters, outpatient diagnostic and treatment departments, the pharmacy, and wards/nursing units, etc., to ensure that administration is carried out smoothly.

[Specific Examples]

- *The medical affairs section office will be located adjacent to the area behind the reception cashier counter*
- *Digital charts and ordering are used so that information can be communicated rapidly.*

Medical records storage space

☐A.1.2.3 (04 Privacy)

Make arrangements to ensure the confidentiality of personal information.

Because medical records contain various personal information, sufficient confidentiality must be secured to ensure there is no information leakage. Formulate plans so that the medical records storage space can be expanded or reduced in future, including in cases where switching to electronic medical records is being considered.

[Specific Examples]

- *Keep patient spaces and medical spaces clearly separate with a floor plan that makes security management easier.*
- *Set up shutters and doors with locks so that only authorized people can enter rooms out-of-hours and at night.*
- *Provide for combined use of outside warehouses to reduce space used at storage locations.*

A.1.3. Medical liaison/MSW

Consultation/Counselling room

☐A.1.3.1 (00 Basic)

Make arrangements to secure provision of counselling services in accordance with purposes.

Various counselling services are provided, including liaising with local medical institutions regarding patients' outpatient consultations and hospitalization. In order for these services to be carried out smoothly, it is necessary to formulate plans that facilitate information sharing among multiple occupations within the hospital and interdepartmental cooperation.

[Specific Examples]

- *Consultation content includes items of the following kinds:*
  Medical liaison, medical expenses, transfer to another hospital, long-term care, at-home medical care, home visits, medical supplies and instruments, institutional systems, patient opinions and inquiries
- *Secure space and seating that allow for accompanying persons.*

Consultation/Counselling room

☐A.1.3.2 (04 Privacy)

Pay consideration to patients' privacy.

Because the Counselling Room is a place where hospital visitors undergo counselling regarding personal matters, it is necessary to give consideration to visitors' privacy. Hindrances to privacy include visual infringement by others and (overhearing) leakage of counselling details.

[Specific Examples]

- *Set up individual spaces such as partitions and individual rooms in counseling rooms and nearby areas.*
- *Pay attention so that counseling room interiors and people entering and leaving counseling rooms will not be visible from common areas.*
- *Pay attention to sound insulation so that consultation content and conversations cannot be overheard.*
- *Envisioning a variety of different uses, provide counseling rooms with entryways on two sides.*

A.2. Common items (waiting hall)

A.2.1. Waiting hall/Waiting room/Waiting area

☐A.2.1.1 (00 Basic)

Ensure consultation rooms can be accessed smoothly.

Patients consulting physicians in outpatient departments include elderly people and other patients who cannot move around smoothly, and so it is necessary to secure ample space between the waiting hall and consultation rooms.

[Specific Examples]

- *Secure sufficient space to allow passage of stretchers.*
- *Secure sufficient passageway width to allow wheelchairs and walking people space to pass each other between waiting area chairs (seated people's feet) and consultation rooms.*

☐A.2.1.2 (05 Comfort)

Create an environment that enables patients to wait in comfort.

Secure sufficient space to enable outpatients and accompanying persons to wait in comfort. Furthermore, in addition to giving consideration to the interior finish, furniture, and fixtures, consideration also needs to be given to providing information displays that enable those waiting to easily ascertain waiting times.

[Specific Examples]

- *Secure waiting areas of a size that meets the wishes of patients and family members.*
- *As space for wheelchairs, secure an area large enough to place in it a circle of 1,500-mm diameter, the space needed for a wheelchair to turn around.*
- *Set up different waiting areas so that people coming for different purposes are not mixed together.*
- *In order to make effective use of waiting time, adopt a paging system or arrange for loans of call devices that allow people to obtain waiting times, pages, and other such information while they are in the coffee shop, patients' reference library or other such location.*
- *Adopt a patient call system that takes the privacy of patients and others into account.*
- *Set up necessary facilities and accommodations around waiting areas.*
- *Provide lavatories, public telephones, breast-feeding rooms, playrooms, magazines, televisions, and notice boards with information from external entities, and windows that let in outside light and allow views of outdoors.*

Information sign

☐A.2.1.3 (07 Information)

Ensure ease of understanding to for patients.

Provide equipment and notice boards that enable information within the facility to be easily secured. In addition, use smooth and easy-to-understand mechanisms for calling patients into consultation rooms and for patients to access consultation rooms.

[Specific Examples]

- *Install facilities for providing information of various kinds (what to do in emergencies and so on).*
- *Check to make sure that such information is available at readily noticeable locations, that it is easily visible, and that it is clearly audible, including on notice boards, broadcasting equipment, LCD displays, hospital information display built into TV sets, and so on.*
- *Give consideration to making information easy to obtain from seated locations (waiting areas) and also give consideration to taking steps so that even hospital visitors from other countries will not have difficulty acquiring information.*
- *Set up equipment and signs to provide information with appropriate brightness difference and luminance contrast.*
- *Place equipment that can provide information and maintain communication by text and images.*
- *Pay attention to how information is expressed, the size of characters, and other such factors that can make it easier for elderly people to perceive and understand.*

Furniture

☐A.2.1.4 (03 Safety)

Formulate plans to ensure that patients can use the facilities safely.

When patients are moving around, they may lean against furniture. Accordingly, it is necessary to give consideration to preventing patients from falling. In addition, because furniture may be touched by patients, ensure that the finish is easy to wipe down and clean.

Furniture

☐A.2.1.5 (05 Comfort)

Make arrangements tailored to the conditions of patients.

Select furniture in accordance with the various ways in which outpatients and accompanying persons wait.

[Specific Examples]

- *Select seats that are shaped to allow comfortable sitting for long periods.*
- *Use seating for multiple people, lobby chairs and benches, seating at various heights, seating that allows people to lie down, and so on.*
- *Provides seating suited to the bodily functionality of individual patients (high backs, armrests, assisted sitting and standing, footrests, adjustable seat height and depth).*

A.2.2. Lavatory

☐A.2.2.1 (03 Safety)

Ensure patients can move around easily.

In cases such as large outpatient areas, consideration needs to be given to distributing lavatories in appropriate locations around the area and the moving distance to lavatories. Because hospital visitors may spend longer than usual in the lavatory depending on their physical condition, provide a sufficient number of toilets.

[Specific Examples]

- *Place lavatories where they are reachable within a short distance.*
- *Arrange the line of movement so that staff members will be able to see people who are moving.*

☐A.2.2.2 (03 Safety)

Formulate plans to ensure that patients can use the facilities safely.

Because patients may become unwell and require the assistant of medical staff while in the lavatory, consideration must be given to this possibility. Furthermore, lavatories can easily become dirty, and so consideration needs to be given to infection control measures.

[Specific Examples]

- *Install emergency call devices inside lavatory booths.*
- *Lavatory booth doors should open out or be sliding doors.*
- *Use paper towel for hand drying (blowing air has been shown to spread bacteria).*
- *Toilet fixtures should be wall-mounted.*

☐A.2.2.3 (05 Comfort)

Make arrangements tailored to the conditions of patients.

The range of hospital visitors is diverse—wheelchair users, patients with stomas, patients accompanied by children, patients who use diapers, etc. It is necessary to provide facilities that can accommodate these patients.

[Specific Examples]

- *Toilet fixtures for wheelchair users, handrails, backrests, front support boards, ostomate facilities, high chairs, diaper changing stations (beds), showers, and so on should be located appropriately for their use.*

A.3. Common items

A.3.1. Consultation room

☐A.3.1.1 (00 Basic)

Pay consideration to ensuring that patients can fill out their medical history forms and take various measurements before their consultation.

Because it is necessary to understand the patient's condition when they are examined by a physician, provide space for patients to fill out their medical history forms and take various measurements (weight, temperature, etc.) before their consultation.

[Specific Examples]

- *Set up chairs, desks, counters, and so on for people to write on their medical history forms.*
- *Have weighing machines and other such equipment in place.*

☐A.3.1.2 (00 Basic)

The space required for carrying out medical practices are secured.

Depending on the hospital, in some cases the hospital has consultation rooms for specific physicians or consultation subjects, while in other cases the hospital uses a free address system in which consultation rooms are not assigned to specific physicians/consultation subjects. It is important to secure an appropriate number of consultation rooms for the consultation schedule as well as check that the necessary space for carrying out consultations is available. Of course, it is necessary to give consideration to future renewals. Because of the different medical instruments and other equipment used by physicians in different specialties, consultation room types include Internal Medicine, Surgery, Psychiatry, Oral-maxillofacial Surgery, Otorhinolaryngology, Urology, Obstetrics/Gynecology, and Pediatrics.

[Specific Examples]

- *Secure the necessary number of consultation rooms.*
- *Set up desks, chairs, chairs for patients, examination tables, and hand-washing equipment with automatic taps.*
- *Shelves for temporary storage of patient clothing and belongings should be placed near chairs for patients and examination tables.*
- *Secure adequate space in rooms to enable easy movement with stretchers and wheelchairs (1,500-mm diameter for turning around).*
- *Provide natural lighting or artificial lighting with the necessary illuminance or with illuminance that can be adjusted to match color tones. (Secure artificial lighting that provides 500 Lx or better to the work surface so that patient skin tones can be discerned.)*
- *Give consideration so that ceiling lights do not shine directly in the eyes of patients who are in a supine position.*
- *Give consideration to providing an ambience and taking steps that make it easier for patients to talk so that they can feel calmer while being examined.*
- *Give consideration to arranging partition walls, air conditioning, water supply and drainage facilities, electricity, medical gas outlets, and so on to enable support for future changes.*

☐A.3.1.3 (04 Privacy)

Pay consideration to patients' privacy.

In consideration of protecting patients' personal information, including their medical condition, as well as their mental state, it is important to secure sound-insulated specification and spaces where patients can get changed with peace of mind. For clinical departments requiring special consideration, such as Chemotherapy, consideration needs to be given to privacy in the waiting hall also.

[Specific Examples]

- *Finish ceilings, walls, and floors to have sound absorbent and sound insulating capabilities so that conversations cannot be overheard.*
- *Provide clothes changing spaces divided into individual areas by cubicle curtains, furniture, and so on, and set up so patients can change their clothes while seated.*

☐A.3.1.4 (08 Physical)

Ensure specifications are in accordance with hospital visitors' conditions.

It is important to select specifications that accommodate hospital visitors' conditions, such as people in a wheelchair or on crutches.

[Specific Examples]

- *Use sliding doors and install handrails and handles that are readily perceptible and easy to grasp.*
- *Doors should be 900 mm wide or more.*
- *Select and apply cushioned flooring, non-slip surface finishes or finishes that allow appropriate degree of slipping, and surface finishes that are easy to wipe clean, matching the characteristics of the spaces concerned.*
- *Place furniture and equipment so that visually-impaired people will be less likely to collide or come into contact with it.*
- *Install voice guidance.*

☐A.3.1.5 (01 Medical)

Ensure patients can be guided smoothly between consultation rooms and treatment rooms/examination rooms.

Patients can move smoothly between consultation rooms and treatment rooms/examination rooms of all kinds as necessary.

[Specific Examples]

- *Place guidance signs between consultation rooms, treatment rooms, and examination rooms of all kinds.*

☐A.3.1.6 (10 Duties)

Ensure physicians' and nurses' flows are planned appropriately.

Clearly separating flows from consultation rooms to staff areas, work areas, and treatment rooms for patients, physicians, and staff (nurses) is effective for securing efficiency, safety, and privacy.

[Specific Examples]

- *Have consultation rooms adjoining or close to work spaces and treatment rooms.*
- *Provide passageways and entryways that are set up to enable easy movement to other rooms or to outside.*

A.3.2. Quarantine consultation room

☐A.3.2.1 (03 Safety)

Formulate plans for preventing infected patients from coming in to contact with other outpatients.

When a patient with a latent infectious disease such as tuberculosis, rubella, measles, chickenpox, mumps, or seasonal influenza visits the hospital, standard precautions and transmission-based precautions need to be strictly adhered to and the patient swiftly isolated from other patients in order to prevent the spread of the disease through secondary infection.

[Specific Examples]

- *Set up plans so that general patients and patients with infectious diseases or suspected of having infectious diseases can be separated at entrances, in reception areas, and at counters and other contact points.*
- *Secure flows for their exclusive use.*
- *Provide waiting area space for their exclusive use.*
- *Separate consultation rooms from general medical consultation areas (set up quarantine consultation rooms).*

☐A.3.2.2 (03 Safety)

Pay consideration to preventing contaminated air from flowing out into other areas of the hospital.

When a patient with whom airborne infection is anticipated is being examined, consideration must be given to preventing contaminated air from the infected patient's waiting room and consultation room from flowing out into other patients' consultation areas and other areas of the hospital.

[Specific Examples]

- *Set up consultation room interiors to have negative pressure.*

A.3.3. Treatment room/Examination room

☐A.3.3.1 (00 Basic)

Ensure the space required for carrying out treatment and examinations is secured.

In addition to securing sufficient space giving consideration to moving patients in wheelchairs or on stretchers around hospital beds, the space required for using and storing the equipment, machinery, and materials used in patient treatment and examinations needs to be secured.

[Specific Examples]

- *Secure sufficiently large area with consideration to providing space suitable for the number of beds and for patient movement on and transfer to and from stretchers and wheelchairs*
- *Anticipate providing places for temporary storage of clothing items and belongings.*
- *Secure sufficiently large area (also including space for assistance) to make patient transfer between treatment tables, stretchers, and wheelchairs easy.*

☐A.3.3.2 (03 Safety)

Ensure the medical supplies, sterilization equipment, drugs, and other goods required for carrying out treatments or examinations are stored appropriately.

Because the goods to be stored differ according to the clinical department, plans needs to be formulated giving sufficient consideration to these differences.

☐A.3.3.3 (04 Privacy)

Pay consideration to patients' privacy.

During treatment patients may need to undress, and so consideration needs to be given to ensuring that they cannot be seen by other people.

[Specific Examples]

- *Install cubicle curtains.*
- *Place furniture so that patients in rooms will not be directly visible to other patients and other people.*

A.3.4. Preparation room

☐A.3.4.1 (00 Basic)

Secure the space required for storing medical supplies, sterilization equipment, drugs, and other goods.

Because the types and quantities of medical supplies, sterilization equipment, drugs, and other goods used differ according to the clinical department, careful consideration needs to be given to the storage space required in each preparation room.

[Specific Examples]

- *Provide storage space suitable for the category of personal property.*
- *Secure space for waste material.*
- *Washing facilities and sterilization equipment may be installed as a measure in response to emergency.*

☐A.3.4.2 (00 Basic)

Secure the required space and equipment for providing medical care.

Because the activities carried out in preparation rooms differ according to the clinical department, the number of nurses carrying out preparation work and the content of their work must be sufficiently understood and the required space and equipment secured.

[Specific Examples]

- *Install work counters.*
- *Secure space for inputting information.*
- *Install handwashing basins of sufficient size with automatic taps.*

A.4. Chemotherapy

A.4.1. Waiting hall/Waiting room/Waiting area

☐A.4.1.1 (04 Privacy)

Pay consideration to patients' privacy.

Because patients are required to wait while anti-cancer drugs are being prepared and for a treatment booth to become available, a certain number of waiting room seats need to be secured. In addition, because the patient's medical condition may be apparent from their appearance, consideration needs to be given to patients' privacy such as by creating a portioned-off waiting area within the chemotherapy area.

[Specific Examples]

- *Block lines of sight in waiting areas by partitioning spaces with doors and walls and so on.*

A.4.2. Staff station

☐A.4.2.1 (03 Safety)

Formulate plans to make it is easy to ascertain patients' conditions.

In order to appropriately provide safe treatment, it is necessary to accurately ascertain the patient's state and condition and formulate a plan that can be tailored to these.

[Specific Examples]

- *Station counters should have an open construction so that each patient's call lamp is visible.*

A.4.3. Dispensary

☐A.4.3.1 (03 Safety)

Secure the cleanliness and safety of dispensaries.

If a dispensary is created, consideration needs to be given to air supply/exhaust equipment and other factors so that the cleanliness of the dispensary is maintained while anti-cancer drugs are being prepared and the safety of workers can be secured.

[Specific Examples]

- *Secure the room as a demarcated compartment.*
- *Plan the preparation room so that the room air pressure can be controlled to be at a negative pressure relative to outside the room.*
- *Provide a large enough area and equipment to allow installing safety cabinets and sinks.*
- *Take care that anticancer agents inside safety cabinets do not leak into the room when the cabinets are in operation.*

A.4.4. Therapy room

☐A.4.4.1 (00 Basic)

Ensure the space and equipment required for carrying out treatments is secured.

Equipment needs to be prepared in case the patient's medical condition or state suddenly changes. Also, secure the space required around beds for carrying out patients' examinations and treatment.

[Specific Examples]

- *Take into account the space around beds to allow for treatment and close approach in wheelchairs.*
- *In single-patient rooms where odor is a consideration, provide for a negative pressure regulating function or air purifier and set up handwashing basins.*

☐A.4.4.2 (00 Basic)

Ensure various movement methods can be dealt with.

Create passageway opening widths that envisage movement of patients accompanied by caregivers, in wheelchairs, or on stretchers in the event of an emergency as a means of accommodating patients' medical conditions or aging.

☐A.4.4.3 (03 Safety)

Pay consideration to ensuring mix-ups of patients do not occur.

Because of the nature of treatment, consideration needs to be given to improving methods for differentiating patients very strictly so that mix-ups of patients do not occur.

[Specific Examples]

- *Make patient bed numbers match with location images.*

☐A.4.4.4 (05 Comfort)

Create an environment that enables patients to receive treatment comfortably.

In chemotherapy, because patients often have to undergo treatment for long periods of time, consideration needs to be given to providing spaces and facilities that will enable the patients to spend this time comfortably. In addition, give consideration to ventilation as not only are odors generated, but also some patients become extremely sensitive to odors.

[Specific Examples]

- *Give consideration to providing an environment in which patients can endure treatment sessions that take long periods of time by setting up private rooms or partitioned spaces like private rooms and other such means that take patient privacy into consideration.*
- *Arrange lighting equipment so that sources of light are not directly visible.*
- *Provide windows that allow changes in the light outdoors to be perceptible in treatment rooms overall.*
- *Provide power sources for AV equipment and information terminals.*
- *Provide shelves for safekeeping of personal belongings.*

A.4.5. Lavatory

☐A.4.5.1 (02 Lifestyle)

Provide lavatories for patient use.

Side-effects of anti-cancer drugs include diarrhea, constipation, vomiting, and urinary system effects, so lavatories that patients can use with peace of mind need to be provided. In addition, it is necessary to accommodate patients' aging. Patients may use the lavatory frequently, and often when they do so, they are assisted by nurses.

[Specific Examples]

- *Provide lavatories in treatment rooms for use by patients.*
- *For use by patients, provide separate men's and women's lavatories and wheelchair users' lavatories.*
- *Make lavatory booths spacious enough that people can bring in a drip stand.*

A.4.6. Other

☐A.4.6.1 (07 Information)

Take steps that make it easy to obtain illness-related information.

It is desirable that patients can easily obtain information addressing the worries and anxieties they have about problems in daily life occurring during their treatment, such as concerns about hair loss due to anti-cancer drugs or radiotherapy and anxiety about meals and housework.

[Specific Examples]

- *Set up a space where information about hats, wigs, and support groups and other such sources is provided.*

A.5. Emergency outpatient services

A.5.1. General

☐A.5.1.1 (00 Basic)

Ensure patients and medical equipment can be moved or transported easily.

Emergency patients are frequently transported by stretcher or bed with medical equipment attached to diagnostic departments such as the Radiology and Diagnostic Department/ Physiological Testing Department as well as wards, the ICU, and the Surgical Department. Patient transportation therefore needs to be carried out safely and swiftly.

[Specific Examples]

- *Doors along transport routes should be automatic doors.*
- *Secure effective opening of 1,400 mm or more for doors along transport routes.*
- *Planning for radiodiagnosis, physiological testing, and other such diagnostic departments, wards and nursing units, ICU, and surgical departments should place them adjacent to or close to the emergency department or in a location where patients can be transported rapidly using dedicated elevators.*

Facilities

☐A.5.1.2 (06 Environment)

Ensure that even when there is a power blackout, medical treatment can continue uninterrupted.

The Emergency Department is a department that deals with especially serious and urgent emergency patients, and so medical practices must continue by any means, including using an uninterruptable power supply in the event of a power blackout.

[Specific Examples]

- *Power sources and lighting needed for treatments should have generator circuits routed through uninterruptible power supply equipment.*
- *Automatic taps should be connected to the generator circuit or be the type with self-generated power.*

A.5.2. Approaches

For ambulances

☐A.5.2.1 (00 Basic)

Ensure entrances for ambulances and other emergency vehicles are located in positions where they can be easily identified by such vehicles.

It is necessary to guide ambulances and other emergency vehicles in an easy-to-understand manner from the approach to the hospital to the emergency entrance/exit so that they are not affected by general vehicles. Formulate plans that give consideration to emergency patients being transported from the ambulance inside the hospital by stretcher, including measures against wind and rain, as well as to patients' privacy.

[Specific Examples]

- *Set up lanes exclusively for ambulances and other emergency vehicles*
- *Provide clear line of sight from approach to grounds all the way to emergency entrance and place highly visible guidance signs.*
- *Secure adequate space for ambulances and other emergency vehicles to approach without difficulty and transfer patients as well as routes to enable ambulances and other emergency vehicles to withdraw without difficulty after patients have been transferred.*
- *Install monitors so that ambulances and other emergency vehicles can be watched from emergency reception.*
- *Have in place an overhang or awning large enough to protect from rain when transferring patients from ambulances and other emergency vehicles into the hospital.*
- *Overhand or awning should be at sufficient height to allow for height of tall ambulances (antennas and so on).*
- *Taking transfer by stretcher into consideration, eliminate differences in level to enable unhampered access to entryways.*
- *Arrange facility so that transfer of patients cannot readily be seen by general patients or from neighboring areas.*

For walk-in patients

☐A.5.2.2 (00 Basic)

Ensure entrances for walk-in emergency patients are located in positions where they can be easily identified by such patients.

Regardless of the time of day (outside consultation hours during the day or out-of-hours during the night), walk-in emergency patients need to be guided in an easy-to-understand manner from the emergency patient parking lot to the entryways for emergency patients.

[Specific Examples]

- *Provide clear line of sight from approach to grounds all the way to parking for emergency patients, and place highly visible guidance signs.*
- *Secure emergency patient parking for walk-in patients close to emergency entryway.*
- *Set up lighting plan that will provide for unhampered movement during night-time use.*
- *Provide roof over route from parking for emergency patients to night-time entryway.*
- *Clearly differentiate entryways for walk-in emergency patients to use out-of-ours, for ambulances and other emergency vehicles, and for general outpatients, and arrange them so that the difference is easy to grasp.*

Helicopter for emergency transportation

☐A.5.2.3 (00 Basic)

Pay consideration to helipad access.

Helipads for transporting emergency patients may be located on the hospital's roof or on the ground. If the helipad is located on the roof, elevators need to be installed to enable easy transportation of stretchers for transporting emergency patients to emergency outpatient services. Also, if the helipad is located on the ground, methods for transporting the patient from the helipad to the emergency entrance/exit need to be considered.

[Specific Examples]

- *Elevators can be used directly by horizontal movement from the rooftop helipad.*
- *Install a ramp or lift between the rooftop helipad and the floor with elevators.*
- *Provide direct elevator access from the rooftop helipad to emergency outpatient department.*
- *Secure a route for transferring patients by ambulance from a ground-level helipad.*

A.5.3. Reception and counter

☐A.5.3.1 (00 Basic)

Locate reception, cashier, and prescription counters for emergency patients in adjacent areas.

After emergency patients are checked-in after hours, they are examined. Reception, cashier, and prescription counters therefore need to be located adjacent to the Emergency Department in order to lessen the burden on the patient of having to move to the cashier and prescription counters after check-in and treatment, as well as to reduce the security risk of moving around the hospital during the night.

[Specific Examples]

- *Set up a satellite pharmacy in the Emergency Department.*
- *Secure space for reception, cashier, and other such administrative personnel.*

A.5.4. Waiting hall/Waiting room/Waiting area

☐A.5.4.1 (00 Basic)

Pay consideration to out-of-hours use, and ensure emergency outpatient services can be operated independently of other outpatient departments.

Because operating hours differ from other departments, space and facilities/equipment need to be kept separate to enable independent operations from the perspective of ease of door locking management and energy conservation.

[Specific Examples]

- *Give consideration to the convenience of hospital visitors by clearly identifying areas for movement out-of-hours and providing restrooms, vending machines, public telephones, and other such facilities in those areas.*
- *Give consideration to energy saving by placing air conditioners on independent systems.*

A.5.5. Consultation/Examination

☐A.5.5.1 (00 Basic)

Formulate plans in accordance with management methods.

Depending on the hospital, the Emergency Department fulfills various roles ranging from primary emergency to tertiary emergency care. Furthermore, Emergency Department operations often differ from hospital to hospital. The combination and positioning of consultation rooms, emergency treatment rooms, recovery rooms, observation rooms, and operation rooms therefore need to be considered in consultation with medical staff.

[Specific Examples]

- *Since the focus is on primary emergency care, the plan should be centered around consultation rooms in the expectation of walk-in outpatients.*
- *Where the practice is not to admit patients to wards or nursing units as inpatients at night, observation rooms are set up with facilities for providing treatment equal to inpatient care.*

A.5.6. Quarantine consultation room

Allocation

☐A.5.6.1 (03 Safety)

Ensure infected patients can consult a physician without coming in to contact with other emergency patients.

If infectious patients pass through waiting areas and other areas where a large number of non-infectious patients are gathered together, the risk of nosocomial infection increases. It is therefore necessary to carry out triage for infectious patients, and not only must dedicated waiting rooms and consultation rooms for infectious patients be set up, but also consideration given to ensuring that the routes to these facilities do not allow contact between infectious and non-infectious patients.

[Specific Examples]

- *In order to be able to promptly quarantine patients who are identified as possibly infected during reception or medical screening, set up waiting area and consultation room with negative pressure exclusively for infected patients close to the reception area.*
- *The waiting area that is exclusively for infected patients should have a route for direct entry to it from outside.*
- *Provide a lavatory in the waiting area exclusively for infected patients so that they will not mingle with other patients.*
- *Locate general outpatient consultation rooms in adjacent areas so that they can be used when there are large numbers of infected patients.*

Hygiene/Equipment

☐A.5.6.2 (03 Safety)

Pay attention to nosocomial infection control measures.

To prevent the quarantine consultation room from becoming the source of nosocomial infection, hand-washing basins and other necessary equipment need to be installed.

[Specific Examples]

- *Install handwashing basins in all quarantine consultation room.*
- *Set up quarantine consultation rooms to have independent exhaust ventilation and negative pressure air conditioning as a precaution to prevent leakage of air from quarantine consultation rooms into the building.*
- *Provide places to keep disposable masks, gloves, and aprons at room entrances for easier use by staff members entering rooms.*

A.5.7. Decontamination room

Hygiene/Equipment

☐A.5.7.1 (06 Environment)

Enable decontamination to be carried out near the entryways for ambulances and other emergency vehicles.

Emergency patients may have blood or dirt, etc., on their bodies from external injuries. It can also be anticipated that patients contaminated with chemical or radioactive substances will be transported to the hospital. Accordingly, it may be necessary to clean an emergency patient appropriately before they enter the emergency department. Furthermore, if it is anticipated that the patient will undergo chemical/radiation decontamination, drainage and ventilation facilities will need to be provided.

[Specific Examples]

- *Place a decontamination room (equipped with shower sprayers and sluice sinks) in the antechamber part of the dedicated ambulance entryway.*
- *Secure a large sanitation space outside for sanitary handling of large numbers of patients.*

A.5.8. Emergency room

Allocation

☐A.5.8.1 (00 Basic)

Secure the required space.

For critical emergency patients, sufficient space must be provided because of the need for medical staff to be able to work all around the patient and for the equipment and facilities required for treatment to be placed near the patient.

[Specific Examples]

- *Set up patient monitors, portable X-ray equipment, surgical lights (ceiling-mounted type), and white boards placed so what is written on them is not visible to other patients and patients' family members.*
- *Install electric power, medical gas, and other such outlets in the wall on the head side or as ceiling pendant outlets.*

Allocation

☐A.5.8.2 (01 Medical)

Locate initial treatment rooms is near the entryways for ambulances and other emergency vehicles.

For critical and highly urgent patients, medical practice must be implemented quickly. Accordingly, the emergency room needs to be located in a place to which it is easy to transport the patient from the ambulance and other emergency vehicle entrance/exit. In addition, because the emergency room is near the entrance/exit, measures must be taken to ensure that the opening and closing of the doors does not interfere with the emergency room's air-conditioning environment.

[Specific Examples]

- *Give consideration to placement of automated door sensors and switches so that wind will not blow into emergency room.*
- *Antechamber doors should be on interlock system.*

A.5.9. Staff station

Allocation

☐A.5.9.1 (01 Medical)

Provide line of sight to emergency rooms, observation rooms, and treatment rooms.

Because an emergency patient's condition may change suddenly, the staff station needs to be located in a place from where the patient can be easily observed. The staff station also needs to be in a location that enables staff to come and go easily so that they can coordinate among the emergency room, observation room, and treatment room.

[Specific Examples]

- *Plan positioning of emergency room, observation rooms, and treatment rooms for easier coming and going.*
- *Set up counters to make observation of patients easier.*

A.5.10. Examination room

Allocation

☐A.5.10.1 (00 Basic)

Formulate plans with consideration given to the connection between the examination rooms and the examination department.

In the treatment of emergency patients, laboratory tests, physiological function tests, radiographic tests, and various other tests are carried out with high frequency. Accordingly, locating some testing facilities within the emergency department needs to be considered. If this is not possible, locate the required radiography imaging rooms (general radiography, CT, angiography, X-TV, MRI room, etc.) and equipment, etc., near the emergency department.

[Specific Examples]

- *Set up emergency test and examination rooms in the Emergency Department.*
- *Install a pneumatic tube system for transferring specimens.*

A.5.11. Observation room

Arrangement

☐A.5.11.1 (04 Privacy)

Pay consideration to patients' privacy.

Not only is ease of observation required, but an environment that enables the patient to undergo treatment in comfort with peace of mind while under observation is also necessary. Because treatment and excretion take place here, arrangements must be made to ensure that the patient cannot be seen by others.

[Specific Examples]

- *Secure space for family members to stay with patients.*
- *Install cubicle curtains for each bed.*
- *Secure space for placing personal belongings.*

Facilities

☐A.5.11.2 (01 Medical)

Be able to handle sudden changes in emergency patients' conditions.

If the condition of a patient under observation changes suddenly, equipment enabling treatment to be carried out on the spot is needed.

[Specific Examples]

- *Install outlets at each bed for electricity, medical gas, and so on.*

A.5.12. Other

☐A.5.12.1 (00 Basic)

Secure places where paramedics and police can complete their paperwork.

Paramedics/police officers accompany emergency patients and hand them over to hospital staff, after which administrative processing is carried out. In addition, autopsies, organ donations, and other procedures are also accompanied by administrative work, and so space for this work to be performed needs to be secured.

[Specific Examples]

- *Set up rooms and spaces where emergency paramedics and police officers can handle administrative matters and stay on stand-by.*

☐A.5.12.2 (00 Basic)

Provide support for the death of patients.

In the event that a patient dies after being transported to the hospital by ambulance, space is needed for the body to be kept until family members arrive as well as for the family members to view the body. Consideration needs to be given to the effect on other emergency patients and their family members as well as on the family members of the deceased patient. Also, an autopsy may be carried out in some cases.

[Specific Examples]

- *Set up spaces and rooms where the bodies of deceased patients can be placed.*
- *Give consideration to flows to the mortuary.*
- *Secure sound insulation in the above rooms.*
- *Prepare space for conducting post-mortem examinations.*

☐A.5.12.3 (04 Privacy)

Pay consideration to the privacy of patients and patient attendants.

Following emergency treatment, the family members accompanying the patient may be briefed on the patient's condition and treatment. Because the information provided in these briefings involves matters of privacy, an environment that enables briefings to take place in the room needs to be provided.

[Specific Examples]

- *Set up a room where family members who stay with patients and other accompanying persons can be briefed.*

A.6. Obstetrics/Gynecology

A.6.1. Waiting hall/Waiting room/Waiting area

☐A.6.1.1 (02 Lifestyle)

Pay consideration to accompanying persons.

In anticipation of patients being accompanied on consultation visits by their spouse, parents, and/or children, etc., provide the necessary places and give consideration to color scheme and furniture planning.

[Specific Examples]

- *Provide breast-feeding rooms and diaper changing rooms.*
- *Give consideration also to accompanying men, and do not make colors and interior design overly oriented toward women.*
- *Set up waiting area spaces exclusively for men.*

☐A.6.1.2 (03 Safety)

Pay attention to nosocomial infection control measures.

Giving consideration to the effect on fetuses, avoid locating the waiting area near the departments where there is a high risk of infection.

[Specific Examples]

- *Avoid placement adjacent to Pediatrics Department or other such locations.*
- *When nearby placement is unavoidable, set up quarantine waiting rooms or other such facilities at Pediatrics Department and other such locations.*

☐A.6.1.3 (04 Privacy)

Pay consideration to patients' privacy.

Because this department is particular to women, consideration needs to be given to ensuring that the waiting area is independent of other clinical departments. In addition, obstetrics and gynecology often treat patients in incompatible situations, such as undergoing pre-natal checkups and undergoing fertility treatments, so give consideration to ensuring that there is no mixing of obstetrics patients and gynecology patients. Within the department, too, it is anticipated that patients will be facing a range of different situations, including miscarriage and termination, and so give consideration to patients' visual and auditory privacy.

[Specific Examples]

- *Arrange locations of Obstetrics Department and Gynecology Department so that they do not overlap.*
- *Upgrade sound insulation of waiting areas and consultation rooms.*

A.6.2. Consultation room/Pelvic examination room

☐A.6.2.1 (00 Basic)

Secure the space required for carrying out medical care.

In anticipation of patients being transported via wheelchair or stretcher, secure width and locations for fittings. Also, secure space for installing the required equipment.

[Specific Examples]

- *Secure space for handling transfer by stretcher.*
- *Secure space for installing ultrasound examination equipment.*

☐A.6.2.2 (06 Environment)

Provide the necessary ventilation equipment.

Because of the particular characteristics of the obstetrics/gynecology department, install wastewater treatment facilities around the pelvic examination chair and implement measures so that the patient does not feel uncomfortable due to odors.

[Specific Examples]

- *Install traps on drain pipes from pelvic examination tables.*
- *Secure adequate amount of ventilation.*

A.6.3. Examination room

☐A.6.3.1 (00 Basic)

Secure arrangements required for conducting examination

To enable tests particular to the obstetrics/gynecology department to be carried out smoothly, it is desirable for the testing laboratory to be located near the obstetrics/gynecology department and to give consideration to patients' privacy when measuring their weight/blood pressure, etc.

[Specific Examples]

- *Plan to locate urine sample collection toilet in adjacent area.*
- *Provide medical gases (oxygen, vacuum) in non-stress test (NST) room.*
- *Provide reclining chairs and other such equipment to enable comfortable posture during examination.*

☐A.6.3.2 (06 Environment)

Implement exhaust heat measures for ultrasound examination equipment.

Because ultrasound examination equipment gives off exhaust heat, take measures to ensure that the room temperature does not increase.

[Specific Examples]

- Secure adequate amount of ventilation.

☐A.6.3.3 (06 Environment)

Enable lighting/daylighting to be controlled.

As much as possible, ease the mental burden on patients of being seen while undergoing an examination and create an environment that makes it easy for patients to undergo hospital checkups.

[Specific Examples]

- *Plan to block light when necessary so rooms can be made into darkrooms.*

A.7. Pediatrics

A.7.1. Waiting hall/Waiting room/Waiting area

☐A.7.1.1 (05 Comfort)

Take steps to create a tranquil atmosphere so that patients and accompanying persons can wait calmly.

For pediatric patients and their young siblings, the act of simply waiting is difficult, and they are also afraid of medical examinations. Accordingly, the waiting area requires an interior that is friendly and calming.

[Specific Examples]

- *Set up furniture that is suited to pediatric patient body types.*
- *Arrange spaces and use colors to seem more friendly and familiar.*
- *Set up a play corner that accompanying persons in the waiting area can watch over.*
- *Provide a place that pediatric patients and sibling children can be taken to for a while to calm them down when they are crying or ever-excited.*

☐A.7.1.2 (03 Safety)

Ensure infected patients can be isolated appropriately.

Pediatric patients have low resistance to infection and can easily contract infectious diseases. Accordingly, during periods when infectious disease is rampant, create a dedicated waiting area in order to prevent the spread of infection to other patients and isolate infectious patients using compartmentalization.

☐A.7.1.3 (05 Comfort)

Formulate plans with consideration given to siblings being brought along on infant patients' hospital visits.

If the pediatric patient or their sibling is an infant, a stroller may be used. Accordingly, secure a storage area for multiple strollers. Furthermore, to enable smooth changing of diapers, changing tables need to be installed in lavatories.

[Specific Examples]

- *Install diaper changing beds in men's and women's lavatories and also in multipurpose lavatories.*
- *Place waste receptacles exclusively for used diapers inside lavatories.*

A.7.2. Consultation/Examination

☐A.7.2.1 (03 Safety)

Ensure infected patients can be isolated appropriately.

Pediatric patients have low resistance to infection and can easily contract infectious diseases Accordingly, during periods when infectious disease is rampant, take measures to create a dedicated consultation room in order to prevent the spread of infection to other patients.

A.7.3. Treatment

☐A.7.3.1 (01 Medical)

Provide appropriate procedures regarding infant patients.

Because pediatric patients may struggle or resist during treatment, it is common to assign multiple nurses to one patient. To enable nurses to handle pediatric patients' behavior smoothly, an appropriately sized space is needed in addition to installation of a treatment bed and equipment. In addition, consideration must be given to situations in which the treatment takes a long time.

[Specific Examples]

- *Do not locate switches, outlets, and similar items within reach of patients' hands.*

A.8. Orthopedic surgery

A.8.1. Waiting hall/Waiting room/Waiting area

☐A.8.1.1 (01 Medical)

Pay attention to patients' transportation via stretcher.

In the orthopedic surgery department, because patients may be transported on a stretcher, sufficient space for handling stretchers is required.

[Specific Examples]

- *Secure adequate space for the smooth movement of wheelchair users and stretchers.*

☐A.8.1.2 (08 Physical)

Install furniture giving consideration to physical disabilities.

In the case of the orthopedic surgery department, a patient may have difficulty standing up/sitting down depending on their condition, and so equipment that can accommodate these patients, such as seating and weight-supporting bars, is required.

[Specific Examples]

- *Place seats with high seat surface.*
- *Place bars that will hold people's body weight (hip bars).*
- *Set up space where wheelchair users can wait.*

A.8.2. Consultation room

☐A.8.2.1 (08 Physical)

Install furniture giving consideration to physical disabilities.

Doors need to be wide enough to accommodate patients in wheelchairs or on crutches going in and out of the room, and patient seating needs to facilitate patients being able to stand up/sit down easily before and after their consultation.

[Specific Examples]

- *Make consultation room doors an effective width of 900 mm or more (there are people who use special wheelchairs).*

A.8.3. Plaster room

☐A.8.3.1 (06 Environment)

Provide the necessary equipment for making and removing casts.

When a cast is removed, the affected area needs to be cleaned. Casts are made from either plaster or fiberglass. In recent years, fiberglass casts have become the mainstream, and plaster traps are not being installed in drainage pipes in an increasing number of cases.

[Specific Examples]

- *Install foot washing sinks.*
- *When plaster is used in casts, drains should have plaster traps.*

☐A.8.3.2 (06 Environment)

Pay consideration to loud noises penetrating adjacent rooms.

When cast cutters are being used to remove casts, walls and doors with soundproofing/sound-insulation specifications need to be installed. However, in recent years, the noise of cast cutters has been reduced and use of casts that can be removed with scissors has become widespread, so check the type(s) of casts used.

A.9.1. Waiting hall/Waiting room/Waiting area

☐A.9.1.1 (04 Privacy)

Pay consideration to patients' privacy.

Because of the characteristics particular to this department, which treats diseases of the urinary and genital organs, many patients feel a psychological burden when consulting a physician, so formulate plans that enable patients to avoid coming face-to-face with other patients in the waiting area as far as possible.

[Specific Examples]

- *Distinguish waiting area from waiting areas for other departments.*

A.9.2. Examination room/Treatment room

☐A.9.2.1 (00 Basic)

Fully provide the equipment required for providing medical care.

Patients may need to undergo urinalysis, x-ray examination, cystoscopy, echographic examination, or other testing, so provide the required equipment and space for installing this equipment.

[Specific Examples]

- *Secure equipment for measuring urine volume and urine pressure and the space to install it.*
- *Secure space for installing ultrasound examination equipment.*
- *Install sluice sinks for washing away human waste.*
- *Secure places for storing and for washing fiberscopes*
- *Provide medical gases (oxygen, vacuum) and treatment lights.*

☐A.9.2.2 (06 Environment)

Provide the necessary ventilation equipment.

Because of the characteristics particular to this department, which treats diseases of the urinary and genital organs, take measures to ensure that patients do not feel uncomfortable due to odors.

[Specific Examples]

- *Install sluice sinks for washing away human waste.*
- *Secure adequate amount of ventilation.*

☐A.9.2.3 (06 Environment)

Implement exhaust heat measures for ultrasound examination equipment.

Because ultrasound examination equipment gives off exhaust heat, take measures to ensure that the room temperature does not increase.

[Specific Examples]

- *Secure adequate amount of ventilation.*

A.10. Ophthalmology

A.10.1. Consultation room

☐A.10.1.1 (01 Medical)

Secure the space required for installing medical examination equipment.

In general, the lighting brightness of the consultation room should be kept low. Also, because microscopes for examining the eyes are used, space needs to be secured around the examination table.

[Specific Examples]

- *Use lighting fixtures that have dimming function.*
- *When using a slit lamp, secure the area for it and control switches next to doctor's desk.*
- *Install a monitor as needed to use in giving explanation to patients.*

A.10.2. Examination room

☐A.10.2.1 (01 Medical)

Secure the space required for carrying out examinations/tests/checks.

Ophthalmic exams may be conducted in either a brightly lit room or a darkened room. These exams combine multiple types of tests conducted in an unfixed order, and so therefore in many cases examination rooms have an open set up.

[Specific Examples]

- *For examination of visual acuity, secure the necessary distance (5,000 mm) and brightness (examination room interior illuminance 50 Lx or better per JIST 7309).*
- *Use double flooring for wiring to support changes in equipment layout in the examination room.*

☐A.10.2.2 (06 Environment)

Appropriately control lighting/daylighting.

Depending on the content of the test, the brightness of the room (or specific location) needs to be finely controlled by blocking the daylight or dimming the lights.

A.11. Otorhinolaryngology

A.11.1. Consultation room/Treatment room

☐A.11.1.1 (00 Basic)

Secure the space required for carrying out examinations/tests/checks.

Sufficient space must be secured for otorhinolaryngological examinations/treatments. In addition, treatments using intravenous drips and nebulizers are carried out in the treatment room.

[Specific Examples]

- *Provide a place for washing fiberscopes.*
- *Install a two-tub stainless steel sink for carrying out soaking disinfection using chemical solutions.*
- *Secure space for performing intravenous treatment.*
- *Secure the area required for installation of nebulizers with proper intervals.*
- *Secure clear lines of sight from examination and treatment units to nebulizer and intravenous treatment spaces, and arrange plans to shorten examination and treatment flows.*

A.11.2. Examination room

☐A.11.2.1 (00 Basic)

Secure the examination rooms necessary for carrying out medical care.

Hearing tests, equilibrium tests, smell tests, and other tests are performed using various devices, and so it is necessary to not only closely examine the environmental conditions for testing but also consider the existence or not of specialist examination rooms and consultation rooms in each case.

[Specific Examples]

- *Secure an anechoic chamber (hearing test room) that has sound insulation performance of 40 dB or better and where air conditioning noise can be blocked during measurement.*
- *The area needed to conduct equilibrium tests is secured.*
- *Secure the area needed for ear nose endoscopy (examination space, consultation room)*
- *Secure the area needed for vertigo testing and nystagmus testing.*

A.12. Dermatology

A.12.1. Consultation/Treatment room

☐A.12.1.1 (01 Medical)

Secure space for providing treatment.

With regard to the dermatology department, because minor surgery and phototherapy are performed in addition to general treatments, it is necessary to consider consultation room and treatment room conditions in each case. Furthermore, space is also required for photographing skin lesions and cleaning affected skin areas.

[Specific Examples]

- *Set up a wall surface that provides a background for taking photographs or making video of the whole body.*

☐A.12.1.2 (06 Environment)

Provide the necessary ventilation equipment.

Maintain an appropriate environment inside the room and ventilate it so that odors from laser treatments do not build up in the room.

[Specific Examples]

- *Secure adequate amount of ventilation.*

☐A.12.1.3 (06 Environment)

Create an appropriate lighting/daylighting environment.

Because skin color provides important biometric information when interpreting information about the characteristics and depth of lesions, diagnosis needs to be carried out in an environment that is close to natural light. Furthermore, facilities securing an appropriate lighting brightness for outpatient surgeries are required.

A.13. Psychiatry

A.13.1. Reception and counter

☐A.13.1.1 (04 Privacy)

Pay consideration to patients' privacy.

Because of the characteristics of mental disorders, patients' privacy must be protected. Accordingly, in addition to operational adjustments to ensure that patients do not come face-to-face with other patients, measures need to be taken to ensure that voices are difficult to hear.

A.13.2. Waiting hall/Waiting room/Waiting area

☐A.13.2.1 (05 Comfort)

Formulate plans giving consideration to the characteristics of patients with mental disorders.

The characteristics of mental disorders (such as depression, dementia, and schizophrenia) differ, and so in addition to creating an interior design that enables patients to wait calmly, arrange seating in the waiting area so that patients can be alone depending on the circumstances in order to prevent direct eye contact with others.

A.13.3. Consultation room

☐A.13.3.1 (03 Safety)

Secure the safety of patients and staff.

Because consultation rooms can easily become closed spaces out of respect for patients' privacy, consideration needs to be given to the safety of physicians and staff (nurses) during consultations with patients with psychiatric illnesses and countermeasures to sexual harassment.

[Specific Examples]

- *Arrange partition walls so that the presence of other physicians and nurses can be sensed.*
- *Install emergency call devices.*
- *Secure evacuation routes in two directions.*

A.14. Oral-maxillofacial surgery

A.14.1. Waiting hall/Waiting room/Waiting area

☐A.14.1.1 (04 Privacy)

Pay consideration to patients' privacy.

Patients need a place where they can check inside their mouths following treatment without having to worry about being seen by others.

[Specific Examples]

- *Provide a place for mouth rinsing equipped with a mirror.*

A.14.2. Consultation/Treatment room

☐A.14.2.1 (00 Basic)

Secure the space required for carrying out medical treatment.

Treatment units are used in diagnosis and treatment, with the patients being approached from both sides (dentist on one side, dental hygienist on the other), and so space is needed to ensure that diagnosis and treatment are carried out smoothly.

[Specific Examples]

- *Provide enough space at the head end to enable treatment from both sides of the patient.*
- *Facilities (electricity, water supply and drainage) that are required by the treatment unit should be provided at the floor surface.*

☐A.14.2.2 (04 Privacy)

Pay consideration to patients' privacy.

Patients who are lying on their backs being treated for a long time are in a defenseless state, and consideration needs to be given to this. Also give consideration to eye contact between patients in each treatment unit.

☐A.14.2.3 (05 Comfort)

Create an environment where patients can receive treatment comfortably.

Consideration needs to be given to creating an environment for alleviating unpleasant sounds and odors that occur during treatment.

[Specific Examples]

- *Place speakers appropriately to provide background music as a noise control measure for sounds caused by treatment.*

A.14.3. Dental laboratory

☐A.14.3.1 (06 Environment)

Create an environment appropriate for carrying out work.

Dental technicians use blowers and vacuums as a measure against dust, so compressed air and suction pipes are needed. Also, measures also need to be taken to counter the heat generated by the electric furnace used in processing. Because there is quite a large number of tooth-shaped items that are used by dental technicians, design sufficient storage shelves.

B. Diagnostic and treatment department

B.1. Laboratory test department

Laboratory tests include various different categories, and how these are grouped and organized by department differs among hospitals. In addition, testing may also be outsourced to external contractors. Accordingly, when formulating plans it is necessary to check with the hospital about the content of tests carried out within the hospital as well as the necessity of departmental organization.
The main tests carried out by the clinical laboratory department are as follows.

Table(omitted)

B.1.1. Common items

☐B.1.1.1 (00 Basic)

Enable patients to smoothly access the blood sample collection room and lavatory for collecting urine samples.

Following on from their initial consultation in the outpatient department, patients may undergo blood/urine sampling for laboratory testing. For this reason, design the clinical laboratory department to be easily accessed from the outpatient department. However, because this department also handles bacteria and blood that may be infected, caution is needed with regard to the movement of people and transportation of specimens.

☐B.1.1.2 (00 Basic)

Formulate plans in accordance with management methods.

In order for staff to perform work smoothly, testing equipment needs to be arranged inside the clinical laboratory department in accordance with the flow of testing for each specimen type: specimen collection/transportation → analysis → destruction/disposal. Also, when arranging the equipment, give consideration to the placement of water supply and drain pipes, air supply and exhaust equipment, and electric power sources.

☐B.1.1.3 (00 Basic)

Formulate drainage methods based on the characteristics of the reagents and specimens used.

Wastewater that contains special test reagents or specimens, or blood or bodily fluids needs to undergo special treatment so that the surrounding area or environment are not affected; therefore, give consideration to drainage methods.

[Specific Examples]

- *Wastewater containing blood and bodily fluids is to be handled as infective waste for treatment that is segregated from the general drainage system.*
- *Wastewater that contains test reagents and other such materials and therefore requires adjustment of pH is to be handled as waste for treatment separate from the general drainage system.*
- *When wastewater goes to indirect drainage, traps should be installed as an odor control measure.*
- *Place sanitation rooms (facilities) adjacent to examination rooms.*

☐B.1.1.4 (00 Basic)

Plan with consideration to connections between related departments.

Transportation of specimens and equipment between the clinical laboratory department and other places within the hospital is a frequent occurrence. Accordingly, in addition to considering and checking transportation methods for these items, also consider plans that position the clinical laboratory department adjacent to the related departments in some cases.

[Specific Examples]

- *Set up flows between Clinical Laboratory Department and the Pathological Examination Department and the Central Sterile Supply Unit.*
- *Locate the Clinical Laboratory Department adjacent to the Pathological Examination Department.*
- *Set up washing and sterilization rooms adjacent to examination rooms*
- *Set up flows to the Surgical Department and Emergency Department.*
- *Install a dedicated pneumatic tube system, an elevator exclusively for small packages, stations for automated transfer devices, and other such facilities.*

☐B.1.1.5 (01 Medical)

Determine scale in accordance with the number of specimens and content of tests.

In general, the size of the clinical laboratory department varies according to the number of specimens to be handled and the test content. Also, when testing is out-sourced to external contractors, depending on the test content, either (1) the hospital provides all of the staff and test equipment; (2) the hospital provides the test equipment only; or (3) the external contractor provides all of the staff and test equipment. Because the relative size required for the clinical laboratory department overall differs in each case, be sure to check which case applies at the planning stage.

☐B.1.1.6 (03 Safety)

Pay consideration to storing and removing infectious waste/medical waste.

Infectious waste or clinical waste contaminated with blood, bodily fluids, bacteria, or microorganisms during specimen collection or testing must be separated and sealed according to the contaminant, and consideration should be given to how they can be transported safely and surely outside the room to the department responsible for their disposal. Furthermore, also exercise caution with regard to disposal methods for medical waste.

[Specific Examples]

- *Secure space for placing infectious and medical waste receptacles on the floor on the staff side of blood sampling counters.*
- *Secure space for temporary storage separate from other waste until transfer.*
- *Arrange flows for transport of infectious waste and medical waste so they do not intersect with flows for clean materials.*

☐B.1.1.7 (03 Safety)

Pay consideration to safety in the event of a fire.

If sprinklers have been installed as fire extinguishing systems, there is a risk of secondary damage due to pathogens or specimens spreading together with the sprinkler water. Accordingly, take countermeasures such as giving consideration to which rooms fire extinguishing systems should be installed in and in some cases consider an alternative fire extinguishing system.

[Specific Examples]

- *Set up incombustible gas fire extinguishing systems (also set up alarm systems to notify unit personnel when activated)*

☐B.1.1.8 (10 Duties)

Appropriately plan specimen flows.

Giving consideration to specimens' route from blood sampling rooms and lavatories where urine and stool samples are collected and the route from transfer rooms to examination rooms not only ensures that specimen mix-ups do not happen, but is also effective in improving work efficiency. Also be mindful of the fact that both blood sampling and urine sample collection are required for some patients.

[Specific Examples]

- *Locate blood sampling rooms and lavatories where urine and stool samples are collected adjacent to examination rooms.*
- *Have transfer rooms and examination rooms situated to be adjoining or close together.*

☐B.1.1.9 (11 Growth)

Formulate plans to enable the hospital to respond to future changes.

In clinical laboratory departments, equipment renewal and layout changes within the department may be required due to advances in testing technology and testing equipment innovations. Specifications need to be adjusted to enable adaption to changes occurring in the future. Consideration also needs to be given to accommodating rises in the amount of tests due to increases in the number of patients.

[Specific Examples]

- *Use double flooring to enable change of layout of water supply and drain pipes and electric power outlets for test equipment and facility use.*
- *Apply leak-proofing measures to entire floor surface to increase degree of freedom for test equipment and facility layout.*
- *Secure space for anticipated increase in number of blood sampling counters.*

B.1.2. Blood sampling room

☐B.1.2.1 (04 Privacy)

Pay consideration to patients' privacy.

When calling patients, consideration needs to be given to their privacy, such as not revealing their name, the content of the tests they are undergoing, and other personal information. Also be careful to ensure that patients having specimens collected at adjacent counters do not make eye contact.

[Specific Examples]

- *Call patients by number rather than by name.*
- *Set up partitions, curtains, or other such separations between blood sampling counters and blood sampling beds for collecting blood for autologous transfusion.*

Reception

☐B.1.2.2 (00 Basic)

Pay consideration to the positional relationship between reception and blood sampling counters.

In some cases the reception staff are also the blood sampling staff, so consider the location of the reception counter.

[Specific Examples]

- *(When reception staff and blood sampling staff are the same) Locate reception in line with counter.*

Blood sampling counter

☐B.1.2.3 (01 Medical)

Appropriately set the number of blood sampling counters.

Blood sampling must be carried out smoothly, and so it is necessary to set the number of blood sampling counters in accordance with the number of patients undergoing blood sampling per unit time.

Blood sampling counter

☐B.1.2.4 (01 Medical)

Secure the space required for appropriate phlebotomy.

Around the blood sampling counter, in addition to ensuring there is sufficient space, taking into consideration the movement of patients using a wheelchair, a cane, or crutches, space needs to be secured for the usage and storage of equipment, devices, and materials used when carrying out blood sampling.

[Specific Examples]

- *Secure space around counters to enable easier approach by wheelchair.*
- *Anticipate providing places on the patient side of counters for temporary storage of clothing items, walking stick, and belongings.*
- *Secure places on the medical staff side of the counter for storage of medical supplies in easily retrievable locations.*

Blood sampling counter

☐B.1.2.5 (03 Safety)

Pay consideration to ensuring that mix-ups of patients do not occur.

To ensure that medical staff collect blood samples without fail from the correct patient at the designated counter, consideration needs to be given to ensuring both that the patient can easily find the designated counter from the entrance and that the blood sampling staff also do not go to the wrong counter when accessing the counters from their work area. Also, consider arrangements that enable staff to check patient information easily.

[Specific Examples]

- *Display numbers and signs at counters by methods that make them easily visible from blood sampling room entryways and work areas.*
- *Arrange counters to allow patients and medical staff to sit down for easier confirmation of patient name, birthdate, and so on.*

Break area

☐B.1.2.6 (01 Medical)

Be prepared to cope with sudden changes in patients' condition during or after blood sampling.

Before and after blood sampling, patients may sometimes become temporarily unstable due to anemia, etc. It is therefore necessary to provide a place where the patient can rest quietly until they recover.

[Specific Examples]

- *Set up a space for recovery.*
- *Arrange a floor plan that makes it easier for staff to watch over patients and check their recovery status.*

B.1.3. Lavatory

☐B.1.3.1 (05 Comfort)

Provide the necessary ventilation equipment.

To ensure that unpleasant odors do not diffuse from areas where collected urine samples have been placed, odor control measures need to be implemented.

[Specific Examples]

- *Install localized exhaust vents.*

☐B.1.3.2 (08 Physical)

Set up facilities so that they are easy for patients to use.

Consideration needs to be given to the convenience of various kinds of patients, including elderly people and people in wheelchairs/on crutches, when they are collecting blood/urine samples. Consideration also needs to be given to where patients can temporarily place their belongings/clothing.

[Specific Examples]

- *Provide for single user toilet area and toilet fixture specifications separately for men and women for easier urine and stool sample collection.*
- *Provide umbrella hanger, walking stick hook, and place to put urine sample cup near the toilet fixture.*
- *Install urine and stool sample collection facilities (lavatories) for wheelchair users.*
- *Place specimen submission window at a height that is usable by people in wheelchairs.*

☐B.1.3.3 (09 Equipment)

Pay consideration to the materials and shape used for the specimen submission window.

In consideration of the possibility of a patient accidentally spilling their specimen at the specimen submission window, it is desirable to use materials that do not absorb the spilt specimen and can be wiped down easily. The shape should also have excellent cleanability. In addition, make arrangements to ensure that the patients do not make eye contact with staff in the testing area in consideration of their comfort and privacy when submitting their specimen.

[Specific Examples]

- *Do not install rail grooves at windows and other such points of contact.*
- *Use finishing materials with superior antifouling and chemical resistance properties for countertops, tabletops, and walls.*
- *Provide localized exhaust vents.*
- *Use pattern glass, translucent white film, or other such means on windows and other such points of contact so that people's gazes will not meet.*

B.1.4. Blood sample self-collection room

☐B.1.4.1 (00 Basic)

Secure the space and equipment required for collecting blood for autologous transfusion.

To enable blood transfusions to be performed during surgery, the patient collects their own blood samples ahead of the surgery. Collecting blood for autologous transfusion may be carried out in an area of the blood sampling room or in an area of the specimen examination room, and so it is necessary to check which room is to be used in advance. Furthermore, in some cases the patient will undergo intravenous transfusion following blood collection. Unlike regular blood sampling, collecting blood for autologous transfusion requires a certain amount of time, and so consideration needs to be given to reducing the physical and mental burden on the patient.

[Specific Examples]

- *Place easy chairs or beds for patient use in every patient corner.*
- *Give consideration so that ceiling lights do not shine directly in the eyes of patients who are in a supine position.*
- *Give consideration so that air currents from air conditioning outlets do not blow directly onto patients.*

B.1.5. Examination room

☐B.1.5.1 (00 Basic)

Secure an environment and equipment based on test contents.

To ensure that odors emanating from specimens and test reagents used in various tests do not build up in the room, ventilate the room and maintain an appropriate indoor air environment. Also, automated analyzers used for testing require (sterile) purified water (reverse osmosis water), and so a special water supply system needs to be provided for this purpose.

[Specific Examples]

- *Secure adequate amount of ventilation.*
- *Install water supply system that combines reverse osmosis (RO) devices and ion exchangers.*

☐B.1.5.2 (01 Medical)

Take measures to ensure that minimum functioning can be displayed, even in the event of a major disaster.

Deliberations and preparations must be carried out in advance to ensure that the minimum level of testing functionality for a hospital can be performed, even when the water/electricity/gas supply has been cut off due to the occurrence of a major disaster.

[Specific Examples]

- *Connect test equipment to an emergency electric power source.*
- *Connect blood storage cabinets to an emergency electric power source.*

☐B.1.5.3 (03 Safety)

Take measures to ensure that contaminants do not scatter.

When volatile substances such as formalin or organic solvents are expelled from specimens in addition to contaminants, consideration needs to be given to methods for preventing the diffusion of these substances. Also be mindful of the fact that methods for disposing of/treating contaminants differ from country to country.

[Specific Examples]

- *Make exhaust systems independent systems.*
- *Install exhaust gas scrubbers, deodorizing filter devices, and other such devices.*

☐B.1.5.4 (06 Environment)

Maintain appropriate room temperatures.

All types of testing equipment generate large amounts of heat and tend to raise room temperature. It is therefore necessary to consider methods for preventing this.

[Specific Examples]

- *Operate air conditioning in winter, too.*
- *Operate localized exhaust.*

B.1.6. Bacteria/Microorganism examination room

☐B.1.6.1 (03 Safety)

Secure safety from pathogens.

Because the department handles all kinds of pathogens, implement biohazard measures for staff working both inside and outside examination rooms as necessary. Consideration should also be given to measures to be taken in the event of a power outage.

[Specific Examples]

- *Set up room interiors to have negative pressure.*
- *Have safety cabinets in place.*
- *Install filter units equipped with HEPA filters on exhaust ducts.*
- *Set up antechambers and place interlock systems on doors.*
- *Install exhaust treatment devices capable of effectively treating contaminants.*
- *Connect exhaust equipment and safety cabinets to an emergency electric power source.*

B.1.7. Washing/Sterilization room

☐B.1.7.1 (00 Basic)

Secure the space and equipment required for washing and sterilization.

Equipment and facilities required for washing/sterilizing instruments and materials used in testing need to be provided so that the instruments/materials can be prepared for their next use.

[Specific Examples]

- *Locate washing and sterilization rooms adjacent to bacteriology and microbiology test and examination rooms and keep the flows for equipment and materials used in them separate from others.*
- *Install sinks for washing and simple sterilization equipment.*
- *Install water supply system that combines reverse osmosis (RO) devices and ion exchangers.*

☐B.1.7.2 (03 Safety)

Take measures to ensure that contaminants do not scatter.

In anticipation of the presence of various types of fungi on equipment and materials, give consideration to the safety of the staff responsible for washing/sterilizing work as well as safety outside the room. Also, with regard to wastewater, special treatment is necessary to ensure that the surrounding area or environment are not affected. Drainage methods therefore need to be considered

[Specific Examples]

- *The room interior should be at lower pressure than the areas where tests are conducted.*
- *Washing wastewater is to be handled as infective wastewater for treatment separate from the general drainage system.*
- *Use dustproof gaskets or packing on equipment that is attached to the wall.*

B.1.8. Genetic testing

Genetic testing and gene-related testing comprise "pathogenic gene testing", "human somatic gene testing", and "human genetic testing" (germline genetic testing)". Gene-related testing conducted by hospitals mainly comprises pathogenic gene testing for infectious diseases and somatic gene testing for leukemia.
(Source: Japanese Committee for Clinical Laboratory Standards (JCCLS): "Japanese Best Practice Guidelines for Genetic Testing")

☐B.1.8.1 (00 Basic)

Formulate plans in accordance with management methods.

In accordance with the tests being performed, create a room layout that follows the order of work procedures, such as whether or not bacteria culturing or gene amplification will be carried out, and prevent contamination of specimens.

[Specific Examples]

- *Set up a room that is dedicated to each work process and arrange the locations of the rooms so that each room has a one-way connection to the next.*

☐B.1.8.2 (03 Safety)

Assure security.

In order to prevent crime or specimen contamination, management is necessary to ensure that unauthorized persons cannot easily enter the room.

[Specific Examples]

- *Install electric locks or other such equipment that makes it possible to control entry and exit.*
- *Genetic testing is most often placed in a laboratory testing department, and it is assigned to a location that patients and other people in general cannot approach easily, such as the area farthest in back. In some cases, a separate room will be provided for it.*

☐B.1.8.3 (06 Environment)

Provide appropriate places for waste storage and drainage equipment.

Place non-infectious specimens in a dedicated disposal container containing sodium hypochlorite and dispose of them as non-infectious waste. Provide a separate storage place for infectious waste and take measures to ensure that the relevant infective waste does not disperse, leak, penetrate the ground, or emit foul odors. If there is a risk of water being contaminated, measures necessary for preventing pollution of public water areas or groundwater—such as covering the floor with impermeable materials in addition to installing the required drainage and other equipment and facilities—must be implemented. Infective wastewater should be released after sterilization using hypochlorous acid disinfection equipment or high-pressure steam sterilization as necessary.

[Specific Examples]

- *Provide a separate storage place for infectious waste.*
- *Provide sterilizing devices that can handle infective wastewater.*

Examination room/Laboratory

☐B.1.8.4 (06 Environment)

Maintain appropriate room temperatures.

Dry heat sterilizers generate a large amount of heat, and so it is desirable that room temperatures can be adjusted separately for each room.

[Specific Examples]

- *Air conditioning systems should be matched to the amount of heat generated by equipment and should be set up for separate room-by-room control.*

Examination room/Laboratory

□B.1.8.5 (03 Safety)

Pay attention to nosocomial infection control measures.

Install safety cabinets as a safety control measure against infection. Also, the Enforcement Regulation on the Medical Care Act clearly stipulates that "mechanical ventilation equipment is designed to prevent the air of infectious disease rooms, tuberculosis rooms, or bacterial pathology laboratories from entering the other parts of the hospital or clinic through air ducts"; accordingly, when carrying out pathogenic gene testing or other tests, be sure to ventilate the room appropriately to the standard for bacterial pathology laboratories. There are two types of safety cabinet: circulating and exhaust. The exhaust type has an independent exhaust system and control of the air supply-exhaust balance is interlocked with the operation switch. In order to secure a pleasant work environment, formulate plans with consideration given to air balance so that atmospheric pressure differences between the airflow in the room and the corridor also do not occur when using the safety cabinet.

[Specific Examples]

- *Air conditioning systems should be matched to the amount of heat generated by equipment and should be set up for separate room-by-room control.*

Analysis room

□B.1.8.6 (01 Medical)

Arrange facilities in accordance with the model of microscope.

Various microscope models are used: optical, digital, laser, electron, and scanning electron microscopes. Give consideration to vibration control/air shut-off measures, and electric power sources for each model.

[Specific Examples]

- *Electron microscopes and other such devices will require vibration-proofing measures.*
- *Vibration-proofing measures are implemented for the floor as a whole or discretely by device.*

Analysis room

□B.1.8.7 (06 Environment)

Secure appropriate brightness/ illuminance.

Precise operations are required and so an appropriate light environment is necessary.

[Specific Examples]

- *Provide general lighting and task lighting as appropriate.*

B.1.9. Pathological examination

☐B.1.9.1 (00 Basic)

Formulate plans in accordance with management methods.

When planning pathological examination rooms, the layout needs to give consideration to work procedures (from fixing to cutting, embedding, slicing, extending, dyeing and microscopic examination). In cases where urgency is required, such as during surgery, prepare a frozen section at low temperature and examine using a low temperature microtome instead of using time-consuming paraffin embedding. When carrying out cytology, use the procedure starting with centrifuge, then smearing, fixing, dyeing, and microscopic examination.

[Specific Examples]

- *Use appropriate flooring material.*

☐B.1.9.2 (01 Medical)

Use appropriate flooring materials.

Because the department handles highly acidic chemicals and chemicals that emit foul odors over a long period of time when soaked, consideration needs to be given to selecting floor materials if the floor is to be an OA floor.

[Specific Examples]

- *Use flooring material with chemical resistance properties.*

☐B.1.9.3 (06 Environment)

Implement appropriate exposure countermeasures.

Especially when undertaking fixing/cutting work, use hazardous substances such as formalin. Also, appropriate ventilation is necessary as these substances emit odors during the work. It is especially important for there to be a vent near the worker's hands so that they do not inhale the fumes. Note that formalin must be handled in accordance with regulations under the Ordinance on Prevention of Hazards Due to Specified Chemical Substances.

[Specific Examples]

- *Provide local exhaust systems at work tables.*
- *Control room interior to be at negative pressure.*
- *Install filters so that toxic substances do not spread outside through exhaust ventilation routes.*

☐B.1.9.4 (11 Growth)

Formulate plans to enable the hospital to respond to future changes.

When renewing testing equipment, the layout of the equipment may need to be changed in some cases, so consideration needs to be given to enabling layout changes in the future.

[Specific Examples]

- *Install a dry double floor.*

Sectioning room

☐B.1.9.5 (06 Environment)

Maintain an appropriate air environment.

Control room temperature appropriately to ensure that paraffin blocks are not affected. Ensure that segments are not disturbed by airflow, such as from air-conditioning.

[Specific Examples]

- *Give consideration to means such as installing radiant heating and cooling system to keep air currents from hitting specimens.*

Pathological diagnosis room

☐B.1.9.6 (06 Environment)

Secure an appropriate light/lighting environment.

Because diagnosis is carried out using microscopes and monitors, secure the lighting environment with consideration given to the impact of natural light and lighting.

[Specific Examples]

- *Arrange the layout of rooms so that there are no windows in the rooms.*
- *Adopt lighting with louvers so that no light sources will be reflected on monitors.*
- *Have lighting that is dimmable in parts.*

Electron microscope room

☐B.1.9.7 (01 Medical)

Secure a vibration-free work environment.

With electron microscopic examinations, measures to prevent vibrations are required as even slight vibrations make examining specimens impossible. Also, caution is required regarding floor load as the microscopes themselves can be very heavy.

[Specific Examples]

- *Use flooring with high rigidity and vibration-proofing specifications.*
- *In the case of electron microscopes, vibration-proofing measures are sometimes applied on the device side.*

Electron microscope room

☐B.1.9.8 (01 Medical)

Block the impact of external magnetic fields.

In order to obtain accurate images, the effects of magnetic fields outside the room must be blocked in some cases.

[Specific Examples]

- *Install shielding for examination rooms.*

Organ storage room

☐B.1.9.9 (00 Basic)

Secure sufficient space in accordance with the number of cadavers to be stored and the length of storage.

Because organs may need to be stored for long periods of time in some cases, it is necessary to secure storage space in accordance with the storage period and number of tests.

[Specific Examples]

- *Install storage cabinets and storage shelves.*
- *Install high-density shelving.*

Organ storage room

☐B.1.9.10 (00 Basic)

Secure routes for appropriately transporting stored organs outside the hospital.

When transporting organs outside the hospital after their storage period has ended, it is desirable that they can be transported along a short flow so that as far as possible they are not seen by anyone other than the people concerned.

[Specific Examples]

- *Locate the organ storage room very close to the service yard.*

Specimen room

☐B.1.9.11 (00 Basic)

Formulate plans in accordance with management methods.

Because the number of pathological specimens being stored may be extremely large, be sure to secure the necessary space for the number of specimens required.

[Specific Examples]

- *Install high-density shelving.*

Specimen room

☐B.1.9.12 (00 Basic)

Formulate plans based on load.

Because pathological specimens can become a large load due to density, consideration needs to be given to load.

Specimen room

☐B.1.9.13 (03 Safety)

Assure security.

In order to store hazardous substances, consideration needs to be given to preventing loss and theft.

[Specific Examples]

- *Install system with electric locks or other such means that can restrict access to the room.*

B.1.10. Autopsy

☐B.1.10.1 (00 Basic)

Ensure the layout gives consideration to flows.

When transporting the bodies of deceased patients, it is necessary to avoid intersecting with the flows of other patients and general hospital visitors as far as possible. However, departments need to be positioned with consideration given to the connection between the pathological examination department and the mortuary.

[Specific Examples]

- *Arrange for movements so that flows from elevators will not intersect with flows of other patients and hospital visitors.*
- *Give consideration to arranging for room interior not to be visible from common areas when door is opened.*

☐B.1.10.2 (01 Medical)

Provide a place for weighing cadavers.

Ensure that body weighing scales can be installed and that bodies can be laid on the scales stretcher-and-all.

[Specific Examples]

- *Secure sufficient space to allow movement of stretchers.*
- *When scales are embedded in the floor, give consideration to lowering the floor level or other such treatment.*
- *When scales are embedded in the floor, locate them in a corner of the antechamber and on the flow.*

☐B.1.10.3 (03 Safety)

Pay attention to nosocomial infection control measures.

From the standpoint of preventing nosocomial infection, consideration needs to be given to ensuring that no one other than those concerned can easily approach.

[Specific Examples]

- *At autopsy unit entryway, install electric locks or other such equipment that makes it possible to control entry and exit.*

Autopsy room

☐B.1.10.4 (01 Medical)

Use easy-to-clean interior finishing materials.

Because blood and other hazardous substances are present on the floor, walls, and ceiling, etc., after an autopsy has been performed, it is necessary to use interior finishing materials that enable appropriate washing and disinfection to be carried out.

[Specific Examples]

- *Use dry process interior finishing materials.*
- *Floor: Coated or poured floor finish, etc. (anti-slip, waterproof)*
- *Walls: Decorative calcium silicate board, etc.*
- *Ceiling: Decorative calcium silicate board, etc.*

Autopsy room

☐B.1.10.5 (03 Safety)

Pay attention to nosocomial infection control measures.

The bodies of the deceased may be a source of infection and contaminate medical staff. Measures need to be implemented, including giving consideration to entering and exiting the autopsy room, which is presumed to be contaminated.

[Specific Examples]

- *Doors to autopsy rooms should be automated doors (with foot switches).*
- *Secure places for washing and storing boots.*
- *Install handwashing facilities.*

Autopsy room

☐B.1.10.6 (06 Environment)

Install appropriate water supply and drainage facilities.

Because organic wastewater may sometimes be discharged, drainage pipe materials and installation of appropriate wastewater treatment facilities need to be considered.

[Specific Examples]

- *As to drain pipe material, avoid using polyvinyl chloride pipe (lining pipe). Classify wastewater by four systems of sewage, gray water, autopsy wastewater, and chemical wastewater, and apply wastewater sterilization treatment to all.*

Autopsy room

☐B.1.10.7 (06 Environment)

Carry out appropriate air-conditioning management.

Because toxic substances such as formaldehyde and xylene may be used in the autopsy room, and because such substances may emit odors, air-conditioning needs to be managed appropriately to ensure that the odors do not leak outside.

[Specific Examples]

- *Place air conditioning on independent total exhaust system and have interior at negative pressure.*
- *In rooms where the work done involves handling formaldehyde, provide localized exhaust equipment or a push-pull ventilation system and hold the inhibitory concentration to 0.1 ppm or lower.*
- *Since formaldehyde and xylene are heavier than air, exhaust vents should be placed close to the floor surface.*
- *Taking the risk of infection to workers into consideration, the flow of air conditioning should be directed one way from higher toward lower.*
- *Even if exhaust is discharged to the outside of the building, ductwork should be erected to the rooftop where there will be less impact and exhaust treatment devices or other such equipment should be installed.*
- *Keep room temperature to approximately 20°C.*
- *When performing autopsies of infective systems, arrange to have the area around the autopsy table vented one-way outward through HEPA filters and prevent the spread of sources of infection.*

Morgue

☐B.1.10.8 (00 Basic)

Secure sufficient space in accordance with the number of cadavers to be stored and the length of storage.

Depending on the hospital's locality and characteristics, time may be required for bodies of the deceased to be collected. Accordingly, the number of the deceased to be stored and the period of storage needs to be checked through discussions with the hospital.

B.1.11. Mortuary

Mortuary

☐B.1.11.1 (00 Basic)

Formulate plans giving consideration to freedom of belief.

The arrangement of the mortuary needs to be planned so that there is no interference in the freedom of religion of patients or their family members. Generally speaking, the interior of the mortuary is non-religious in many cases. Also, because incense sticks are often used, consideration needs to be given to ensure that the smell of incense does not leak outside to other departments.

Mortuary

☐B.1.11.2 (00 Basic)

Plan locations giving consideration to flows.

Formulate plans so that the mortuary is located where it can be accessed directly by the deceased's family members, etc., using easily followed routes that do not pass through areas where there are general patients, such as the outpatient department. In order to protect the dignity and peace of the deceased and their family members, it is desirable that routes to the mortuary are separate from those used by staff. Ensure that the mortuary is located in accordance with the hospital's philosophy with regard to viewing, lighting, and floor of installation.

Transportation preparation room

☐B.1.11.3 (01 Medical)

Put in place a setup for carrying out preparation work for transportation.

Install a wash basin in the preparation room so that the bodies of the deceased can be prepared for transport (wiping the deceased all over with alcohol or hot water; packing the ears, nose, and anus with cotton, etc.). If there is no preparation room, check where preparation for transport will be carried out (family members' waiting room, mortuary, etc.) and install a wash basin near this room.

[Specific Examples]

- *Install hand-wash basins.*

Hearse entrance/exit

☐B.1.11.4 (04 Privacy)

Ensure it is possible for the deceased to be given an appropriate send-off.

The exit for taking out bodies of the deceased needs to be located giving consideration to the privacy of the deceased patient and their family members. In addition, give consideration to ensuring that vehicles for transporting the deceased cannot be seen entering or leaving the hospital. It is desirable, however, that this exit be located apart from the entrance/exit for service/work vehicles. Because staff may also come outside the hospital to see off the vehicles for transporting the deceased, secure sufficient space for send-offs giving consideration to the anticipated number of people attending.

B.2. Physiological testing department

B.2.1. Common items

☐B.2.1.1 (01 Medical)

Plan with consideration to connections between related departments.

Because physiological testing department staff carry out their work in collaboration with the clinical laboratory department, the locations of both departments need to be adjusted.

[Specific Examples]

- *Giving consideration to coordination, maintain close contact with the Clinical Laboratory Department when making plans.*

☐B.2.1.2 (01 Medical)

Ensure locations are easy for patients to access.

Because physiological testing is carried out on both outpatients and inpatients, consider the location of the physiological testing department, ensuring that it is easy to access from both outpatient consultation rooms and wards, giving consideration to the convenience of both outpatients and inpatients based on the hospital's operations plan.

[Specific Examples]

- *Take movement by wheelchair and stretcher into account and secure appropriate width for corridors.*
- *Be prepared for cases when ultrasound scan is conducted while collecting specimens, and give consideration to coordination with outpatient, radiology, and clinical laboratory units.*

☐B.2.1.3 (04 Privacy)

Pay consideration to patients' privacy.

Inpatients undergoing physiological testing put on an examination gown in the ward before going to the physiological testing department. Give consideration to planning flows to ensure that patients wearing examination gowns are not unnecessarily visible to other patients bearing in mind the positioning of the outpatient department and clinical laboratory department waiting area.

[Specific Examples]

- *Secure flows to enable access from wards and nursing units without passing through outpatient departments.*

☐B.2.1.4 (04 Privacy)

Pay consideration to patients' privacy.

Depending on the type of test, patients may be required to undress for testing, so give consideration to ensuring that they cannot be seen from outside the room.

[Specific Examples]

- *In consideration of visual privacy, provide for ways to make rooms private and set up curtains on cubicles.*

Waiting area

□B.2.1.5 (01 Medical)

Plan waiting rooms that support examination/test/check procedures.

In the physiological testing department, pretreatment may be required prior to a test. Accordingly, in some cases plans are made for one general waiting area, while in other cases a general waiting area and secondary waiting areas in front of each examination room are provided. The hospital's management policy needs to be checked and waiting area planning needs to be flexible.

[Specific Examples]

- *Set up secondary waiting areas (separate from the primary waiting area for the laboratory testing department) in front of each examination room according to the preparation required for examination and the examination turnover rate.*

Examination room/Laboratory

□B.2.1.6 (01 Medical)

Secure the space required for conducting examinations/tests/checks.

For physiological testing, patients may be transported into the examination room by bed or stretcher. In addition to space for installing examination equipment, secure door dimensions and space that give consideration to the bringing of beds/stretchers into the room.

[Specific Examples]

- *Secure adequate space for presence of examination equipment according to examination items.*
- *Secure effective opening dimensions for doors.*
- *Make plans with consideration for space to install the equipment for each examination, as electrocardiographic examination may be performed using a step platform, ergometer, treadmill, and so on, for a Master's test.*

Examination room/Laboratory

□B.2.1.7 (01 Medical)

Appropriately locate equipment outlets required for conducting examinations/tests/checks.

In physiological testing, tests may be carried out by capturing electrical phenomena accompanying vital activity. Because examination equipment has an earth cable and a LAN cable in addition to a power source, install equipment outlets in appropriate locations so that cables and cords lying on the floor do not impede the movement of stretchers or physicians/nurses.

[Specific Examples]

- *Consider the number and placement of electric power outlets for the examination equipment envisioned for use*
- *Provide independent ground terminals in appropriate locations.*

Examination room/Laboratory

□B.2.1.8 (05 Comfort)

Formulate plans to enable the relief of patients' stress during examinations/tests/checks.

Because tests cannot be carried out correctly if the patient is nervous or tense, it is important to create an environment in which patients can relax and undergo testing with peace of mind.

[Specific Examples]

- *Configure spaces so they will not be affected by changes in the outside environment.*
- *Plan examination rooms so that room temperature can be held constant at an appropriate level more easily. Set up plans to avoid outside noise and take into consideration the locations of elevator shafts, machine rooms directly above or below, and other such sources of vibration.*

B.2.2. Electrocardiogram (EGC) room (resting ECG)

☐B.2.2.1 (01 Medical)

Block out environmental irritation.

In order to obtain accurate test results, it is important for the patient to remain still in a resting position. To ensure that the patient's various senses and nerves are not stimulated, check the sound, light, and protection-related conditions particular to resting electrocardiograms and formulate plans in accordance with operations.

[Specific Examples]

- *Provide sound insulation against noise from outside the room to preserve peace and quiet for patients.*
- *Make lighting dimmable to preserve complete rest for patients.*

☐B.2.2.2 (01 Medical)

Block out environmental irritation.

In order to obtain accurate test results, take precautions to ensure that testing is not affected by influences from outside the room.

[Specific Examples]

- *Provide sound insulation against noise from outside the room.*
- *Avoid location next to an exercise electrocardiogram room.*

B.2.3. Electrocardiogram (EGC) room (exercise ECG)

☐B.2.3.1 (01 Medical)

Remove barriers to other examinations/tests/checks.

Because vibrations and sounds are generated during stress electrocardiograms, take precautions to ensure that accurate test results can be obtained in other examination rooms.

[Specific Examples]

- *Provide separation from resting electrocardiograms and phonocardiographic examination, and provide sound insulation against noise generated inside the room.*
- *Provide separation from resting electrocardiograms and phonocardiographic examination, and be careful with regard to vibration that is generated.*

B.2.4. Phonocardiogram/Mechanocardiogram room

☐B.2.4.1 (01 Medical)

Block out environmental irritation.

In order to obtain accurate test results, take precautions to ensure that testing is not affected by influences from outside the room.

[Specific Examples]

- *Provide sound insulation against noise from outside the room.*
- *Avoid location next to a stress electrocardiogram room.*

B.2.5. Respiratory/Pulmonary function test room

☐B.2.5.1 (00 Basic)

Secure the space required for conducting examinations/tests/checks.

Stress may be applied during testing, so secure sufficient space for the necessary equipment.

[Specific Examples]

- *Provide support for respiratory stress testing.*

B.2.6. Electroencephalogram (EEG)/Electromyogram (EMG)/ Auditory brainstem response (ABR) test room

*Auditory evoked potential (AEP) examination room

□B.2.6.1 (01 Medical)

Secure the space and equipment required for conducting examinations/tests/checks.

For tests measuring weak voltage variations, even the slightest potential barrier may affect test results. When a wash basin or other equipment is installed inside the shield, exercise caution as this may lower the shield's performance.

[Specific Examples]

- *Pay attention to sound insulating performance.*
- *Install electromagnetic shielding so as not to be influenced by electromagnetic waves from elevators, the parking lot, or other external sources.*
- *Install a hair washing stand near the electroencephalography room.*
- *Consider installing a hand-washing station.*
- *Since examination results are influenced by visual stimuli, provide a way to check whether the patient's eyes are open or closed during examination.*
- *Make lighting dimmable in both the examination room and control room so that patients can maintain a restful state.*

B.2.7. Ultrasound room

□B.2.7.1 (00 Basic)

Formulate plans in accordance with management methods.

Depending on the hospital, ultrasound examinations may be performed not only in the ultrasound room but also in consultation rooms, patient rooms, and various other places. Accordingly, it is necessary to check thoroughly with each hospital in advance regarding their management policy. With regard to the necessity of collaboration between the ultrasound room and the gynecology department, in some cases the ultrasound technician goes back and forth between the two, so check the hospital's management.

[Specific Examples]

- *Situate it close to the obstetrics consultation rooms as necessary.*

Examination room/Laboratory

□B.2.7.2 (01 Medical)

Provide equipment for conducting examinations/ tests/checks appropriately.

Regarding the ultrasound room, formulate plans that enable adjustment of the room's brightness so that there is no difficulty viewing the ultrasound monitor screen due to background reflections, etc.

[Specific Examples]

- *Put blackout curtains in place.*
- *Install dimmable lightings.*

B.2.8. Echocardiogram

☐B.2.8.1 (00 Basic)

Formulate plans in accordance with management methods.

The echocardiogram room is often located together with the ultrasound room in order to improve the laboratory technicians' work efficiency.

[Specific Examples]

- *In some cases this facility is located together with ultrasound examination.*
- *Confirm the practitioner.*
- *Check to make sure whether light dimming and blackout curtains are necessary or not.*

B.2.9. Transesophageal echocardiogram (TEE)

☐B.2.9.1 (09 Equipment)

Provide the equipment required for conducting examinations/tests/checks.

For transesophageal echocardiograms, the same testing procedures are carried out as for tests conducted in the endoscopy room.

[Specific Examples]

- *Refer to the items for endoscopic examination.*

B.3. Endoscopy department

B.3.1. Common items

☐B.3.1.1 (00 Basic)

Formulate plans in accordance with management methods.

Depending on the hospital, upper endoscopy and colonoscopy examinations may be assigned to different examination rooms (separate) or conducted in the same examination room (mixed). Even when the same examination room is used, upper endoscopy and colonoscopy examinations may be separated by morning and afternoon. Also, examination rooms for men and women may be separated.

[Specific Examples]

- *Set up the necessary examination room according to the method of administration.*

☐B.3.1.2 (01 Medical)

Secure the space required for cleaning instruments.

Equipment/instruments used in examinations must be washed/cleaned inside the examination department and stored after each use. The cycle of storing, washing/cleaning, and taking out to reuse already-used equipment/instruments needs to be carried out smoothly.

[Specific Examples]

- *Secure the space for installing a washer.*
- *Provide a cabinet that can be used to manage times for washing and storage periods.*
- *Provide a space that is exclusively for washing and that has provisions made for the noise of operation.*
- *Provide a space that is exclusively for storage adjoining the space that is exclusively for washing.*

B.3.2. Pretreatment

☐B.3.2.1 (01 Medical)

Provide space for administering drugs for upper endoscopy procedures.

When undergoing an upper endoscopy, patients are administered drugs that eliminate gastric air bubbles and dull the sensation of the throat.

[Specific Examples]

- *Place chairs, table, and handwashing facility in the room.*

☐B.3.2.2 (05 Comfort)

Secure space for the patient to undergo pretreatment when undergoing a colonoscopy.

When undergoing a colonoscopy, patients drink around two liters of a medicinal solution to cleanse the large intestine. They go back and forth to the lavatory until all feces has been removed. Because pretreatment for colonoscopy takes a long time and is a burden on the body, spaces that enable patients to be comfortable during this time must be planned.

[Specific Examples]

- *Locate with adjoining dressing rooms.*
- *Provide lavatories.*
- *Place chairs, table, and handwashing facility in the room.*
- *Provide easy chairs, television, and other such facilities for spending long periods of time.*
- *Arrange the layout of chairs so that space for individuals can be secured.*
- *Arrange the layout of rooms so that there are windows in the rooms.*
- *There are also times when pretreatment rooms are provided separately for men and women.*

B.3.3. Common to upper endoscopy and colonoscopy

☐B.3.3.1 (00 Basic)

Appropriately secure power sources required for examinations/tests/checks.

Various equipment/devices requiring power sources are installed in examination rooms, and apart from the examination table, are often portable. This equipment includes an electronic endoscope main unit, biometric monitoring devices, sub-monitors, radiofrequency electrosurgical instruments (electric scalpel), and electronic medical record (ordering) terminals. Because it is anticipated that some patients will enter the room in a wheelchair or on a stretcher, consideration needs to be given to ensuring that the equipment cords do not impede the movement of wheelchairs/stretchers as well as physicians/nurses.

[Specific Examples]

- *Install floor receptacles for use with height-adjustable examination tables.*
- *Install electric power outlets in a total of seven locations, with three locations in the wall on both sides of the examination table and one at the patient's head end of the table.*
- *When the endoscope is not moved, the power is sometimes taken from a receptacle in the ceiling.*

☐B.3.3.2 (00 Basic)

Appropriately install the equipment outlets required for conducting examinations/tests/checks.

In addition to power sources, outlets are required for video cables and LAN cables for saving images electronically.

[Specific Examples]

- *Provide imaging cable and install LAN outlets.*

☐B.3.3.3 (09 Equipment)

Secure the medical gas equipment required for examinations/tests/checks.

Suction equipment needs to be installed in around two places and oxygen equipment needs to be installed in around one place. This equipment may be installed in multiple places on the wall or ceiling, etc., and suction equipment is installed in two places in preparation for changing the position of the endoscope, or for when the patient vomits blood.

[Specific Examples]

- *Provide vacuum and oxygen from the ceiling or from the wall.*

☐B.3.3.4 (00 Basic)

Secure the space required for patient transportation.

Because patients may be transported by bed or stretcher, ample space for movement is required around the doors to examination rooms and inside examination areas.

[Specific Examples]

- *Secure effective door opening width W of 1,200 mm or more.*

☐B.3.3.5 (04 Privacy)

Pay consideration to patients' privacy.

Some patients may moan or complain loudly of pain, and hearing this may make other patients anxious. While it is difficult to take precautions regarding sounds, it is necessary to take measures to counter actions that can be seen.

[Specific Examples]

- *Install curtains, privacy walls, screens, and so on that block lines of sight.*

☐B.3.3.6 (06 Environment)

Secure an appropriate light/lighting environment.

The lighting brightness required for performing work tasks, both when testing is/is not being carried out, is necessary. It is also necessary to prevent reflections on the monitor screen.

[Specific Examples]

- *Install general work lighting and dimmable lighting.*
- *In the case of fluorescent lights, give consideration to preventing reflected glare by installing louvers and covers.*

B.3.4. Upper endoscopy

☐B.3.4.1 (00 Basic)

Secure the space required for conducting examinations/tests/checks

The physician may be positioned facing the endoscope main unit with a main monitor beyond the patient, or a sub-monitor may be used for the patient to see.

[Specific Examples]

- *Secure enough space that there is no problem with the relationships between equipment and equipment power and other cords placed around the examination table and the positions and flows of physicians and nurses.*

B.3.5. Colonoscopy

☐B.3.5.1 (00 Basic)

Secure the space required for conducting examinations/tests/checks

Compared to its positioning for upper endoscopy, here the sub-monitor may be positioned according to multiple patterns.

[Specific Examples]

- *Give consideration to enable appropriate positioning of sub-monitors and provide space for the purpose.*

☐B.3.5.2 (09 Equipment)

Provide the necessary ventilation equipment.

Install ventilation equipment in consideration of the fact that odors occur more frequently and strongly than with upper endoscopy.

B.3.6. Cleaning room

☐B.3.6.1 (09 Equipment)

Install the necessary water supply and drainage facilities.

The cleaning room needs to be equipped with sinks and the necessary water supply and drainage facilities for a primary cleaning sink, endoscope immersion, and endoscope sterilization.

[Specific Examples]

- *Install a sink (400×800×D250 or larger) for primary washing and provide space for temporarily placing things.*
- *Install water supply and drainage and electric power for endoscope washing and disinfection equipment.*
- *Install a sluice sink that can be used for waste liquid from the endoscopic aspirator.*

☐B.3.6.2 (00 Basic)

Provide space for equipment storage.

Keep endoscopes in dedicated endoscope storage to prevent bacterial contact during storage.

☐B.3.6.3 (06 Environment)

Take measures to prevent noise from automatic washers.

Automatic washers generate noise while they are operating, and so precautions need to be taken to ensure that the noise does not cause discomfort to patients or medical staff.

[Specific Examples]

- *Install insulation for cleaning room sound to keep it from the endoscopy room.*

☐B.3.6.4 (09 Equipment)

Provide the necessary ventilation equipment.

Use a powerful disinfectant for disinfecting/sterilizing instruments/devices such as glutaraldehyde (GA), ortho-phthalaldehyde (OPA), or peracetic acid. Because vaporized GA has a greater specific gravity than air, installing intake ducts for ventilation equipment at foot level is effective.

[Specific Examples]

- *Place ventilation system intake ducts at the feet and the hands.*

☐B.3.6.5 (03 Safety)

Use floor materials that take cleaning into consideration.

Because dirty fluids and water droplets may fall during washing, use flooring materials that are easy to wipe.

[Specific Examples]

- *The floor should allow mopping, and anti-slip properties should be considered for the finish material.*

B.3.7. Recovery

☐B.3.7.1 (01 Medical)

Provide space for patients to rest after undergoing an examination/test/check.

Space is necessary for securing time before the anesthesia/sedative administered prior to endoscopy loses its effectiveness; calming or helping the patient to feel better after the test when no anesthesia has been used; and explaining the cautions to the patient following the procedure.

[Specific Examples]

- *Place the required number of reclining chairs and beds.*

☐B.3.7.2 (03 Safety)

Formulate plans to ensure that patients can use the facilities safely.

When the patient has been administered a sedative, their movement may become unstable. Accordingly, measures are required to prevent the patient from falling out of their bed or chair, as well as to make it easier for nurses to check on their condition.

[Specific Examples]

- *Install chairs and beds that take fall prevention devices into consideration.*
- *Also provide space for staff members to be continuously present.*
- *When making rooms private, install surveillance cameras and nurse call systems.*

B.4. Diagnostic imaging department

B.4.1. Common items

□B.4.1.1 (00 Basic)

Ensure it is possible to guide patients smoothly and safely to their examination room.

Because the diagnostic imaging department is expected to be used by outpatients, emergency patients, and inpatients, consideration needs to be given to the interconnection of the outpatient and emergency departments as well as methods for transporting patients from wards, in accordance with hospital operations.

[Specific Examples]

- *When the emergency department does not have its own dedicated diagnostic imaging equipment, the diagnostic imaging department and emergency department should be placed close together.*
- *Pay particular attention to patient flows by, for instance, placing the diagnostic imaging department adjacent to outpatient orthopedic surgery, which has a high frequency of examination.*
- *The angiography room is sometimes located next to surgical departments rather than the diagnostic imaging department, so the hospital's practice should be confirmed.*
- *Since mammographic examination sometimes also involves ultrasound examination as part of the examination sequence, place an ultrasound examination room adjacent to the mammography room.*
- *Secure appropriate transport routes, corridor width, and waiting area space according to the method of patient transport (stretcher, bed) from wards and nursing units to the diagnostic imaging department.*
- *Give consideration to keeping emergency and inpatient transport flows from intersecting with general and outpatient flows as much as possible.*
- *With regard to flows from the emergency department, give full consideration not only to patients being transported, but also to outpatient emergency (walk-in) patient flows.*

□B.4.1.2 (00 Basic)

Formulate plans in accordance with management methods.

Based on reception, waiting area, changing room, patient-calling, and testing operations, give consideration to performing tests efficiently to reduce patient waiting times.

[Specific Examples]

- *Secure the number of dressing rooms for each radiography room according to that radiography room's frequency of use, such as by planning multiple dressing rooms for a single radiography room.*
- *Consider setting up dressing rooms with consideration for the user's condition by measures such as curtaining off dressing areas for wheelchair users.*
- *Consider the relative placement of waiting areas, radiography rooms, and control rooms according to methods used to explain examinations and to call patients in (visual call by monitor, audio call by microphone, having staff members guide patients, and so on).*

□B.4.1.3 (01 Medical)

Formulate plans that enable staff to easily comprehend patients' conditions.

Because the diagnostic imaging department is used by patients whose conditions vary, the ability to respond swiftly when a patient's condition changes suddenly, including when they are in the waiting area is imperative. In addition, organize the department to enable it to operate efficiently with a limited number of staff, such as enabling staff to comprehend the situations in multiple imaging rooms simultaneously.

[Specific Examples]

- *Pay attention to visibility from reception and from control rooms and make as sure as possible that every patient waiting area is free of blind spots.*
- *Pay attention to planning effective flows for staff members, such as by providing corridors exclusively for staff members to connect to control rooms, in light of staff placement practices and so on.*
- *Install surveillance cameras as appropriate so that waiting areas can be monitored.*

☐B.4.1.4 (01 Medical)

Formulate plans that enable radiation to be handled safely.

In areas where radiation is used, laws prescribing handling of radiation, health management for technicians/staff, and the work environment apply. Testing and labor environments must be checked together with operational plans to ensure that the prescribed standards are being met.

[Specific Examples]

- *Make sure of the Act on Prevention of Radiation Hazards due to Radioisotopes, etc., and other such laws that regulate the handling of radiation.*
- *Make sure of the Industrial Safety and Health Act, the Working Environment Measurement Act, and other such laws relating to the health management and workplace environment of personnel who handle radiation.*
- *Keep portable X-ray equipment in lockable storage.*
- *Configure radioactive shield performance based on shielding calculations that take the radiological equipment and frequency of use into account.*

☐B.4.1.5 (04 Privacy)

Pay consideration to patients' privacy.

Depending on test content, inpatients undergoing testing may put on an examination gown before going to the diagnostic imaging department, and so consideration of their privacy is required. Give consideration to patients' routes to ensure that patients wearing examination gowns are not unnecessarily subjected to the gazes of other patients.

[Specific Examples]

- *Pay attention to making flow plans so as to enable access to radiography rooms without passing through outpatient department or laboratory testing department waiting areas.*

☐B.4.1.6 (05 Comfort)

Relieve patients' anxiety.

Patients undergoing diagnostic imaging testing are in a state whereby they can easily feel stress, such as being placed in an unfamiliar environment with large medical equipment while feeling anxious about the tests and the reasons why they are undergoing testing. Environment to reduce the stress felt by patients undergoing testing is required.

[Specific Examples]

- *Since patients sometimes face upwards during radiography, use lighting with RGB dimming function or indirect lighting to lessen eye irritation.*
- *When planning interiors, take steps not to give a cold impression.*
- *In plans for signs to mark radiation-controlled areas and related matters, give consideration to using signs that will not make patients feel tense.*

☐B.4.1.7 (11 Growth)

Formulate plans to enable the hospital to respond to future changes.

In preparation for future changes in the medical environment, formulate plans that secure changeability to enable adaptation to functional expansion accompanying the renewal or replacement of diagnostic imaging equipment.

[Specific Examples]

- *Provide space capable of building extension for future expansion, with consideration for load bearing, adjacent to the diagnostic imaging department.*
- *Make diagnostic imaging department corridors open-ended to prepare for future expansion.*
- *Make plans that are ready for additional installation of power sources and medical gas facilities needed in expansion.*
- *With a view to future equipment updates, make sure that floors can bear the load, openings are large enough, and other such matters, including along routes for bringing new equipment in.*
- *Provide support for OA flooring in departments that need it.*

Waiting area/Reception

□B.4.1.8 (00 Basic)

Formulate plans in accordance with management methods.

The diagnostic imaging department is used by both outpatients and inpatients. Because inpatients are generally accompanied by staff when undergoing testing, it is important that plans be formulated to make the facilities easy to use for outpatients in particular. In accordance with the testing flow processes of reception, waiting, patient-calling, and testing, consideration needs to be given to creating reception and waiting areas that are easy for patients to identify.

[Specific Examples]

- *Locate diagnostic imaging reception in the entrance hall, at outpatient departments, at places that are easy to find from main flows.*
- *Locate waiting areas for each radiography room at places patients can be easily directed to from diagnostic imaging reception.*
- *Plan signs to make giving directions easier.*

Changing room

□B.4.1.9 (08 Physical)

Set up facilities so that they are easy for patients to use.

Because patients may be required to remove their underwear and change into an examination gown for diagnostic imaging testing, provide space for changing clothing either inside or nearby each imaging room. In recent years there has been an increase in the incidence of tests being conducted on elderly people who take time to get undressed/dressed, and changing rooms need to be planned with consideration given to testing efficiency.

[Specific Examples]

- *Place the dressing room to allow access from the patient waiting area through the dressing room directly to the radiography room.*
- *Plan to make dressing rooms more independent or use other such means so patients have a safe place to leave belongings they cannot take into the radiography room.*
- *Partition off one part of the radiography room interior to make independent dressing rooms.*
- *Partition off one part of the radiography room interior with curtains to make a dressing area.*
- *Plan for a dressing area that is usable by patients using wheelchairs.*
- *Provide a wash basin and mirror nearby so that patients can tidy up their appearance after an examination.*

Imaging room

□B.4.1.10 (00 Basic)

Formulate plans in accordance with the installation requirements for diagnostic imaging equipment.

Diagnostic imaging mainly uses equipment such as X-ray, X-ray fluoroscopy, MRI, angiography, IVR, cardiac catheterization, and mammography, and for each diagnostic device model number the manufacturer stipulates installation conditions such as loading conditions, temperature and humidity conditions, and radiation/ electromagnetic wave shielding conditions. Factors such as door/window dimensions, wiring pits, and carrying-in routes need to be checked to ensure that they meet all these conditions.

Imaging room

☐B.4.1.11 (00 Basic)

Appropriately install the equipment outlets required for conducting examinations/tests/checks.

In addition to a power source, testing equipment is connected to video and LAN cables. Install equipment outlets in appropriate locations to ensure that the movement of stretchers or medical staff is not impeded by cables or cords lying on the floor.

[Specific Examples]

- *Make use of wiring pits and OA flooring in order to assure routes for wiring.*
- *Use electric power outlets for diagnostic imaging equipment that can provide power from in-house generators.*

Imaging room

☐B.4.1.12 (09 Equipment)

Secure the medical gas equipment required for conducting examinations/tests/checks.

Because it is possible that the patient's condition may change suddenly during diagnostic imaging testing, check the type, location, and number of medical gas devices required for each imaging room. Depending on the test being conducted, the bed of the diagnostic imaging machine may be adjusted, moving up/down, or the machine's C arm may revolve or move forwards/backwards, so special attention needs to be paid to where medical gas devices are installed.

[Specific Examples]

- *Use ceiling-mounted medical gas outlets.*
- *Provide oxygen (O) and aspirator (V) outlets at multiple locations.*
- *In order to provide support for artificial ventilation in the Angiography and IVR rooms, plan to include compressed air (A) from medical gas outlets.*

Imaging room

☐B.4.1.13 (00 Basic)

Secure the space necessary for moving patients.

With diagnostic imaging testing, patients may be transported in and out of the imaging room on a bed or stretcher. In addition to space for installing diagnostic imaging equipment, door dimensions and room area that take the movement of beds/stretchers in and out of the imaging room into consideration need to be secured.

[Specific Examples]

- *Secure space to leave patient transport beds and stretchers on stand-by.*
- *Secure space for transferring patients to dedicated (MRI) stretcher.*
- *Decide corridor widths and door widths from paths taken with beds and stretchers.*

Imaging room

☐B.4.1.14 (03 Safety)

Formulate plans that can handle malfunctioning of diagnostic imaging equipment.

Because diagnostic imaging equipment is precision machinery, appropriate maintenance needs to be carried out. Even when appropriate measures are being taken, it is important to implement safety measures to enable any foreseeable malfunctions to be handled.

[Specific Examples]

- *Use outward-opening doors or sliding doors at MRI room because of the risk that a rise in interior pressure will interfere with opening and closing of shielding doors in the event that helium used to cool the MRI equipment vaporizes due to malfunction.*

Imaging room

☐B.4.1.15 (03 Safety)

Minimize the impact of radiation damage to the human body.

Exposure to radiation over a certain dosage amount can damage a person's health. To secure the shielded X-ray dosage required under Enforcement Regulations on the Medical Care Act in each imaging room, appropriate radiation protection needs to be implemented for the anticipated equipment and imaging frequency.

[Specific Examples]

- *Prevent radiation, magnetism, and electromagnetic waves from leaking outside the radiography rooms.*
- *Pay attention to losses occurring at electrical outlets, air conditioning ducts, and so on.*
- *Design air conditioning equipment to prevent condensation that causes deterioration of electromagnetic wave shielding material.*
- *Use lead or other such material for shielding where necessary.*

Imaging room

☐B.4.1.16 (04 Privacy)

Pay consideration to patients' privacy.

Give consideration to ensuring that patients wearing examination gowns cannot be seen from outside the imaging room.

[Specific Examples]

- *Take care that radiography rooms do not have clear lines of sight into each other through access windows by placing radiography room windows so they do not face each other or by other such means.*

Imaging room

☐B.4.1.17 (05 Comfort)

Formulate plans for preventing noise and vibrations leaking outside of rooms.

To counteract the vibrations and sounds generated by equipment installed in imaging and machine rooms, check the installation plans for each device and then appropriately soundproof walls, floors, ceilings, doors/windows, and air-conditioning ducts, etc.

[Specific Examples]

- *Make sure that finishes and fittings provide performance to deal with the noise generated by the equipment.*
- *Take measures to apply sound insulation to floors, walls, ceilings, and so on.*
- *Take measures for vibration isolation of equipment to limit nose generated by vibration transmitted through the equipment body.*

Imaging room

☐B.4.1.18 (09 Equipment)

Eliminate the causes of problems with diagnostic imaging equipment.

Because diagnostic imaging equipment is expensive and cannot easily be substituted, it is important from a management perspective to maintain the equipment in its normal working condition. Accordingly, equipment planning that reduces the likelihood of malfunctions occurring is required.

[Specific Examples]

- *Facilities where water is circulated should not be located on the floor immediately above diagnostic imaging rooms, machine rooms, and so on.*
- *Install drain pans and water leak detection sensors in spaces above the ceilings where sanitary piping passes through.*
- *Since condensation that occurs on examination equipment can contribute to malfunction and other such problems, install dehumidifiers or take other such steps to provide appropriate control of humidity to meet the air conditioning requirements for each item of equipment.*
- *Check with the fire department that has jurisdiction to determine whether rooms with very costly medical equipment are exempted from sprinkler installation requirements.*

CPU

☐B.4.1.19 (09 Equipment)

Secure an appropriate level of humidity.

Air-conditioning needs to be set in accordance with the amount of heat being generated by the device. Careful consideration also needs to be given to measures for handling any air-conditioning malfunctions that might occur.

[Specific Examples]

- *The air conditioning equipment installed in the CPU rooms for angiography and MRI should be of a floor-mounted type so as to prevent condensation on the air conditioning equipment and so that CPUs are not sprayed with water droplets.*
- *The large amount of heat generated by the medical equipment means that air conditioning is required throughout the year, so air conditioning should be by independent units.*
- *Arrange equipment plans to deal also with malfunctions in air conditioning equipment and related matters, such as by installing multiple air conditioning units.*
- *Arrange plans to install dehumidifiers or make it possible to install them (have support for drainage).*

Operation room

☐B.4.1.20 (00 Basic)

Formulate plans that enable staff to liaise easily.

In the diagnostic imaging department, it may be necessary for one technician to oversee multiple imaging rooms or for technicians to exchange or share information. Since each diagnostic imaging device is equipped with a control console, it is important that plans be formulated with consideration given to coordination within the department so that limited numbers of staff can efficiently carry out testing even when technicians' workplaces are separated.

[Specific Examples]

- *The operation hall interior should be planned as an open space to ease overall checking of the patient's state.*
- *When the islands (clusters) making up the radiography rooms are split into several separate parts, rooms for conducting each examination procedure should be connected by corridors exclusively for staff use.*
- *In addition to operating consoles and sinks, many fitting and furnishing items are placed in operation halls, so plans must be made to allow extra space for the appropriate placement of necessary items after confirming dimensions, quantities, and so on in advance.*

Operation room

☐B.4.1.21 (01 Medical)

Plan the e layouts to enable staff to easily comprehend patients' state.

The angles and directions for viewing patients during testing differ among diagnostic imaging tests. It is necessary to appropriately position the control console in accordance with the location and direction of the diagnostic imaging equipment inside the imaging room and decide the position and size of the operation window.

[Specific Examples]

- *When fluoroscopic examination is used, patients sometimes lie on a bed and turn their body according to staff instructions to obtain views of the examination object from various angles, so access windows are provided to enable staff to check patient status from the side.*
- *When CT and MRI examination are used, access windows are provided in appropriate locations so that patient status can also be viewed directly, not just on a camera monitor.*

Operation room

☐B.4.1.22 (01 Medical)

Secure an appropriate light/lighting environment.

To ensure that the operation monitor does not become difficult to read, lighting that can be adjusted according to the brightness in the imaging room needs to be installed in the operation room. While in general it is rare for lighting to be adjusted during a test, there are tests, such as cardiac catheterization, that require lighting to be adjusted during the test, so the location of lighting outlets around the control console may be required.

[Specific Examples]

- *Check whether or not dimming function is required.*
- *Arrange things so that lighting does not reflect in the monitor screen on the control panel.*

Operation room

☐B.4.1.23 (12 Staff)

Create an environment that gives consideration to staff working for long hours.

For diagnostic imaging in which tests using radiation or a magnetic field are carried out, incorporating daylighting in the operation room is difficult due to the nature of the room, and amenity can easily decline. In addition, because testing may require staff to work long hours standing, it is necessary to provide an environment that enables testing work to be carried out without technicians or staff becoming stressed.

[Specific Examples]

- *Plan the operation hall to have extra space available.*
- *Arrange for adjacent location of technician room with break space.*

B.4.2. X-ray radioscopy (TV)

Imaging room

☐B.4.2.1 (00 Basic)

Ensure that endoscopy procedures can be performed under fluoroscopy.

Endoscopy of the gastrointestinal tract (duodenum), gallbladder, pancreas, or bronchi may be performed under fluoroscopy. It is necessary to appropriately plan the positional relationships between the endoscopy work space and backyard, as well as secure facilities that enable adaption to endoscopy.

[Specific Examples]

- *Provide an endoscope washing room and lavatory.*
- *Give consideration to flows for staff and equipment between here and endoscopy department.*

Imaging room

☐B.4.2.2 (09 Equipment)

Provide equipment tailored to the characteristics of the examinations/tests/checks performed for each department.

Departments that use X-ray TV include gastroenterology, orthopedics, urology, and gynecology, and the relevant equipment needs to be installed close to the X-ray TV room. When X-ray TV is being used for testing in the urology/gynecology department, secure sufficient ventilation to ensure that no discomfort is caused by unpleasant odors.

[Specific Examples]

- *In radiography rooms where gastrointestinal organs are the examination object, patient vomiting may occur, so sluice sinks should be installed for sanitary handling of this and related matters in radiography rooms where the examination object is for the Urology Department or Gynecology Department.*
- *In radiography rooms where gastrointestinal organs are the examination object, patients for whom contrast agent is used will need to eliminate such agents after the examination is finished, so plan to locate lavatories nearby for when patients feel the urge to defecate during or immediately after examination.*
- *In Urology Department or Gynecology Department radiography rooms where imaging involves administration of a contrast agent enema, lavatories for sanitary disposal of the waste should be provided.*
- *Although the console is generally placed sideways to the examination equipment, the positional relationship of the control room and equipment should be confirmed.*
- *Install sinks in radiography rooms for washing instruments after examinations.*
- *Secure adequate amount of ventilation.*

Operation room

☐B.4.2.3 (09 Equipment)

Install the necessary water supply and drainage facilities.

To enable the accommodation of gastrointestinal tests using contrast media, appropriate plans for washing facilities where staff can prepare and dispose of contrast media need to be formulated. Barium has a large specific gravity, making it difficult to wash away with water, and so large amounts of water are required for drainage. Accordingly, give consideration to preventing sinks' sealing water supply from running out.

[Specific Examples]

- *Install sinks and sluice sinks.*
- *Pay careful attention to barium wastewater and install drum traps on sinks.*

B.4.3. Magnetic Resonance Imaging (MRI)

Imaging room

☐B.4.3.1 (01 Medical)

Thoroughly eliminate factors interfering with magnetic fields.

For tests using electromagnetic waves, factors that disturb magnetic fields need to be checked planarly and cross-sectionally, then processed appropriately. Nearby elevators or vehicle traffic outside the room can disturb magnetic fields, so give these factors consideration when designing room layouts.

Imaging room

☐B.4.3.2 (01 Medical)

Remove barriers to examinations/tests/checks.

To achieve accurate test results, locate the imaging room in a position where the imaging cannot be affected by vibrations from outside the room.

[Specific Examples]

- *Make plans for location in light of locations of vibration sources such as elevator shafts, machine rooms on floor immediately above or below, and so on.*
- *Take vibration into consideration when deciding on floor load.*

Imaging room

☐B.4.3.3 (01 Medical)

Take measures to prevent noise from equipment.

Loud sounds occur when magnetic fields are generated, and so soundproofing measures need to be implemented in accordance with the surrounding environment.

[Specific Examples]

- *Apply sound insulating capabilities to ceilings, walls, floors, and so on, to match with the conditions required for each room in the vicinity.*

Imaging room

☐B.4.3.4 (11 Growth)

Secure routes for bringing in equipment.

Because the MRI gantry cannot be disassembled for transport into the room, a transportation route must be appropriately secured, the necessary floor load must be set, and the opening size must be ensured. Sufficient loading and route planning need to be considered with regard to transportation of equipment inside, not only when the building is being newly constructed, but also in view of the possibility of equipment being renewed in the future.

[Specific Examples]

- *It will be necessary to take into consideration the weight of magnetic shielding in addition to the weight of the equipment.*

Outdoor equipment

☐B.4.3.5 (09 Equipment)

Formulate plans to enable the safe storage of MRI examination equipment.

When the quench phenomenon occurs with MRI, the liquid helium used for cooling the device rapidly evaporates. Plans for safely removing the large amounts of helium gas that are released in this situation need to be formulated. Furthermore, equip MRI with cooling machines in order to control the evaporation of liquid helium and prevent explosions or suffocation due to helium gas leakages. Formulate plans that enable easy checking and inspection of chillers (cooling water circulation apparatus) for stably operating the cooling machines.

[Specific Examples]

- *Secure the safety of the forced exhaust route for helium gas. (Attention must be given to placing helium gas exhaust vents 3 m or more away from windows, installing exhaust vents at locations where people cannot readily enter, and so on.)*
- *Do not place intake ducts in the vicinity of exhaust vents.*
- *Use helium exhaust piping that meets installation standards for pipe diameter, material, and specifications.*
- *Make appropriate plans for chiller installation points that are located outdoors. (In the case of a quake-absorbing structure, consideration must be given to making the plans on the quake-absorbing structure side and so on.)*

B.4.4. Angiography/Interventional radiology (IVR)/ Cardiac catheterization Imaging room

☐B.4.4.1 (05 Comfort)

Pay consideration to easing patients' stress.

In the angiography room, tests are carried out whereby catheters are inserted into patients' blood vessels and injected with contrast media. To relieve the tension of the patient undergoing testing and alleviate their anxiety about the test, the imaging room may require light dimming functions and/or BGM functions.

[Specific Examples]

- *Install dimmable lighting fixtures.*
- *Use an audio system that is for background music.*

Imaging room

☐B.4.4.2 (09 Equipment)

Secure the medical gas equipment required for examinations/tests/checks.

In the angiography room, catheter treatments are carried out whereby physicians or nurses insert catheters into patients' blood vessels and then inject the catheters with contrast media. It is necessary to check operations and, based on where the physicians/nurses are positioned, plan an appropriate number of medical gas devices to be installed in appropriate positions.

Imaging room

☐B.4.4.3 (03 Safety)

Formulate plans to enable the easy maintenance of a hygienic environment for practitioners.

In the angiography imaging room, an especially clean environment needs to be maintained in order to prevent nosocomial infection. Give consideration to ensuring that technicians do not touch the doors when opening/closing them after disinfecting their hands.

[Specific Examples]

- *For radiography room doors, use automatic doors with kick sensors or gesture sensors.*

Recovery

☐B.4.4.4 (00 Basic)

Secure space and equipment tailored to post-treatment operations.

In angiography, because catheters are inserted into the blood vessels, space is required for pretreatment before the test and recovery (stopping bleeding) after the test. Also, operation specifications need to be checked because equipment such as medical gas, power outlets, and LAN may be required.

Operation room

☐B.4.4.5 (03 Safety)

Formulate plans to enable the easy maintenance of a hygienic environment for practitioners.

In order to maintain a hygienic environment, space needs to be secured for physicians to wash their hands before carrying out treatment. This hand-washing space needs to be positioned to make it easy to use in accordance with operations, such as next to the operation room, inside the anteroom, or inside the imaging room.

[Specific Examples]

- *As necessary, install hand-washing facilities that are equivalent to surgical handwashing.*

B.4.5. Mammography

Waiting room

☐B.4.5.1 (04 Privacy)

Pay consideration to patients' privacy.

Due to the nature of mammography tests, layout plans need to be formulated with consideration given to patients' privacy and mental burden, such as providing a separate waiting space.

[Specific Examples]

- *Surround the waiting area with a wall and avoid creating circumstances that will be exposed to view.*
- *Give consideration to placement of the waiting area so as not to produce flows through it.*

Imaging room

☐B.4.5.2 (04 Privacy)

Pay consideration to patients' privacy.

Because mammography is a test in which diagnoses are made based on X-ray images of the breasts, the patient is required to undress the upper half of their body. Special consideration needs to be given to ensuring that patients cannot be seen from outside the imaging room.

[Specific Examples]

- *Give consideration to arranging matters so that there is no view through an access window into the interior from other radiography rooms.*

B.4.6. Lithotripsy

Imaging room

☐ B.4.6.1 (00 Basic)

Pay consideration to easing patients' stress.

Extracorporeal shock wave lithotripsy is a treatment method for crushing kidney stones by applying shock waves from outside the body, which are a kind of sound wave. Because sound is generated when the shock waves generated, consideration needs to be given to appropriate soundproofing measures and/or providing BGM, etc.

[Specific Examples]

- *Take measures to apply appropriate sound insulation matched to necessary conditions in each room in the vicinity.*

B.5. Surgical department

B.5.1. Common items

☐B.5.1.1 (00 Basic)

Plan with consideration to connections between related departments.

Because the condition of post-operative patients is unstable, consideration needs to be given to making the distance to be travelled to the ICU or other patient room as short as possible in order to reduce risks. Operating rooms may be used for emergency surgeries, so locate them as close to the emergency department as possible. Being mindful of preventing infection and maintaining cleanliness, as well as transportation frequency, give consideration to the positional relationship between the department and central supply. Pathology specimens need to be transported as swiftly as possible.

[Specific Examples]

- *Locate the ICU on the same floor and provide a corridor for exclusive use.*
- *Provide elevator for exclusive use to connect with the Emergency Department.*
- *Provide an elevator for exclusive use in transporting goods from central supply room.*
- *Secure exclusive transportation for unhygienic goods and hygienic goods separately*
- *Set up an exclusive route connecting with the Department of Pathology.*

B.5.2. Operating room

General-purpose operating room

☐B.5.2.1 (00 Basic)

Secure sufficient space for performing various surgical procedures is secured.

Each operating room needs to be sized in accordance with the medical subject, purpose of surgery, equipment used, and wiring.

[Specific Examples]

- *Determine the openings, depth, ceiling height, and area (see table of specifications) of operating rooms with reference to the operative procedures of each medical department.*

General-purpose operating room

☐B.5.2.2 (00 Basic)

Secure appropriate ceiling height/story height (slab-beam dimensions).

Secure appropriate ceiling height in accordance with the size of installed machinery and suspended fixtures such as surgical lights, monitors, and ceiling columns. Also, appropriate floor height and under-beam dimensions need to be secured in order to install air-conditioners and ducts in the ceilings.

[Specific Examples]

- *Standard ceiling height of operating room: 3,000 mm*

General-purpose operating room

☐B.5.2.3 (00 Basic)

Ensure interior materials have high chemical resistance/maintainability.

For operating room walls, select materials that are chemical-resistant and enable blood and other stains to be wiped off. Furthermore, because heavy equipment such as beds, stretchers, wheeled carts, and medical devices are frequently moved around inside operating rooms, select strong flooring materials.

[Specific Examples]

- *Wall material: Steel panel, ceramic panel, melamine facing panel, etc.*
- *Flooring material: Continuous polyvinyl chloride sheet (seamless welding) with load-bearing property*

General-purpose operating room

☐B.5.2.4 (03 Safety)

Implement measures to prevent power shutdown/ micro-shocks.

Implement measures that enable surgery to continue even in the event of a power outage caused by a disaster; systems that enable early detection of insulation failure or current leakage; and countermeasures to micro-shocks (electric shocks that occur when an electric current flows directly into the heart muscle via a catheter filled with normal saline solution or electrodes inserted into the heart during surgery).

[Specific Examples]

- *Set up emergency power generation facilities and uninterruptible power supply (UPS) equipment in order to secure a continuous supply of electric power.*
- *Introduce isolation systems as a measure against overcurrent and electrical leakage.*
- *Connect to earth for potential equalization (a method for connecting metal parts that a patient in the operating room might come in contact with directly or indirectly together at a single point and grounding it) as a measure against microshocks.*

General-purpose operating room

☐B.5.2.5 (03 Safety)

Carry out radiation protection measures.

Because X-ray photographs may be taken inside operating rooms on an irregular basis, protective measures may need to be implemented depending on the frequency of the X-rays.

[Specific Examples]

- *When there is a risk that the effective dose of external radiation will exceed 1.3 millisieverts in a three-month period, take steps to implement radiation protection measures (Article 30-26-3 of the Regulations for Enforcement of the Medical Care Act defining controlled area)*

General-purpose operating room

☐B.5.2.6 (05 Comfort)

Design interiors that provide patients with peace of mind.

Recently there have been many cases in which the patient is awake when they enter the operating room. Operating room interiors need to be arranged so as to provide these patients undergoing surgery with a sense of security.

[Specific Examples]

- *Colors should be in shades that patients perceive as gentle.*
- *Paint images of the sky on ceilings.*
- *Provide windows (anti-condensation measures, built-in blinds, and other such measures are necessary)*

General-purpose operating room

☐B.5.2.7 (06 Environment)

Control the atmospheric pressure in operation rooms.

Positively pressurize operating rooms to prevent the entry of bacteria (however, negatively pressurize operating rooms when controlling airborne infection is required).

[Specific Examples]

- *Install a differential pressure gauge and confirm positive pressure.*
- *Manage clogging of HEPA filters.*
- *Set up antechambers to operating rooms for airborne infectious disease, and set up the antechamber to have the lowest negative pressure and put its doors on an interlock system.*
- *When there is low frequency of use of negative pressure operating rooms, set up an operating room to enable switching between negative pressure and positive pressure.*

General-purpose operating room

☐B.5.2.8 (06 Environment)

Manage air-conditioning in accordance with its purpose.

The degree of air cleanliness and ventilation conditions for each operating room differs according to the medical subject and purpose of surgery. It is especially important to secure a high degree of air cleanliness in the surgical field. Use high performance filters and/or HEPA filters for operating room air-conditioners.

[Specific Examples]

- *Generate a one-way flow (a flow of air whereby clean air that is blown out perpendicularly or horizontally passes around the surgical field and staff and is drawn out through return vents in the bottom part of the walls around the operating room) and control the cleanliness of air at the surgical field.*
- *For surgery that demands a high level of cleanliness, set up an antechamber.*
- *For surgery that produces offensive odor, implement appropriate control of outside air quantity and ventilation frequency.*
- *Install switch covers and other such devices and take care to avoid errors of operation.*
- *In order to foster awareness of clean areas in the room, use different-colored flooring to show shifts of area around the operating table and demarcate domains clearly.*

General-purpose operating room

☐B.5.2.9 (06 Environment)

Set temperatures in accordance with their purpose.

In general, the temperature in operating rooms is decided giving consideration to preventing the patient undergoing the operation from feeling cold as well as the work environment for medical staff. However, in the case of cardiac surgery, operations may conversely be carried out under low-temperature conditions in order to suppress the patient's metabolism.

[Specific Examples]

- *It is desirable to be able to make rapid temperature changes geared to the progress of surgery.*
- *There is also the approach of not varying temperature settings very much from medical department to medical department, and instead performing localized cooling.*
- *It is desirable to be able to change the temperature setting in the operating room.*
- *In some cases, an on-off button for the air conditioning equipment is installed at a staff station.*
- *Install air conditioning equipment that handles the humidity of outside air properly.*

General-purpose operating room

☐B.5.2.10 (03 Safety)

Carry out infection control when people enter rooms.

In order to maintain the cleanliness of operating rooms, it is important to reduce the frequency of the doors opening and closing as far as possible.

[Specific Examples]

- *Make it possible to open and close doors without using the hands by means of a foot switch.*
- *Install a hand switch that is set for one-half opening of the door for the purpose of minimizing changes in air cleanliness when people enter and exit the room during surgery.*

General-purpose operating room

☐B.5.2.11 (09 Equipment)

Secure the medical gas equipment required for performing surgery.

Oxygen, suction, nitrous oxide, carbon dioxide, nitrogen, and compressed-air medical gas, etc., are used in operation rooms. Position outlets for these appropriately around the room in accordance with their anticipated surgical use, taking care to minimize the number of cords and wiring on the operation room floor.

[Specific Examples]

- *Make outlets ceiling-mounted and wall-mounted.*
- *When mounting ceiling pendant fixtures that supply medical gases and electric power through arms, take care with mounting locations so that arms do not interfere with each other.*

General-purpose operating room

☐B.5.2.12 (09 Equipment)

Incorporate a communication system.

Install intercoms and PHS to enable communication between staff. Also, formulate plans to enable adaption to surgery-related information equipment (electronic medical records, PACS, wireless LAN, etc.).

[Specific Examples]

- *Install simultaneous broadcasting and code blue buttons.*

General-purpose operating room

☐B.5.2.13 (09 Equipment)

Formulate plans in accordance with management methods.

Check methods for managing materials/consumables used in surgeries and install storage facilities that are appropriate for the management methods.

[Specific Examples]

- *Set up so that storage shelves of every kind can be fitted onto the wall surface.*
- *It is common for operating rooms not to have fixed storage shelves but rather to manage medical supplies on movable carts, so provide indented spaces in wall surfaces for when this is done.*

General-purpose operating room

☐B.5.2.14 (11 Growth)

Formulate plans to enable the hospital to respond to future changes.

In operating rooms for which it is difficult to predict the future, even after use of the room has begun, allowances must be made to enable adaption of the room to increases in the number of power sources/ medical gas devices or monitor upgrades.

General-purpose operating room

☐B.5.2.15 (12 Staff)

Arrangements need to be made that enable staff to relieve their tension.

Arrangements need to be made so that medical staff who need to maintain a state of tension for a long time can relieve their tension as much as possible. Such consideration of staff also leads to consideration of patients.

[Specific Examples]

- *Provide background music facilities.*
- *Provide windows (anti-condensation measures, built-in blinds, and other such measures are necessary)*

Specialized/Dedicated operation room

☐B.5.2.16 (00 Basic)

Ensure surgical procedures using surgery support robots ("Da Vinci", etc.) are performed appropriately.

In endoscopic surgery using surgical assistance robots, both the required items related to installation of the robot and the required items for endoscopic surgery must be fulfilled. The space required differs for each surgery. Room area needs to be decided with a view to future diversification.

[Specific Examples]

- *Secure adequate space and facilities so that surgery can be performed using surgical assistance robots. Refer to robot manufacturer's guidelines regarding route for bringing robots in, load bearing, power sources, electric power outlets, piping, and so on.*

Specialized/Dedicated operation room

☐B.5.2.17 (00 Basic)

Secure the space and equipment required for performing surgical procedures using an endoscope.

This minimally invasive surgical procedure uses an endoscope and can be handled within the specifications of general operation rooms except when using CO2 for pneumoperitoneum.

[Specific Examples]

- *Secure adequate space and facilities so that surgery can be performed using an endoscope.*
- *Have piping for CO2 medical gas or canisters of the gas ready for use with pneumoperitoneum device.*

Specialized/Dedicated operation room

☐B.5.2.18 (00 Basic)

Put in place protocols giving consideration to field of specialization.

When eye surgery is being performed, the operation room needs to be darkened. Also, give consideration to placing surgeons and equipment at the head of the operating table.

[Specific Examples]

- *In order to make this a darkroom, pay attention to gaps and small windows in doors and other such fixtures.*
- *Secure adequate space at the head end.*
- *Adjust location for installation of microscope, paying attention to vibration.*

Specialized/Dedicated operation room

☐B.5.2.19 (00 Basic)

Secure the space and equipment required for performing neurosurgical procedures.

As an operation room used for treating patients with brain tumors and cerebrovascular disease, give consideration to the placement of surgeons and equipment at the head of the operating table. Also, depending on the operating method, the anesthesia apparatus may be moved to the foot of the operating table.

[Specific Examples]

- *Secure adequate space at the head end.*
- *Adjust location for installation of microscope, paying attention to vibration.*
- *Position power sources and medical gas at two or more locations at the head and at the foot according to where the anesthesia machine is positioned.*

Specialized/Dedicated operation room

☐B.5.2.20 (00 Basic)

Secure the space and equipment required for performing cardiac surgical procedures.

The cardiac surgery operation room needs ample floor space because of the many staff and diversity of devices that need to be in the room. Also, the room's positioning needs to be considered with regard to the routes to the CCU and ICU.

[Specific Examples]

- *There are numerous devices such as the heart-lung machine, so secure adequate room area.*
- *A large number of people is required for surgery, so secure adequate room area.*
- *Procedures often extend over long periods of time, so give consideration to interior decoration.*
- *Pay attention to power source capacity.*

Hybrid operation room*

*A generic term for operation rooms equipped with large-sized advanced diagnostic imaging equipment.

☐B.5.2.21 (00 Basic)

Secure the protocols necessary for performing surgical procedures using radiological equipment are secured.

When radiological equipment such as fluoroscopes are used in the operation room, assume that they will be positioned around the operating table and secure power sources accordingly. Ensure that the positioning of air-conditioning outlets, surgical lighting, and monitors does not interfere with surgery. Furthermore, take protective measures to ensure that staff are not exposed to radiation.

[Specific Examples]

- *Incorporate the essential specifications from radiological equipment manufacturers.*
- *Apply radiation shielding*
- *Take steps to adjust the C-arm location with respect to ceiling-mounted equipment.*

Hybrid operation room

☐B.5.2.22 (00 Basic)

Secure the protocols necessary for appropriately performing surgical procedures using angiography are secured.

Because this operation room is equipped with angiography equipment that is used in cardiovascular surgery and neurosurgery, it needs to fulfill the specifications of both a room where radiation is used and an operation room. With such rooms there are many points to keep in mind, such as room size, number of rooms required, and overhead running rails.

[Specific Examples]

- *Put an Angiography Room in place and secure the room area needed to make surgery possible (for TAVR-approved facilities, room area of 60 m2 or more is recommended).*
- *Secure a ceiling height that satisfies requirements for equipment installation (in some cases, CH=3,000 or less)*
- *Apply radiation shielding.*
- *Place the control room in a location that is readily visible to patients.*
- *Adjust the location for installation of the overhead rail for the C-arm.*
- *In the Angiography Room, secure power sources from the ceiling.*
- *Consider the route used for transport into the Angiography Room.*
- *Secure a machine room for computers and other such equipment.*
- *Confirm whether or not the room in question will also be used for other surgery.*
- *Watch out for interference with the C-arm, HEPA filter, surgical lights, ceiling pendants, monitor arm, and camera arm.*
- *Since a large number of people is required for surgery, put article storage places, pass-through boxes, and other such facilities in place to reduce coming and going by people.*

Hybrid operation room

□B.5.2.23 (00 Basic)

Ensure surgical procedures using CT are performed appropriately.

This operation room is mainly used for head, spine, and trauma surgeries. Accordingly, it must fulfill the specifications of both a CT and operation room. In many hospitals the CT is adjacent to the operation room.

[Specific Examples]

- *Secure adequate room area to install the CT and perform surgery.*
- *Apply radiation shielding.*
- *Place the control room in a location that is readily visible to patients.*
- *Consider locations for installing the CT power source, and embed wiring in the floor as necessary.*
- *Consider the route used for bringing the CT in.*
- *Secure a machine room for computers and other such equipment.*
- *Confirm whether or not the room in question will also be used for examination that does not involve surgery and set up separate flows as necessary.*

Hybrid operation room

□B.5.2.24 (00 Basic)

Ensure surgical procedures using MRI are performed appropriately.

The main purpose of this operation room is for performing brain tumor surgeries. There are three types: the adjacent-room type whereby the MRI is located next to the operation room; the open-type, which provides easy access for patients; and the ceiling suspension type whereby the MRI is attached to overhead running rails. The room must fulfill the specifications of both an MRI and operation room. For all types, load-capacity design and carry-in routes need to be considered. Formulate plans to ensure that the positioning of overhead running rails, air-conditioning outlets, surgical lighting, and monitors does not interfere with surgeries.

[Specific Examples]

- *Confirm whether the MRI is a floor-mounted type in a room adjacent to the operating room, a floor-mounted type used at the table in the operating room, or a ceiling-mounted type.*
- *Secure room area adequate to enable surgery with an MRI installed.*
- *Install electromagnetic shielding and adjust location with respect to items around the room that generate electromagnetic waves.*
- *Place the control room in a location that is readily visible to patients.*
- *In the case of a floor-mounted type in a room adjacent to the operating room, adjust the location so that the operating table can be moved smoothly up to the MRI.*
- *In the case of floor-mounted types, embed wiring in the floor as necessary.*
- *In the case of floor-mounted types, take the load on the floor from the device into consideration.*
- *In the case of a ceiling-mounted type, adjust the installation of the overhead rail.*
- *In the case of a ceiling-mounted type, watch out for interference with the MRI main unit, HEPA filter, surgical lights, ceiling pendants, monitor arm, and camera arm.*
- *Adjust the connection with helium piping in the space above the ceiling.*
- *Secure dimensions of openings and floor load capacity along the route for transporting the equipment in and out.*
- *Secure a machine room for computers and other such equipment.*
- *Confirm whether or not the room in question will also be used for examination that does not involve surgery.*
- *Set up separate flows and antechamber as necessary.*
- *Set up MRI operation plans to take stand-alone operation into account.*

Hybrid operation room

☐B.5.2.25 (09 Equipment)

Ensure devices and equipment models are MRI-compatible.

Ensure that equipment/devices do not react to magnetic fields.

[Specific Examples]

- *The operating table, anesthesia machine, and biomonitors should support MRI use.*
- *For use with a floor-mounted MRI in a room adjacent to the operating room, the operating table should be mobile.*

Hybrid operation room

☐B.5.2.26 (12 Staff)

Put in place arrangements to protect against electromagnetic waves.

Secure to protect not only the operation room from factors affecting magnetic fields but also staff in the control room from electromagnetic waves emitted by the MRI.

[Specific Examples]

- *Set up a control room that is protected by electromagnetic shielding.*
- *Make zones that are affected by the electromagnetic field clearly identifiable by using different colors of flooring and so on.*
- *Install metal detectors and other such means to keep people from carrying in articles that would react to the magnetic field.*

B.5.3. Surgical department-related rooms

Near operation department entrance/exit

☐B.5.3.1 (00 Basic)

Secure the space necessary for entering/exiting.

Sufficient space for medical staff to smoothly carry out procedures such as handing over patient information and sorting day surgeries is required.

[Specific Examples]

- *Space is secured for a bed pool where beds are held on standby during surgery.*
- *Provide stretchers, wheelchairs, and so on, and secure space for them in case there are patients who do not want walk-in status.*
- *Place clearly marked signs and other indicators at entryways to prevent mistaken entry by patients and accompanying persons.*

Near operation department entrance/exit

☐B.5.3.2 (01 Medical)

Put in place protocols enabling the patient to be checked prior to surgery.

In the anteroom, the patient may change their hat and/or shoes, and staff may also confirm that the patient is indeed the patient scheduled for that surgery.

[Specific Examples]

- *Secure space for storing caps, masks, gowns, patient warming blankets, and so on.*
- *Set up also for guardians, interpreters, and other such accompanying persons in case they are present.*
- *Pay attention to the placement of computers used to check on patients (for power sources, LAN, and so on).*

Near operation department entrance/exit

☐B.5.3.3 (04 Privacy)

Pay consideration to patients' privacy.

Consideration needs to be given to ensuring that the patient's route does not intersect with the routes of other patients and/or accompanying persons, and that they cannot be seen directly.

[Specific Examples]

- *Pay attention to security so that patients are not mistaken one for another and so that people do not enter surgery areas without permission.*

Examples: Install interphones and card key systems, control entry by staff members from other departments, install curtains that take patients' lines of sight into consideration, and so on.

- *Install cameras, small windows, and so on so that status of people waiting can be checked.*

Near operation department entrance/exit

☐B.5.3.4 (06 Environment)

Secure mechanisms to serve as buffers o clean areas is secured.

The surgical department's entrance/exit plays the role of a buffer between the surgery hall/rooms, which are clean areas, and unclean hallways.

[Specific Examples]

- *Doors should be on interlock system.*
- *Baseboards should be made by turning up the flooring material.*
- *Inspection openings should be airtight.*
- *Set up air conditioning conditions to be in incremental steps.*

Hall

☐B.5.3.5 (00 Basic)

Put in place protocols enabling preparation for surgery.

The surgery hall is a space where equipment is placed in preparation for surgeries and where staff can wash their hands, etc.; accordingly, the hall needs to be located efficiently so that patients' route is not obstructed.

[Specific Examples]

- *Use different-colored flooring to show shifts of area and demarcate domains clearly.*
- *Install wainscoting as appropriate, taking heights of equipment and materials into consideration.*
- *Install monitors and interphones so observers can know what is happening during operations.*

Hall

☐B.5.3.6 (05 Comfort)

Design interiors that provide patients with peace of mind.

As patients are generally awake when they enter the surgical department, consideration needs to be given to creating a space that gives peace of mind to patients about to undergo an operation and the protection of their privacy, such as by ensuring that other operation rooms cannot be seen directly.

[Specific Examples]

- *Colors should be in shades that patients perceive as gentle.*
- *Provide windows.*
- *Install covers over the small windows facing onto corridors so that operating room interiors will not be visible.*
- *Install curtains or other such means over equipment and material storage areas, taking patients' lines of sight into consideration.*

Hall

☐B.5.3.7 (11 Growth)

Formulate plans to enable the hospital to respond to future changes.

In many cases operation rooms will need to be expanded or refurbished in the future because of advances in medical technology and changes in medical needs. Accordingly, extra space should be provided with this in mind.

[Specific Examples]

- *Configure operation instrument preparation rooms as space for future expansion.*
- *Envision construction work flows.*

Lavatories

☐B.5.3.8 (09 Equipment)

Provide the necessary hand-washing facilities.

Construct handwashing stations to ensure that cleanliness can be maintained so that the stations do not become a source of infection. When drugs are being used, pay attention to discoloration of floors.

[Specific Examples]

- *Giving consideration to the spread of contamination on floor surfaces and falling accidents, place antifouling sheet on the floor.*
- *Pay attention to storage locations for gowns, goggles, masks, and so on when gowning is done near the handwashing facility*
- *Install a mirror in the upper part of the handwashing facility and give consideration to making it possible to give handwashing guidance.*
- *Pay attention to management methods for sheets, including storage locations.*

Instrument preparation room

☐B.5.3.9 (09 Equipment)

Ensure the air conditioning protects cleanliness and enables preparation of equipment.

In the instrument preparation room, a sufficient level of cleanliness needs to be maintained, and the security of medical practice in the operation room needs to be secured. In some hospitals there is no instrument preparation room and instruments are prepared in the operation room.

Equipment storeroom

☐B.5.3.10 (00 Basic)

Formulate plans for appropriately replenishing and managing supplies.

Secure routes for supplies in accordance with all of the relevant replenishment methods, shelving for managing supplies/equipment, and space for carts and work.

[Specific Examples]

- *Place medical supplies, rental goods, disposable materials, and so on, close to their respective associated departments.*
- *Pay attention to the management of drugs and narcotics.*
- *Take care that linen supplier flows do not intersect with flows inside the operating hall, provide multiple entryways, and configure them as pass-through boxes.*
- *When storing articles that have been through a sterilization process, take care with regard to contaminants, condensation, and so on, and observe appropriate separation distance from floor, walls, and ceiling.*

Equipment storeroom

☐B.5.3.11 (00 Basic)

Locate equipment storerooms giving consideration to the flows to the operation rooms.

Because ME devices equipped with caster wheels with legs (portable X-ray machines, etc.) are frequently brought in and out of the operation room, routes to the operation room need to be secured. Also, to ensure compliance with the Medical Care Act, formulate plans that clearly show storage places for easy management.

[Specific Examples]

- *Place close to operating rooms.*
- *Eliminate differences in level.*
- *Change color of floor finish in storage spaces.*
- *Pay attention to medical engineering equipment storage locations and relative locations of the operating rooms (orthopedic surgery) where they are used.*
- *Store X-ray devices in lockable storage locations.*

B.5.4. Staff-related rooms

Staff station

☐B.5.4.1 (00 Basic)

Locate staff stations in places where surgical department management can be carried out efficiently.

Formulate plans that enable staff to follow the progress of surgeries using ITV, etc., so that movement in and out of the operation room, equipment preparation, and the operation room overall can be easily managed. Some hospital do not install staff stations but instead have other areas where the same roles are performed.

[Specific Examples]

- *Place close to entryways.*
- *Install monitors and other such equipment on so that observers can know what is happening during operations.*
- *Secure adequate space, taking space for physicians in training into consideration, and install educational monitors.*
- *Install equipment for stat calls so that assistance can be summoned in emergencies.*

Staff station

☐B.5.4.2 (00 Basic)

Secure protocols for ensuring that anesthesia management is carried out appropriately.

To enable thorough management of patients' awakening from anesthesia, secure efficient circulations for anesthesiologists and prepare an environment that enables the condition of patients in observation or recovery rooms to be monitored. It is important to check factors such as the size, number, and locations of TV monitors. When an anesthesiologists' room is provided, the same equipment may be installed in the anesthesiologists' room and the patient is monitored from there. Because the place where patients recover from surgery differs according to the number of surgeries and the hospital's management situation, this needs to be checked at the design stage.

[Specific Examples]

- *Install biometric monitoring, electrocardiogram, respiration, and other such monitors.*
- *Locate close to observation rooms and recovery rooms.*
- *Take distance from night duty rooms and operating rooms into consideration.*

Staff changing room

☐B.5.4.3 (00 Basic)

Formulate plans in accordance with management methods.

In order to secure the cleanliness of the surgical department, clarify clean/unclean sections and ensure that each route to the clean/unclean section does not intersect. Also check whether or not shoes are changed before entering the operation room and the purpose of changing shoes.

[Specific Examples]

- *Set up dedicated shower rooms and lavatories.*
- *Locate adjacent to resting rooms and pay attention to flows of people from other departments coming and going and so on.*

Staff changing room

☐B.5.4.4 (00 Basic)

Formulate plans to enable staff to change clothes appropriately.

Consideration needs to be given to creating a layout that enables staff to change clothing comfortably, securing sufficient storage and space between lockers, keeping in mind the ratio of male to female physicians and nurses.

[Specific Examples]

- *Check balance of shared storage to locker capacity for umbrellas, boots, coats, and so on.*
- *Taking barefoot use into consideration, use carpet tiles and duckboard.*
- *Take care with locations for security camera installation.*

Staff break room

☐B.5.4.5 (00 Basic)

Formulate plans to enable the sense of burden borne by staff to be relieved.

Because surgical department staff rarely go outside the department, arrangements need to be made for living spaces that enable staff to rest sufficiently. Also, staff also need to know what is happening in operation rooms. It is important to conduct hearings on ideas for separating staff break rooms—physicians/nurses, gender, etc.—and then work out the details.

[Specific Examples]

- *Provide a space with sofas, tatami mats, and so on, where people can sit comfortably and stretch their legs.*
- *Provide a full range of facilities for eating and drinking (also check flows for carrying in food).*
- *Install monitors and interphones so observers can know what is happening during operations.*
- *Flows and installation should take coming and going of people from outside the department into consideration.*
- *Take care with set up, since conferences and other such events may also take place.*
- *Pay attention to space for boards, posters, and so on.*

B.5.5. Patient-related rooms

Consultation/Counselling/Briefing room

☐B.5.5.1 (00 Basic)

Put in place protocols to enable physicians to convey information to patients/patients' family members appropriately.

Formulate plans for appropriate spaces and facilities to enable physicians to properly explain the details of the operation and/or the patient's condition to their family.

[Specific Examples]

- *Install counters, monitors to provide explanations, LAN, and other such facilities.*

Consultation/Counselling/Briefing room

☐B.5.5.2 (03 Safety)

Appropriately separate areas for physicians and areas for patients and their family members.

Consideration needs to be given to maintaining a sense of distance between physicians and patients' family members, keeping in mind the distinction between unclean and clean zones and the possibility of patient's family members becoming distraught.

[Specific Examples]

- *User counters to demarcate physician and patient spaces.*
- *Secure respective entryways on the patient side and entryways on the physician side that connect from medical offices and so on.*
- *Set up adjacent to Surgical Department antechamber and give consideration to dealing with time-consuming procedures for patient entry to rooms (patients from overseas and so on).*

Consultation/Counselling/Briefing room

☐B.5.5.3 (04 Privacy)

Give consideration to the privacy of patients/accompanying persons.

It is important to give consideration to how patients and/or accompanying persons are called and how surgery details are reported to ensure that personal information does not become known to other people.

Family waiting room

☐B.5.5.4 (00 Basic)

Provide places where family members can wait.

Secure appropriate space to enable patients' family members to wait calmly for long periods of time. When it is anticipated that multiple family members will be using the space, consideration needs to be given to a sense of distance, such as securing ample space and installing moveable partition walls. For hospital inpatients, family members may also wait in the ward. It is desirable that space be secured for pre-surgery explanations and conveying the surgery's progress and outcome to family members.

[Specific Examples]

- *Provide a small separate dining corner with chairs, tables, and so on for eating and drinking.*
- *Take care to make locations of lavatories and elevators easy to determine.*
- *In order to prevent mistaken entry into the operating hall, do not have a direct way in from the Surgical Department.*
- *Place in a location that is calm and somewhat shut away from the noise of common areas. (In life-or-death circumstances, consideration for family psychology is a crucial issue in hospital design.)*
- *Set up a briefing room.*

Day surgery-related rooms

☐B.5.5.5 (01 Medical)

Ensure patients can be guided smoothly.

For day surgeries, design patient plans that ensure that the process of waiting, changing, lavatory, surgery, and recovery flows smoothly.

[Specific Examples]

- *Install secure storage boxes and so on in changing rooms.*
- *Configure the layout of rooms to make them readily accessible.*

B.5.6. Other

Gross room

☐B.5.6.1 (00 Basic)

Formulate plans to enable appropriate transportation of pathology specimens.

It is important to formulate plans for quickly and safely transporting cells and tissue section extracted in the gross room to the pathology/clinical laboratory departments.

[Specific Examples]

- *When surgical departments and pathology departments are located at a distance from each other, provide for telelift, pneumatic tubes, dumbwaiter elevators, and other such means for transporting specimens.*

Gross room

☐B.5.6.2 (03 Safety)

Provide water supply and drainage facilities that give consideration to safety.

When using formalin and other disinfectants, the space needs to be separated as a room from other spaces and appropriate air supply/exhaust equipment installed. Also, it is desirable to use negative pressure to prevent bacteria from escaping the gross room as well as treat the exhaust air using HEPA filters.

[Specific Examples]

- *Set up local exhaust ventilation, photocatalytic environmental purification equipment, push-pull ventilation system, and so on.*
- *Place vinyl curtains on storage shelves.*
- *Keep formaldehyde concentrations at 0.1 ppm or lower.*
- *Secure space that takes contamination of the air into consideration.*

Gross room

□B.5.6.3 (03 Safety)

Implement appropriate infection controls in the work environment.

When lesion tissue is suspected of containing an infectious disease, care needs to be taken regarding infection. Accordingly, appropriate equipment and facilities need to be provided so that work can be carried out safely.

[Specific Examples]

- *Install safety cabinets.*

B.6. Rehabilitation department

B.6.1. Common items

□B.6.1.1 (03 Safety)

Ensure plans give consideration to measures for preventing patients from falling.

Because this department is used by many patients with impaired mobility, consideration needs to be given to ensure that patients do not injure themselves. Plans need to be formulated to enable the fastest possible response when an accident such as a patient falling over occurs.

[Specific Examples]

- *Use flooring material that is non-slip and unlikely to result in injury from falls.*

□B.6.1.2 (06 Environment)

Provide an environment that supports each respective therapy.

In rehabilitation, an array of treatments may be carried out simultaneously within a large space, such as patients exercising and patients working at tables. It is important to formulate plans based on the layout of equipment in the rehabilitation room to enable the creation of appropriate environments for each rehabilitation activity.

[Specific Examples]

- *Apply construction structure that will not cause sounds to echo or resonate.*
- *Divide static zones and dynamic zones and provide controls to operate air conditioning separately by zone.*
- *Provide uniform illuminance.*
- *For energy saving, make it possible to turn lighting on and off separately by zone.*

□B.6.1.3 (11 Growth)

Formulate plans to enable the hospital to respond to future changes.

Because the layout of equipment in the rehabilitation room changes more frequently than that in other hospital departments, layout plans anticipating versatility are required.

Entrance/Exit

□B.6.1.4 (00 Basic)

Secure the space required for patients to enter and exit.

Because the space is used as the place where a patient's accompanying persons or ward staff hand the patient over to rehabilitation staff, it is used multiple times before and after rehabilitation. In addition, patients may change shoes when the hand-over takes place. In addition to securing sufficient space, consideration needs to be given to diversity—diversity of patients' pace of movement, motion range, and posture, as well as the height of the accompanying lines of sight.

[Specific Examples]

- *Secure openings wide enough that two wheelchair users can pass each other going through the opening.*
- *Provide a place where people can wait without interfering with the flow of passing patients.*
- *Have chairs ready for people to sit on when taking off and putting on shoes.*

Changing room

□B.6.1.5 (08 Physical)

Set up facilities so that they are easy for patients to use.

Consideration needs to be given to ensure that the facilities can be used by people in wheelchairs and people requiring assistance.

[Specific Examples]

- *Provide chairs so that people can change clothes sitting down.*
- *Install handrails.*

B.6.2. Physical therapy room

□B.6.2.1 (01 Medical)

Put in place arrangements that can support each respective therapy.

In addition to securing space that meets facility standards for the payment for medical services system, formulate plans for each treatment method to ensure the various apparatus is utilized in physiotherapy, such as parallel bars, platform mats, walking training stairs, and wall bars.

[Specific Examples]

- *Secure a 10-m open space for walking.*
- *When using ceiling-mounted and wall-mounted equipment, take steps to prevent it from falling and provide structural reinforcement.*
- *Use a floor finish that makes it easy to wipe off sweat.*
- *Install electric power outlets embedded in the floor and other such means to provide for various different placements of equipment.*

B.7. Dialysis department

B.7.1. Common items

Changing room

☐B.7.1.1 (03 Safety)

Ensure it is possible to respond to sudden changes in condition that patients experience while in the changing room.

Because the patient's condition may change suddenly following dialysis, consideration needs to be given to facilities and layout that enable staff to be quickly alerted to any sudden changes.

[Specific Examples]

- *Use flooring material that unlikely to result in injury from falls.*
- *When visibility is poor, install nurse call systems.*
- *Place at a location close to a staff station.*

B.7.2. Dialysis room

☐B.7.2.1 (01 Medical)

Secure the space required for medical treatment.

Secure appropriate space between dialysis beds and around patients' feet to ensure that staff's movement is not obstructed even when dialysis machines are placed by the beds. Also, formulate plans that give staff a good view from their base, enabling them to coordinate and respond swiftly to the need to change a patient's infusion bag or respond to changes in a patient's condition.

[Specific Examples]

- *When a weighing machine is placed near the entrance to the dialysis room, take care that the machine does not interfere with staff and patient flows.*
- *Avoid using tall furniture, screens, and partition walls and take care to make it easier to check dialyzer lamps and the patient's state.*

☐B.7.2.2 (05 Comfort)

Create a patient-friendly treatment environment.

Because dialysis patients spend long periods of time lying on the bed, arrangements need to be made to ensure the patients' comfort, such as installing video equipment as well as regulating the sound/lighting environments and room temperature.

[Specific Examples]

- *Prepare facilities such as TV, movies, internet environment, and so on, for patients to spend prolonged periods.*
- *Provide earphones and so on for the sound, and install TV and other such equipment in locations that will not interfere with other patients or treatment activities.*
- *Planning should provide for adopting indirect lighting for illumination and other such steps to keep from dazzling people's eyes.*
- *Dialysis patients tend to feel cold, so take care with placement of air conditioning vents, direction of blowing air, and cold drafts at the perimeter.*

☐B.7.2.3 (03 Safety)

Pay attention to nosocomial infection control measures.

Because many dialysis patients are susceptible to infection, consideration needs to be given to the fact that the dialysis room is a place where high-risk treatments are carried out. In addition, because there are also patients who are infectious, infection prevention measures need to be implemented.

[Specific Examples]

- *Secure adequate open space for every function (staff flows, space to prepare intravenous treatment).*
- *When installing windows in upper part of consoles, give consideration to easing removal of condensation and dust by planning height and depth for cleanability.*
- *Provide for an appropriate number of single-person rooms that can be set to negative pressure.*

B.7.3. Pharmacy

☐B.7.3.1 (00 Basic)

Ensure the layout gives consideration to flows.

Because large quantities of drugs and other materials are brought in for dialysis, consideration needs to be given to ensuring that staff and external contractor routes do not intersect with patient routes.

B.7.4. Machine room

☐B.7.4.1 (06 Environment)

Secure a comfortable air environment.

Because sodium hypochlorite, acetic acid, and other drugs used are odorous, sufficient ventilation is required. In addition, because dialysis machines emit heat, secure appropriate air-conditioning capacity for the ventilation volume.

B.8. Radiotherapy department

B.8.1. Common items

☐B.8.1.1 (00 Basic)

Carry out zoning based on the selected therapeutic equipment.

There are two types of radiotherapy: external-beam radiation therapy and brachytherapy.
External-beam radiation therapy is a treatment that uses external radiation to treat brain tumors and cancers, while brachytherapy is a treatment that uses internal radiation to treat prostate cancer and uterine cancer. The equipment used in external-beam radiation therapy include machines that utilize X-rays, such as linear accelerators (LINAC); and gamma knives, which utilize gamma rays.
The equipment used in brachytherapy is an after-loading therapy device, which is a machine that implants radioactive substances near the focus of the disease.
Here we discuss general LINAC treatments and brachytherapy.

☐B.8.1.2 (03 Safety)

Make sure radiation leakages are prevented without fail.

Because treatment is carried out in radiation-controlled areas, radiation leakage is unthinkable. However, measures need to be taken to ensure that no radiation leakage occurs when the door is opened/closed, and that no one is exposed to radiation, even in areas that people usually do not enter.

[Specific Examples]

- *Place automated doors under interlock control.*
- *Do not provide door opening and closing operation from the corridor side.*
- *Give consideration to preventing easy access to pit access openings, rooftops, and other such places that are accessible to people at all times by installing net fences, doors, and so on.*

Radiotherapy diagnostic and treatment department

☐B.8.1.3 (00 Basic)

Secure the space required for medical treatment.

In order to meet the building regulations required for the application of medical reimbursement, it is important to secure an appropriate number of consultation rooms for the consultation schedule and check that the area of space needed for performing treatment has been provided. It is necessary to also provide treatment rooms and ensure that these rooms can be equipped with stretchers, pelvic examination chairs, and/or otorhinolaryngology units. When patients are being treated for the first time the room is accessed regularly during, as well as after, irradiation by a radiotherapy department specialist. From their second therapy session onwards patients access the waiting area directly from the entrance as they undergo therapy on a nearly daily basis.

[Specific Examples]

- *Provide the necessary number of consultation rooms.*
- *Check the required number of image monitors.*

Treatment room

☐B.8.1.4 (00 Basic)

Secure the space required for medical treatment.

Treatment rooms may be used as consultation rooms equipped with stretchers/pelvic examination chairs, but treatment activities are not carried out as frequently as they are in outpatient diagnostic and treatment departments.

Simulator (location detection) room

☐B.8.1.5 (00 Basic)

Make plans to conform with installation requirements for positioning devices.

Using CT and X-ray equipment, images are obtained for determining the location and size of the diseased site to be irradiated. Manufacturers decide loading conditions, temperature/humidity conditions, shielding conditions, and other installation conditions based on the type and the frequency with which the device is to be used. Specialized pillows and body immobilization equipment may also be custom-made for individual patients.

[Specific Examples]

- *Check with medical staff regarding the equipment they use.*
- *X-ray CT scanner, ceiling-mounted contrast media injector, and laser pointer will always be installed, so obtain the installation conditions from the equipment manufacturer and check them.*
- *The gel is warmed with hot water to soften it, so washing facilities are to be installed.*

Treatment planning room

☐B.8.1.6 (00 Basic)

Secure the space required for medical treatment.

From CT images, the location and size of the site to be irradiated is fixed using radiotherapy planning equipment, and the irradiation direction, irradiation field size, and internal dose distribution are analyzed. The optimal irradiation angle, irradiation field, and irradiation dose are decided based on the dose distribution. Currently, the radiotherapy planning room is often combined with the control room.

[Specific Examples]

- *OA flooring should be installed.*
- *Install dimming equipment to make it easier to look at monitors.*

Control room

☐B.8.1.7 (09 Equipment)

Install the equipment required for operation.

During treatment, technicians in the control room check the patient's condition via TV monitors and talk with the patient via microphones.

[Specific Examples]

- *Install two-way interphones between treatment rooms and control rooms.*
- *Secure routes for wiring to send electrocardiogram and other information from treatment rooms to control rooms.*

Workroom

☐B.8.1.8 (00 Basic)

Secure the space required for medical treatment.

Protective blocks are produced to enable accurate irradiation of tumor sites during radiotherapy.

[Specific Examples]

- *Make spacious enough to enable fabrication of therapeutic blocks and so on, and to enable placement of equipment and materials.*
- *Work sometimes involves melting, cutting, or other such processing of lead, so check to determine whether or not air conditioning, ventilation, sound insulation, and so on are required.*

B.8.2. External beam radiation therapy room

☐B.8.2.1 (00 Basic)

Make plans conform with installation requirements for equipment.

Manufacturers decide loading conditions, temperature/humidity conditions, shielding conditions, and other installation conditions based on the type and the frequency with which a therapeutic device is to be used. Radiation leakage inspections are required by law to be conducted once within every six-month period, and as a general rule radiation readings are taken on six sides outside the walls of the room. However, when the bottom surface is the ground, radiation readings need not be carried out for the bottom surface.

[Specific Examples]

- *Check with the medical staff to determine the equipment they use and the number of hours used (and number of patients) per week.*
- *Obtain the installation conditions (weight, ceiling height, concrete thickness) from the equipment manufacturer and check them.*
- *Shielding levels are different at each surface, so placement should give consideration to controlled areas.*

☐B.8.2.2 (00 Basic)

Appropriately install equipment outlets required for medical treatment.

In addition to power sources, therapeutic equipment is connected to video cables and LAN cables. Equipment outlets need to be installed in appropriate locations so that these cables and cords lying on the floor do not impede the movement of stretchers or medical staff.

☐B.8.2.3 (01 Medical)

Secure the space required for medical treatment.

Patients are frequently transported into the room by bed or stretcher. In addition to space for installing therapeutic equipment and irradiation methods, it is necessary to secure door dimensions and space that give consideration to beds/stretchers entering the room. Storage shelves need to be installed.

[Specific Examples]

- *It is necessary to check the size of openings for bringing in equipment, and an opening of about 1,700 mm × 2,100 mm is usually secured.*
- *Provide automated doors for entryways and take care to make them operable by emergency power during emergencies.*
- *Floors should be load bearing.*
- *Since treatment tables move in a semicircle in order to support irradiation at various positions and angles, secure a clearance with a radius of about 2500 mm, including the treatment table and moving parts, centered on the isocenter, in which equipment will not be installed.*
- *There are times when full body irradiation, other than the usual irradiation of the affected area, is given to a patient on a transport bed. In preparation for this, secure a distance of about 4,000 mm from the wall to the isocenter on either side so that a bed 2,000 mm in length placed parallel to the side wall will fit within the angle of irradiation.*

☐B.8.2.4 (01 Medical)

Secure an appropriate light/lighting environment.

When determining the location of diseased sites to be treated, lighting plans for dimming lights to make laser beams easy to see, etc., are necessary.

[Specific Examples]

- *These arrangements are to be interlocked with the equipment.*

☐B.8.2.5 (03 Safety)

Make sure radiation leakages are prevented without fail.

Exposure to radiation in excess of certain quantities may cause health problems. Formulate plans for implementing appropriate radiation protection measures, ensuring that exposure amounts meet the shielded X-ray dosage values prescribed under the "Enforcement Regulation on the Medical Care Act" and the "Radiation Hazard Prevention Act", etc.

[Specific Examples]

- *Provide shielding by means of steel and concrete.*
- *Pay attention to losses that occur from power outlets, air conditioning ducts, and so on.*

☐B.8.2.6 (09 Equipment)

Install the necessary water supply and drainage facilities.

LINAC therapeutic devices require cooling water (for cooling the device). Also, water phantoms are used to regularly check the irradiation position so that laser precision can be checked daily.

[Specific Examples]

- *Provide water supply valve and drainage in floor (for water phantom use).*
- *Since water phantoms are used on a treatment table, provide water supply and drainage facilities and dedicated cable jack sockets beside the bucky stand.*
- *In addition to this, a sink is often requested so this should be checked.*

☐B.8.2.7 (09 Equipment)

Keep problems with equipment to a minimum.

Therapeutic equipment is often located on the lowest floor of the building in order to facilitate radiation management and because of the weight of shielding walls and other machines. Accordingly, flooding countermeasures — and in the case that the equipment is installed in the basement, wellspring countermeasures — are necessary.

[Specific Examples]

- *The level of the floor on the building floor where the therapeutic equipment is installed should be set higher than the surrounding ground.*
- *When on a basement floor, consider not just water leakage from the outer wall to the floor or walls, but also condensation.*
- *Do not locate washing facilities on the building floor above the room where radiological equipment is installed.*
- *Install drain pans in spaces above the ceilings where sanitary piping passes through.*

☐B.8.2.8 (05 Comfort)

Formulate plans for preventing noise and vibrations leaking outside of rooms.

Appropriate soundproofing measures are required for parting walls, floors, ceilings, fittings, and air-conditioning ducts, etc., to block noise and vibrations generated by equipment installed in treatment and machine rooms.

☐B.8.2.9 (05 Comfort)

Design interiors to relieve children's fears.

Children tend to be fearful of therapeutic equipment, but because parents/guardians cannot be with them in the room, it is necessary to give consideration to interior designs that ease children's fear.

☐B.8.2.10 (11 Growth)

Formulate plans to enable the hospital to respond to future changes.

Generally speaking, compared to the long life of hospital building frames, the functional life of therapeutic equipment and control consoles is short. Accordingly, changeability needs to be secured so that therapeutic equipment can be renewed in the future.

[Specific Examples]

- *Provide a pit of necessary and sufficient size.*

B.8.3. Brachytherapy room

☐B.8.3.1 (00 Basic)

Make plans conform with installation requirements for equipment.

Manufacturers decide loading conditions, temperature/humidity conditions, shielding conditions, and other installation conditions based on the type and the frequency with which the therapeutic device is to be used. Because radioactive seeds are very small, care needs to be taken to ensure that they are not lost if dropped on the floor.

[Specific Examples]

- *Check with medical staff regarding the equipment they use.*
- *Obtain the installation conditions from the equipment manufacturer and check them.*
- *Provide a wiring pit or, if a wiring pit is not provided, then arrange for embedded conduit.*

☐B.8.3.2 (00 Basic)

Appropriately install equipment outlets required for medical treatment.

In addition to power sources, therapeutic equipment is connected to video cables and LAN cables. Equipment outlets need to be installed in appropriate locations so that these cables and cords lying on the floor do not impede the movement of stretchers or physicians/nurses.

[Specific Examples]

- *Make appropriate provision for a floor pit or other such arrangement to take care that wiring is not exposed and does not cause unevenness in the floor surface.*
- *Make appropriate provision for hanging bolts, prepared surfaces, and so on required to install equipment on ceilings and walls.*
- *Plan for appropriate nurse call buttons that can be used by patients while undergoing treatment.*

☐B.8.3.3 (01 Medical)

Secure the required space for entry/exit.

Patients are frequently transported into the room by bed or stretcher. In addition to space for installing therapeutic equipment, it is necessary to secure door dimensions and space that give consideration to beds/stretchers entering the room.

[Specific Examples]

- *It is necessary to check the size of openings for bringing in equipment, and an opening of at least 1,250 mm × 2,100 mm should be secured.*
- *Provide automated doors for entryways.*

☐B.8.3.4 (09 Equipment)

Secure the medical gas equipment required for medical treatment.

Because brachytherapy requires the installation of surgical lights and the use of anesthesia, whether or not nitrous oxide needs to be supplied must be checked.

B.9. Nuclear medicine testing department

B.9.1. Common items

☐B.9.1.1 (00 Basic)

Carry out zoning based on the selected examination/testing/checking equipment.

Nuclear medicine testing comprises in vivo testing, in which radiopharmaceuticals that emit very small amounts of radiation are injected into the body or otherwise administered in order to ascertain the body's condition using images and numerical values; and invitro testing, in which specimens such as collected blood or urine are placed in test tubes with reagents to react in order to measure hormones and other trace substances.

In invivo testing, the radiopharmaceuticals administered into the body collect in internal organs or body tissue, producing an image of the organ/tissue that can be used to show functional changes to blood flow or metabolism, etc., as image information. In vivo testing comprises SPECT testing, which uses a gamma camera that detects gamma rays; and PET testing, which uses Positron Emission Tomography (PET) to detect positron-emitting radioisotopes with a drug called "FDG" to produce high-performance tomography.

Because few hospitals in recent years have been carrying out invitro testing themselves, outsourcing the testing instead, here we will discuss in vivo testing only.

[Specific Examples]

- *Patients are exposed to different radiation doses in PET testing and SPECT testing, so plans should be made for separate zones.*

☐B.9.1.2 (03 Safety)

Make sure radiation leakages are prevented without fail.

Because unsealed RI has high radiation energy and large quantities are handled, it is essential that measures be taken to strictly ensure there are no radiation leakages outside controlled areas. Shielding within the regulations prescribed under the Medical Care Act or Radiation Hazard Prevention Act is necessary for each area such as places that people often enter, control area boundaries, general patient rooms, residential quarters within hospital sites, and site boundaries.

[Specific Examples]

- *As a rule have one entryway between controlled areas and uncontrolled areas.*
- *Install access systems to regulate and manage personnel in controlled areas.*
- *People should change footwear when entering and leaving, and monitoring of people entering and leaving should be implemented.*
- *For interior surface finishing materials, select materials that are smooth and that allow easy removal of contaminants (for floors, continuous polyvinyl chloride sheet; for baseboards, turn up the flooring material; for walls and ceilings, paint, vinyl cloth with antifouling properties, or other such material with sealed seams).*
- *Give consideration to preventing easy access to pit access openings, rooftops, and other such places that are accessible to people at all times by installing net fences, doors, and so on.*

☐B.9.1.3 (09 Equipment)

Make sure that radiation leakages via exhaust/ drainage equipment are prevented without fail.

Ensuring the prevention of any radiation leakages outside controlled areas is essential, and consideration needs to be given to the installation of exhaust equipment and drainage facilities. Because wastewater used within the radiation-controlled area is temporarily stored in a tank, radiation amounts need to be measured to confirm that the water is safe before it is discharged.

[Specific Examples]

- *When air conditioning is used, it will produce drainage water, so it should be connected with the radioisotope (RI) drainage system.*
- *Exhaust ventilation equipment is required to keep air contaminated by radioisotopes at or under the specified concentration value, and equipment to monitor concentrations in the exhaust air is to be installed.*
- *Exhaust ventilation should bring together the air from inside the controlled areas in the ducts and then discharge it to the atmosphere using exhaust purifiers.*
- *Controlled areas should be kept at negative pressure.*
- *Drainage equipment is required so that wastewater contaminated with radioisotopes will be at or under the regulation concentration, and equipment to monitor concentrations in the wastewater is to be installed.*
- *Attenuate using drainage equipment (septic tank, distribution tank, storage tank, dilution tank).*

☐B.9.1.4 (09 Equipment)

Pay consideration to protecting equipment and preventing the spread of contamination in the event of a fire.

Because the equipment is very expensive, fire-extinguishing equipment that gives consideration to preventing the spread of contamination is required.

[Specific Examples]

- *Do not install sprinklers, but handle instead using fire extinguishers.*
- *In the event the facility is damaged by fire, take steps to reduce exposure of surrounding areas to radiation by using fire-resistant or non-combustible structures for the main structural components and so on.*

Lavatory

☐B.9.1.5 (03 Safety)

Make sure radiation leakages are prevented without fail.

In FDG-PET testing, a positron emitting radiopharmaceutical, fluorodeoxyglucose (FDG), is administered into the body as a contrast agent. Because the patient's urine includes the radiopharmaceutical after administration, measures need to be taken to ensure that urine does not splatter outside the toilet or onto clothes.

[Specific Examples]

- *Locate these facilities inside radiation-controlled areas.*
- *Baseboard specifications should give consideration to cleanability by using flooring material turned up vertically as the baseboard or by other such means.*
- *For flooring material, use material that does not form gaps at connected parts or other areas.*

Control room

☐B.9.1.6 (00 Basic)

Secure the space required for medical treatment.

The room is a controlled area, and so if the floor is raised, it is possible that drugs that drip will leak through the floor.

[Specific Examples]

- *Giving consideration to contamination, provide wiring pits instead of OA flooring.*

Control room

☐B.9.1.7 (01 Medical)

Secure an appropriate light/lighting environment.

It may be necessary to dim the lights so that monitors are easy to see.

[Specific Examples]

- *Check whether or not dimming is required.*

Contaminant inspection and removal rooms/
Repository/Disposal room

☐B.9.1.8 (00 Basic)

Ensure plans are in compliance with the Medical Care Act and Act on Prevention of Radiation Hazards due to Radioisotopes, etc.

Standards have been prescribed for supply rooms, storage facilities, and disposal facilities. The waste from the FDG used in PET testing has a short half-life and can be disposed of as general waste after seven days, but it needs to be stored in a different drum from the waste from the technetium used in SPECT testing and disposed of separately. When waste from SPECT testing has accumulated, the Japan Radioisotope Association will come to collect the waste from the waste room. Because the radioactivity is already decaying when the waste is disposed of, plans may be formulated for disposing of the waste through general routes.

[Specific Examples]

- *Main structural components and other such portions should be fire-resistant and for storage room openings, install specific fire prevention equipment with locking function (when storage boxes are used, however, it does not have to be specific fire prevention equipment).*
- *There should be one entryway where people normally enter and leave, but the waste room should be equipped with a separate waste removal opening located where collection trucks can easily approach it.*
- *Near entryways to contaminant inspection and removal rooms, place measuring equipment needed to inspect for contamination by radioactive substances, equipment and materials needed to remove contaminants, washing facilities (shower, handwashing facilities), and facilities for changing clothing.*
- *Install hand, foot, and clothing monitors in contaminant inspection and removal rooms.*
- *Install fire dampers in the storage room air supply/exhaust equipment.*
- *Place the lead container in the storage room inside a further storage box to lower the protection level on the building side.*
- *The waste room should be constructed to be compartmented from its exterior.*
- *Areas do not have to be partitioned for each type of waste, but containers and areas for particular types should be clearly marked so the types are not mixed together.*

B.9.2. Positron emission tomography (PET)

Preparation room

☐B.9.2.1 (01 Medical)

Secure a clean environment.

Because PET drugs are injectable, they need to be adapted for use in sterility testing; however, because they are administered before the test results are obtained, cleanliness management is essential.

[Specific Examples]

- *Use safety cabinets in order to secure an air cleanliness environment.*
- *Safety cabinet exhaust filters should be controlled through the surveillance monitors in the control room.*
- *Install area monitors.*

Injection room

☐B.9.2.2 (03 Safety)

Make efforts to reduce the risk of exposure to radiation.

In order to lower the risk of exposure to radiation, the injection room and preparation area (mixing room/ storage room/waste room) need to be adjoining.

[Specific Examples]

- *Inject PET drugs with automatic injectors. Also place a protective floor screen that contains lead between the patient and the automatic injector to avoid radiation exposure by medical staff during injection.*
- *In order to set up the automatic injector with FDG provided by delivery for injection, separate the injection room from the preparation area.*

Waiting room

☐B.9.2.3 (01 Medical)

Provide the rooms required for conducting examinations/tests/checks.

Although the purpose of this waiting area is to provide ample time for the radioisotopes used in PET testing to be distributed, consideration needs to be given to ensuring that there is no impact on the distribution of radioisotopes. Provision of this waiting room is required under the Medical Care Act. Testing is conducted between 45 and 60 minutes after the radioisotopes have been injected.

[Specific Examples]

- *It is known that reading and watching television tend to cause radioisotopes to concentrate in the retina, so televisions are not to be installed.*

PET/SPECT examination room

☐B.9.2.4 (00 Basic)

Make plans to conform with installation requirements for examination/testing/checking equipment.

The loading conditions, temperature/humidity conditions, shielding conditions, and other installation conditions are decided by the manufacturers based on the type of therapeutic device and the frequency with which the device is to be used.

[Specific Examples]

- *Plans are to comply with the relevant laws (the Act on Prevention of Radiation Hazards due to Radioisotopes, the Medical Care Act, the Ordinance on Prevention of Ionizing Radiation Hazards, the Fire Service Act).*
- *Radiation leakage inspections are required by law to be conducted once within every six-month period, and as a general rule radiation readings are taken on six sides from outside the walls of the room. However, when the bottom surface is the ground, radiation readings need not be carried out for the bottom surface.*
- *Install oxygen and vacuum outlets.*
- *Check whether or not dimming is required.*

PET/SPECT examination room

☐B.9.2.5 (03 Safety)

Ensure that interiors cannot be contaminated by radioactive substances.

In the case of unsealed RI, consideration needs to be given to interior design. Ordinarily, the room is cleaned the following morning.

[Specific Examples]

- *Apply finish so as to minimize protrusions, indentations, gaps at seams in the finish material, and so on.*
- *Finish surfaces with materials that are smooth, that resist permeation by gases and liquids, and that are corrosion resistant.*
- *Plans are to be based on shielding calculations.*
- *Do not create a pit for wiring or conduit, but instead arrange above-floor wiring or embedded wiring.*

Recovery room (PET)

☐B.9.2.6 (05 Comfort)

Create an environment in which patients can spend their time comfortably.

Although there is no legal requirement to provide this room, it is necessary for patients to spend time here until the radiation is at a level where it no longer effects other people around the patient in order to reduce the exposure to radiation of other patients or accompanying persons as far as possible.

[Specific Examples]

- *Install windows that have been given radiation shielding functionality.*
- *Install lead partitions and reclining chairs.*

B.10. Medical checkup department

B.10.1. Common items

□B.10.1.1 (00 Basic)

Ensure the Medical examination/medical checkup department can be accessed smoothly.

The entrance/exit to the medical checkup department may be separate and independent from the hospital's main entrance. In such cases, not only does the entrance/exit need to be located so that it is easy for checkup patients to find, but also signs need to be planned so that signage is clear.

□B.10.1.2 (01 Medical)

Make the size/scale of facilities appropriate to supporting the number of medical examinees and the examination content.

It is necessary to consider which examination rooms and examination equipment to share with other departments based on operational conditions such as responding not only to the number of checkup examinees and their testing content, but also to their gender and the degree to which test items can be shared (or made optional). For each individual case, the relative size of the necessary departments overall will change, and so it is necessary to make checks when formulating plans.

□B.10.1.3 (05 Comfort)

Create an environment in which patients can spend their time comfortably.

Patients undergoing health checkups are not necessarily sick. Furthermore, when patients are undergoing a health check-up as part of a comprehensive medical check-up, they need to wait inside the department for long periods of time in order to undergo numerous tests. Because the tests they undergo are selected by the patients themselves, arrangements need to be made so that comfort in the waiting space within the department is emphasized.

Office reception

□B.10.1.4 (00 Basic)

Give consideration to flows in layouts.

Administration procedures related to health checkup reception are performed at the reception counter. Because lines of people can form in front of the reception counter, it is necessary to secure queuing space so that such lines do not impede the smooth flow of movement.

[Specific Examples]

- *Place the reception counter in a location that is easily seen from the entryway to the medical examination department.*
- *At approaches to check-in counters and other contact points, secure spaces located on the flows for medical examinees where forms can be filled in (writing counters) and formalities can be handled.*
- *Secure waiting area space at reception.*

Waiting area

□B.10.1.5 (00 Basic)

Ensure the spatial configuration is easy to understand.

Check the hospital's health checkup operational policies, and if there is a set order for conducting tests, position blood sampling room and examination rooms in accordance with the set order. If there is not a set order for conducting testing, adjustments need to be made to waiting areas and the various collection/examination rooms to enable flexible accommodation of a large number of health checkup patients.

[Specific Examples]

- *When the order of tests is not fixed, locate the blood sampling rooms and examination rooms around a waiting area in a hall arrangement.*
- *Provide lavatories, magazines, televisions, and notice boards with information from external entities, and windows that let in outside light and allow views of outdoors.*
- *Provide facilities for providing information of various kinds (what to do in emergencies and so on).*
- *Check to make sure that such information is available at readily noticeable locations, that it is easily visible, and that it is clearly audible, including on notice boards, broadcasting equipment, LCD displays, hospital information display built into TV sets, and so on.*

B.10.2. Medical screening/Lifestyle counseling room

☐B.10.2.1 (00 Basic)

Secure the space required for medical treatment.

An appropriate number of medical screening/lifestyle counseling rooms need to be secured, and space for conducting medical screening/lifestyle counseling is required. Unlike outpatient consultation rooms, treatment beds are not required.

[Specific Examples]

- *Secure the necessary number of medical consultation rooms.*
- *Provide desks and chairs and chairs for medical examinees.*
- *Give consideration to providing an ambience and taking steps that make it easier for medical examinees to talk so that they can feel calmer while being examined.*

☐B.10.2.2 (04 Privacy)

Pay consideration to patients' privacy.

Implement specifications with sound insulation to protect the privacy of patients undergoing health checkups.

[Specific Examples]

- *Finish ceilings, walls, and floors to have sound absorbent and sound insulating capabilities so that conversations cannot be overheard.*

B.10.3. Pelvic examination room

☐B.10.3.1 (00 Basic)

Secure the space required for conducting examinations/tests/checks

Secure space for installing the necessary equipment.

C. Nursing unit

C.1. Ward (general)

C.1.1. Common items

☐C.1.1.1 (00 Basic)

Plan with consideration to connections between related departments.

Wards are the divisions that accommodate patients requiring in-patient hospital care and must be positioned with consideration given to their connection with each hospital department. In addition, formulate efficient and safe plans that give consideration to the positional relationships between each ward and departments related to general flows for patients who are self-mobile, their family members, or visitors; staff/service flows for medical staff, transportation of patients by bed/stretcher, or transportation of goods; flows for serving/clearing away hospital meals; flows for waste; and flows for bodies of deceased patients. These flows should be organized and segmented to ensure as little intersection as possible.

[Specific Examples]

- *Plan locations of flows to be easily understood and efficient for ward and nursing unit users.*
- *Give consideration to changes in patient symptoms, patients' movement within wards and nursing units, and their movement between wards and nursing units.*
- *Plan for elevators on the assumption that there will be concentrations of people visiting patients.*

☐C.1.1.2 (00 Basic)

Ensure each hospital ward comprises a number of beds with a nursing unit of a size appropriate for the number of beds.

Consider appropriate ward sizes giving consideration to staff monitoring of patients' conditions and observation frequency.

[Specific Examples]

- *Set an appropriate number of hospital beds per single nursing unit.*
- *Make plans that allow for phased expansion of patient life and nursing activities matched to spatial units.*

☐C.1.1.3 (00 Basic)

Secure an appropriate number of single patient rooms.

The role of private rooms is to enable the accommodation and treatment of patients who are seriously ill, terminal patients, or patients with infectious diseases. In addition, providing a certain number of private rooms can make bed control easier, improving occupancy rates. In recent years, however, there has been an increase in the number of patients requesting a private room without a medical reason, and arrangements need to be made simply to accommodate these patients' wishes.

[Specific Examples]

- *Provide the number of private rooms that is medically necessary.*
- *Provide private rooms with amenities that meet the demands of society.*

☐C.1.1.4 (00 Basic)

Provide various rooms for carrying out basic medical practices and activities of daily living (ADL).

Nursing activities include movement not only between staff stations and wards but also between staff stations and treatment rooms/preparation rooms. Accordingly, these various rooms all need to be located on the same floor in appropriate positions. Similarly, it is desirable to provide each ward with its own rooms/facilities necessary for the daily living of inpatients (bathroom, shower, cafeteria, dayroom, etc.).

[Specific Examples]

- *Secure the amount of space required for medical practice.*
- *Secure the amount of space required for activities of daily living.*
- *Secure the amount of space that is psychologically necessary for users.*

□C.1.1.5 (00 Basic)

Give consideration to ensuring ease of patient monitoring.

The form and layout of each ward/patient room is decided based on various factors such as number of hospital beds/nursing units, medical care provided by the hospital, and amenities. The ability of staff to easily ascertain patients' conditions is an extremely important factor for hospital wards, and thorough consideration for wards overall—including during the nighttime hours when there are fewer staff on duty—is necessary. In particular, because patient rooms take up the largest percentage of hospital ward space and have a major impact on ward plans, in the initial stages the locations of patients' rooms and staff stations need to be appropriately organized and planned.

[Specific Examples]

- *Plan for patient rooms to be located appropriately.*
- *Arrange patient room layout in consideration of teams and nurses with charge of patients.*
- *Make appropriate arrangement of forms of nursing care and placement of nursing bases, including staff stations.*
- *Rooms of patients who are seriously ill should be located close to staff stations.*
- *Provide appropriate distance between patient rooms and staff stations.*
- *Plan nurse call lights to be located close to entryways and readily visible from all directions in the corridor.*

□C.1.1.6 (00 Basic)

Ensure zoning gives consideration to medical safety and patient amenities.

From the standpoint of securing medical safety, the area where patients are admitted to hospital needs to be zoned so as to avoid intersections with the staff/service flows for medical staff, goods, and waste as far as possible. In terms of securing efficiency, safety, and patients' privacy, consideration needs to be given to ensuring that staff can move and converse out of patients' sight. Furthermore, from the perspective of securing patient amenities, it is desirable that patients' rooms be positioned so as to not be adjacent to treatment spaces such as treatment rooms as far as possible.

□C.1.1.7 (00 Basic)

Formulate plans that enable control of access from outside.

In order to improve crime prevention performance within the ward for patients, patients' visitors, and staff, attention needs to be given to intrusions from outside. Similarly, consideration also needs to be given to security at nighttime, when there are fewer staff on duty.

[Specific Examples]

- *Perform entry and exit control at entryways to wards and nursing units.*
- *Locate staff stations where there is a good view of hallways in wards and nursing units.*

□C.1.1.8 (03 Safety)

Take measures to prevent patients from leaving the ward without permission.

Depending on the type of ward, policies regarding methods for ensuring security in stairwells and elevator halls need to be discussed with the hospital and decided in consideration of patient management, especially at nighttime.

□C.1.1.9 (02 Lifestyle)

Secure corridor width.

Because wheelchairs, stretchers, and beds are frequently used for moving patients in wards, at the very minimum hallways need to be wide enough for wheelchairs to be able to move easily throughout the ward. If there is enough width to enable two wheelchairs to pass by each other, it is possible for patients using walking devices to also pass each other easily. With regard to beds, depending on the width of the hallway it may be necessary to provide alcoves in places where beds need to be able to pass each other. It is also anticipated that medical practices will also be carried out in hallway alcoves in some situations. In addition, be sure to install hallways with handrails for assisting movement that have as few breaks as possible.

[Specific Examples]

- *Secure sufficient passageway width to allow people to easily pass each other.*
- *Provide alcoves and other such spaces.*

□C.1.1.10 (03 Safety)

Pay attention to nosocomial infection control measures.

As a measure to prevent the spread of infection in wards, consideration needs to be given to air-conditioning and human media in terms of facilities and equipment. With regard to the former, refer to the guidelines of the Healthcare Engineering Association of Japan (HEAJ); with regard to the latter, formulate plans for installing hand-washing stations along staff flows in order to encourage them to wash their hands. Hand-washing is the foundation of infection countermeasures, and all patient rooms and consultation rooms must be installed with hand-washing equipment so that medical staff can wash their hands before and after coming in to contact with each patient. However, because patients also use hand-washing equipment, it must not only fulfill functionality conditions, but have a design that enhances the recuperation environment. Give consideration to positioning PPE (Personal Protective Equipment: gloves, masks, gowns, caps, etc.) and hand sanitizing equipment appropriately around the entrances/exits to patient rooms for the protection of both patients and staff. Furthermore, with regard to room interiors, use materials and details that ensure easy cleaning and little dust pooling.

[Specific Examples]

- *Secure area of a size to allow sufficient spacing between beds.*
- *Make appropriate plans for the direction of air currents from air conditioners in patient rooms.*
- *Make plans with capability for isolating infected people.*
- *Provide an appropriate number of private rooms.*
- *Plan to use wash basins for medical handwashing.*
- *Provide auto faucet wash basins in locations convenient for patient care.*
- *Faucets should be of touchless structure (automatic faucets) that are operated without using the fingers.*
- *Avoid the use of overflow pipes, where microorganisms tend to grow, and if they are used, make them removable so that they can be cleaned.*
- *Do not provide plugs for drains, since filling sinks with water to use is undesirable in terms of infection control.*
- *Secure places to put rubber gloves and plastic aprons.*
- *Secure spaces for placing paper towels.*
- *Planning should allow for placement of waste receptacles.*
- *Materials and details should allow for easy cleaning.*

□C.1.1.11 (03 Safety)

Formulate plans that give consideration to measures to prevent patient falls.

Sufficient measures to prevent patients from falling over while moving around the ward need to be taken. Also, consideration needs to be given to ensuring that a patient is not seriously injured if they do fall over. In particular, bathroom and changing room floors are often wet, and so consideration needs to be given to patients slipping or stumbling.

[Specific Examples]

- *Use non-slip flooring.*
- *Use flooring that is not overly non-slip so people are less likely to stumble.*
- *Use shock-absorbent flooring.*
- *Install footlighting.*
- *Install handrails at appropriate locations in bathing rooms.*
- *Use non-slip flooring in bathing rooms.*
- *Apply anti-slip measures to metal drainage fittings.*
- *Take measures to keep people from stumbling on floor drains between changing rooms and bathing rooms*

□C.1.1.12 (03 Safety)

Formulate plans that give consideration to measures to prevent accidents around doorways.

As a general rule, avoid having doors open into the hallway (common area side) as a measure to prevent collisions when doors are opened/closed. In addition, measures are also needed to enable the patient's body to be supported when a door is being opened/closed.

[Specific Examples]

- *Use sliding doors that are not excessively light or excessively heavy.*
- *Take measures around doors to keep people from catching a finger in a door.*
- *Install vertical handrails that can support a person's body.*

□C.1.1.13 (03 Safety)

Take measures against infections and allergic reactions.

In wards, attention needs to be given to health effects caused by the building environment through measures for preventing/handling nosocomial infection and allergic reactions to chemical substances, etc.

[Specific Examples]

- *Check specifications of carpet tiles.*

□C.1.1.14 (03 Safety)

Secure safe evacuation methods.

It is necessary to imagine how wheelchair users and other patients who cannot move easily would evacuate from a ward and firstly secure an area for temporary evacuation using horizontal transfer. Next, formulate plans that enable evacuation in a vertical direction via stairs or elevators that have been confirmed to be safe within the temporary evacuation area in accordance with the situation. Furthermore, depending on the nature of the hospital ward, give consideration to securing a confinement area.

[Specific Examples]

- *Secure demarcated safe areas and routes for evacuation by horizontal transfer.*

□C.1.1.15 (03 Safety)

Formulate plans that give consideration to measures to prevent patient suicide.

There are patients who attempt suicide because of the stress and exhaustion of fighting illness. Accordingly, measures are needed to prevent patients from jumping out of ward (patient room) windows.

[Specific Examples]

- *Install windows that allow opening to be limited.*

☐C.1.1.16 (03 Safety)

Take earthquake-proofing measures for furniture and equipment.

Furniture and equipment needs to be fixed in place to ensure that patients are not injured in the event of an earthquake, and attention needs to be given to ensure that evacuation routes are not blocked by stored items that have fallen off shelves, etc., and scattered across the floor. Sufficient consideration also needs to be given to methods for fixing furniture and equipment with casters in place.

[Specific Examples]

- *Take measures to fix furniture, equipment and so on in place and to prevent their falling.*

☐C.1.1.17 (04 Privacy)

Pay consideration to patients' privacy.

Because wards are places where patients are living, consideration needs to be given not only to protecting patients' privacy from entities outside the hospital but also ensuring that various patient information is not leaked to an unspecified large number of people within the hospital. However, in order that staff can monitor patients easily it is necessary to check the hospital's policy regarding its views on privacy.

☐C.1.1.18 (05 Comfort)

Give consideration to continuity with patients' lifestyles prior to hospitalization.

Spatial configuration and preparation need to be carried out with the awareness that wards are not only places where medical and nursing practices are carried out, but also places where patients are living. Furthermore, consideration needs to be given to enabling patients to contact people outside the hospital as required, even during their hospitalization.

[Specific Examples]

- *Provide multiple places in wards and nursing units where people can choose to spend their time.*
- *Set places, times, and so on for use of mobile phones.*
- *Provide pin-up boards where family photographs and letters can be put up.*

☐C.1.1.19 (06 Environment)

Secure an appropriate air environment for each place.

Appropriate air environments need to be secured for each place with regard to room environments with different functions and levels of cleanliness, such as patient rooms, hallways, toilets, and sanitation rooms. Also, consideration needs to be given to ensuring that places with different air environments do not affect each other. In particular, the use of diapers has increased with the rise in the ages of inpatients in recent years, and measures are required to counteract odors.

[Specific Examples]

- *Provide ventilation on a 24-hour basis.*
- *Provide patient rooms that are under negative pressure.*
- *Implement odor control measures for diapers and so on.*

☐C.1.1.20 (06 Environment)

Secure the required light environments.

In wards, lighting environments need to be appropriate for the purpose of each room, such as spot lighting that softens the room's atmosphere and lighting that prevents patients' feeling glare when they are lying down on a bed during transportation. Appropriate lighting plans need to be formulated to ensure that, while the necessary brightness for walking safely around the ward—patients going to the toilet or visiting the staff station during the night—is secured, consideration is also given to protecting patients who are sleeping from glaring lights. Care is required because when the afternoon sun strikes windows at the end of the central hallway, the glare is large and backlights the entire area, making visual field recognition difficult.

[Specific Examples]

- *Use doors that do not allow light from nighttime illumination to shine into patient rooms.*
- *Make appropriate plans for lights that are kept on all night.*
- *Make appropriate plans for footlighting.*
- *Use flooring with low reflectivity so as not to cause intense luminance contrast with the natural illumination.*

☐C.1.1.21 (06 Environment)

Implement appropriate color schemes.

Use color schemes matching the hospital's characteristics and the individual natures of wards and patient rooms. It is necessary to use color schemes that enable patients to easily recognize their own ward or room, and that are also easy for elderly or colorblind patients to understand.

☐C.1.1.22 (06 Environment)

Secure a good-quality sound environment.

A recuperation environment that is quiet during not only the nighttime but also the daytime needs to be created. Consideration needs to be given to sound-proofing measures for rooms that generate noise and their positioning in relation to patient rooms, etc.

[Specific Examples]

- *Elevator machine rooms, conference rooms, and other rooms that are sources of noise should not be located close to patient rooms.*
- *Implement measures to counter noise and reverberation.*

☐C.1.1.23 (07 Information)

Create readily noticeable special configuration.

Spatial configuration needs to enable patients, patient's visitors, and medical staff to easily understand their current location and the location of their destination within the ward. Also, consideration that contributes to lightening staff's guidance duties and enhancing emergency responses needs to be given through the setting-up of easy-to-understand facilities information so that patients and patients' visitors can easily find their own way around the ward.

[Specific Examples]

- *Notice boards should be located appropriately.*
- *The plan for signs and coloring should unify the design of guides to wards and nursing units, image information, and notices, along with other steps giving consideration to making them more easily visible and understandable.*
- *Plan for atriums so people can more easily know where they are.*

☐C.1.1.24 (08 Physical)

Formulate plans that consider decreases in mobilization capabilities from an architectural perspective.

Set up the ward so as to encourage the smooth movement of patients whose physical functions have unavoidably declined. Wards also need to be arranged so as to prevent patients from falling over.

[Specific Examples]

- *Select non-slip flooring.*
- *Use flooring finish and door sill shape without differences in level, taking causes of stumbling into consideration.*
- *Use handrails placed at appropriate heights and with shapes that are easy to grasp for everyone.*
- *Make sure that handrails have continuity.*
- *Make sure to provide necessary illumination at every location for people walking at night.*

☐C.1.1.25 (08 Physical)

Formulate plans that give consideration to the safety of patients with visual or hearing impairments.

In wards there are patients with sight or hearing impairments, as well as patients with reduced visual or auditory functions due to aging or medical treatment. Consideration needs to be given to ensuring that such patients can obtain the information they require for hospital life so that they can move around the ward without threat to their safety or confusion in reaching their destination.

[Specific Examples]

- *Eliminate unevenness in floors and walls that would affect people walking.*
- *Use appropriate plan for signs and color scheme that take cataracts and glaucoma into consideration.*
- *Provide alternative equipment for providing information of every kind.*
- *Display guidance to emergency exits with flashing lights and other such means.*

☐C.1.1.26 (08 Physical)

Formulate plans that give consideration to the treatment/care of patients with cognitive symptoms.

With the increasing age of patients in recent years, even acute-care wards are facing a situation where treating patients with dementia is unavoidable. Consideration needs to be given to space in order to ensure that dementia patients can safely receive medical treatment within wards.

[Specific Examples]

- *Arrange patient room layout to make everyday monitoring possible.*
- *Arrange patient room layout to be easily understandable for patients with consideration for making it easy for them to recognize where they are.*

☐C.1.1.27 (10 Duties)

Formulate plans that give consideration to transportation of people and equipment, etc.

As part of ward activities, beds, stretchers, and goods are frequently transported, such as when moving a patient to a different room, or transporting them from their room to a testing department or operation room. Wards need to be planned giving consideration to ensuring that this movement is not impeded. Giving consideration to smooth bed transportation leads to a reduction in the burden on staff. Consideration is needed especially in the case of private rooms because the width of rooms can easily become narrow.

[Specific Examples]

- *Secure sufficient corridor width and appropriate entryways for transport by bed, stretcher, or other such means.*
- *Select flooring that does not interfere with passage by bed, stretcher, or other such means.*

☐C.1.1.28 (11 Growth)

Formulate plans to enable the hospital to respond to future changes.

To facilitate future changes to ward usage/units or patient room composition/usage, structures, construction methods and materials that can be easily remodeled must be used.

[Specific Examples]

- *With a view to future change from multi-patient rooms to private rooms, have the floor slabs lowered in advance.*
- *Use double flooring.*

C.1.2. Patient room

□C.1.2.1 (00 Basic)

Secure the space required for medical treatment/nursing activities/activities of daily living.

Around patients' beds, medical practices are carried out on a daily basis, such as bringing in various wagons, inserting intravenous drips, and changing bandages. Space is required to enable smooth implementation of these medical practices, as well as ensure that there is no interference with patients' daily lives in hospital. In addition, as ventilators and other large machines may be brought into patient rooms and doctors stand around the patient's head, medical practices are sometimes carried out from three or more sides of the patient. An area large enough to enable medical care to be provided easily without the need to move other objects is required. The following are factors in prescribing the area of patient rooms:

(1) The space required for various medical/nursing practices to be carried out in the patient room;
(2) The space required for carrying out emergency resuscitation; and
(3) The space required for moving the patient's bed without impedance;

the patient's daily necessities, rest, meals, and visitors; or the patient approaching the bed in a wheelchair. Moreover, consideration needs to be given to securing space to enable rehabilitation to be carried out at the patient's bedside in order to quickly improve their personal movement and prevent disuse syndrome.

[Specific Examples]

- *Secure bedside areas on both sides with dimensions that allow for differentiated use according to daily life practices.*

□C.1.2.2 (00 Basic)

Provide various types of patient rooms.

In accordance with the patients' conditions, multiple types of patient rooms, such as rooms for critically ill patients, are necessary.

□C.1.2.3 (01 Medical)

Secure the medical equipment required for providing medical treatment.

The area around a patient's bed must be installed with equipment that can be used for the medical/nursing practices being carried out in the room. It is important to check how this equipment operates and install devices such as call buttons, medical plumbing for oxygen and suction, and electrical outlets for connecting to emergency power supply units (emergency power supply/uninterruptible power supply) in appropriate locations.

□C.1.2.4 (01 Medical)

Give consideration to the display of patient information.

These days it is not recommended to have patients' names displayed near the doors to their rooms at all times, but arrangements need to be made so that checks can be made when necessary. Also, it is good to devise measures enabling staff to share information with regard to restrictions on a patient's mobilization capacity, posture, meals, excretion, drinks, etc.

[Specific Examples]

- *Adopt specifications that allow patient names to be displayed when necessary.*
- *Put in place pictograms or other such means for displaying patient information.*

☐C.1.2.5 (02 Lifestyle)

Give consideration to versatile use of beds from an architectural perspective.

When a patient is being treated/nursed in their room, it may be necessary to move or adjust the height of their bed. In addition, when patients are performing activities of daily living, they make various movements and are placed in various positions, such as the patient sitting upright or using a low-floor bed. To ensure that these daily activities can be carried out with no impediments to moving or adjusting the bed, consideration needs to be given to interior design around the area in which the bed is to be placed. Furthermore, because the height of patients' line of vision and level of freedom of movement differ depending on their position on the bed, consideration needs to be given to interior design with regard to various positions.

[Specific Examples]

- *Design bed area with a variety of bed layouts in mind.*
- *Design bed area and entryway area to enable bed to be moved without impediment.*
- *Medical gas outlets should have position and shape that do not affect bed operation.*
- *Put windows and power outlets at heights that can support various different postures and positions.*

☐C.1.2.6 (02 Lifestyle)

Make the arrangements required for basic activities of daily living.

With regard to daily life in hospital, arrangements need to be made to ensure patients' peace of mind, enabling them to feel comfortable and have a certain amount of freedom regarding how they spend their time. It is also important for there to be places where ingenuity can be used to effectively incorporate nature and art into the room's decor, as well as for patients to individually hang or display items. Furthermore, because the furniture in patient rooms is an essential element in patients' basic daily living, items need to be user-friendly, moveable, safe, and cleanable. Appropriate storage facilities need to be provided next to the bed to enable patients to store their personal belonging and keep them under lock and key.

[Specific Examples]

- *Set up plans with use of overbed tables in mind.*
- *Provide chairs and tables for use by patients.*
- *Provide bedside tables and lockers that allow lockable control.*

☐C.1.2.7 (03 Safety)

Formulate plants that give consideration to measures to prevent patients from tripping over/falling.

The place posing the greatest risk for accidents occurring in hospitals is the area around patient beds. Because accidents can happen when patients sleep in an unstable position or are unaccustomed to sleeping in a bed, measures are needed to prevent patients from falling/sliding out of bed. As a countermeasure to falling out of bed—the most common accident to occur in the area around patient beds—sufficient consideration needs to be given to safety on the floor and measures need to be taken to ensure that patients do not injure themselves seriously even if they fall.

[Specific Examples]

- *Handrails that can support the body should be attached to beds.*
- *Provide storage in a location that can be safely reached by hand from the bed.*
- *Arrange means by which movable furniture can be fixed in place.*
- *Locate outlets (power outlets and so on) so that cords, cables, and so on do not spread over the floor.*
- *Use non-slip flooring.*
- *Use flooring that is not overly non-slip so people do not stumble.*
- *Use shock-absorbent flooring.*
- *Install footlighting.*
- *Design and build entryways not to have differences of level.*

☐C.1.2.8 (04 Privacy)

Pay consideration to patients' privacy.

In recent years, there have been increasingly strong demands for ensuring the privacy of inpatients as part of their daily living environment. Consideration is especially necessary with multi-patient rooms, and situations in which a bed is sandwiched between two other beds are undesirable. It is desirable that consideration be given to architectural planning so that beds can be positioned with awareness of patients' personal domains.

[Specific Examples]

- *Provide an environment where a patient can be alone visually.*
- *Arrange so that patients can conceal actions that they do not want seen by others.*
- *Use opaque curtains that do not allow a view through them into patient rooms.*
- *Provide cubicle curtains that allows individual patients to adjust how open or closed they are.*
- *Use curtain material that will not allow the area around beds to become too dark.*

☐C.1.2.9 (06 Environment)

Implement appropriate daylighting/lighting plans.

Daylighting plans need to be formulated to enable relatively uniform brightness without sunlight shining directly onto patients, in accordance with the shape and positioning of windows as well as blinds or curtains. Lighting needs to be provided with various activities in mind, such as medical treatment, towel baths, and other everyday activities carried out by medical staff; reading, taking meals, and other daily living activities carried out by patients. In addition, consider appropriate lighting plans for safety and quiet sleep at nighttime.

[Specific Examples]

- *Plan to enable control of natural illumination so that sunlight does not fall directly on beds.*
- *Plan to make the distribution of room brightness from natural light as uniform as possible.*
- *Provide blinds and curtains at windows to block light.*
- *Arrange so that ceiling lights do not shine directly in the eyes of patients when they are lying down.*
- *In multi-patient rooms, arrange illumination so that it is placed separately for each bed and can be dimmed individually.*
- *Provide reading lights that allow brightness, direction, and height to be changed freely.*
- *Plan so that the amount of light needed for medical practice can be secured even when cubicle curtains are closed.*
- *Plan so that light from lighting fixtures outside patient rooms do not shine directly into the rooms at night.*
- *Provide footlighting.*

☐C.1.2.10 (06 Environment)

Secure a comfortable air environment.

Sufficient ventilation is required to ensure that odors do not permeate patient rooms and that good-quality air is always being provided. Patient rooms must always be kept at a comfortable temperature, but because individual patients' conditions and preferences vary, it is desirable to install air-conditioning equipment that enables the temperature in each room to be adjusted independently. Although it is difficult to finely adjust humidity, keep in mind the importance of maintaining appropriate humidity from the perspective of reducing infectious disease risks.

[Specific Examples]

- *Secure ventilation of sufficient volume that unpleasant odors do not linger.*
- *Install windows that can be opened and closed.*
- *Install exhaust ventilation at a low location that will be effective when a portable toilet is being used.*
- *Install air conditioning equipment that allows separate adjustment for each patient room.*

☐C.1.2.11 (06 Environment)

Secure an appropriate sound environment.

In order to create a quiet patient room environment, window sash performance that blocks external sounds from entering the patient room must be secured. In addition, consideration also needs to be given to utilizing sound-absorbing finishing materials and sound-blocking wall specifications to counteract sound generated by medical practices and patients' activities of daily living that are performed inside the room. Formulate plans that also give consideration to sounds generated by air-conditioners and plumbing (water supply and drainage) equipment.

[Specific Examples]

- *Use flooring that does not cause reverberation from the sound of footsteps and moving cart casters.*
- *Use finishing materials that will not cause echoes making conversation difficult to hear at a level of quietness that allows necessary conversation to be heard clearly.*
- *Install broadcasting equipment that enables the sound volume to be controlled separately for each room.*
- *Use windows, doors, and wall materials with excellent sound insulation.*
- *Elevators, laundry rooms, machine rooms, and other such noise sources should not be located adjacent to patient rooms.*

☐C.1.2.12 (08 Physical)

Formulate plans that give consideration to declining physical functions from an architectural perspective.

Pay attention to the arrangement of entrances/exits to room to ensure that patients with reduced physical capabilities can move freely outside their room. Furthermore, give consideration to the operability of windows and equipment to ensure that patients can personally control the environment in their room. Consider arrangements and equipment to ensure the provision of an environment where patients can recuperate and various medical treatments/nursing care can be carried out easily, even when the patient has various physical impairments due to their illness.

[Specific Examples]

- *Use sliding doors that can be opened and closed smoothly and that will also maintain an opened state.*
- *Install vertical handrails around doors.*
- *Use door handles that accommodate diminished gripping strength.*
- *Place door handles at a height that accommodates wheelchair users.*
- *Install wheelchair kick plates.*
- *Install switches and power outlets at heights where they can also be reached from wheelchairs.*
- *Install windows with easy opening and closing operation.*
- *Make plans with the use of air mattresses for changing patients' positions in mind.*
- *Attach railings and handrails.*

☐C.1.2.13 (08 Physical)

Formulate plans that consider decreases in mobilization capabilities from an architectural perspective.

Patients in patient rooms may have unavoidably suffered reduced physical strength, cognitive ability, and judgement following an operation or because of the state of their illness. Accordingly, consideration needs to be given to arrangements that emphasize patients' ease of movement.

[Specific Examples]

- *Secure space to put a wheelchair at a location that will allow transfer from the bed to the wheelchair.*
- *Railings and handrails that will support the body should be installed in the area around the bed.*
- *Arrange for places to put walking sticks and other such objects standing up.*
- *Use flooring that withstands the use of wheelchairs, walkers, and other such equipment.*
- *Locate outlets (power outlets and so on) so that cords, cables, and so on do not spread over the floor.*
- *Finish floors to have even surfaces.*
- *Design and build entryways not to have differences of level.*

☐C.1.2.14 (08 Physical)

Formulate plans that give architectural consideration to visual impairment.

Consideration needs to be given to ensure that visually impaired patients can not only move around their room without threatening their safety, but also obtain the necessary information for daily living in hospital. Measures need to be considered not only for patients who are totally blind but also patients who are visually impaired due to weak eyesight, cataracts, glaucoma, or illness.

[Specific Examples]

- *Provide patient room numbers in braille on handrails near room entryways.*
- *Locate outlets (power outlets and so on) so that cords, cables, and so on do not spread over the floor.*
- *Keep floors from becoming uneven.*
- *Provide for appropriate brightness and luminance contrast.*
- *Install equipment that can provide information aurally as an alternative.*

☐C.1.2.15 (03 Safety)

Make arrangements that facilitate cleanliness management.

Giving consideration to facilitating easy everyday cleaning from an architectural perspective is also effective in improving work efficiency, lessening the burden on staff, and preventing nosocomial infection.

[Specific Examples]

- *Finish so that dust does not accumulate unnecessarily.*
- *For baseboards, turn up the flooring material.*

C.1.3. Elevator

☐C.1.3.1 (00 Basic)

Give consideration to various uses.

In hospitals, there is frequent use of wheelchairs and movement of beds, as well as movement of goods such as meal trays, etc. Accordingly, it is necessary to not only secure elevator cars of the necessary size to fulfill their purpose but also clearly separate flows for general users and flows for moving beds/goods. Furthermore, consideration needs to be given to the installation of buttons that can be easily operated by wheelchair users and mirrors inside the elevator cars, as well as protective guards for transporting beds and goods. When elevators are included in flows, consider factors such as the size of the car, width of the entrance/exit, passenger capacity, loading capacity, number of elevators, and the operating method based also on elevator calculations.

[Specific Examples]

- *Install elevator cars meant for transporting beds.*
- *Install a seat and a mirror (in case a wheelchair is unable to turn) in the elevator.*

☐C.1.3.2 (03 Safety)

Formulate plans that give consideration to measures to enable people to get on and off safely.

Consideration is needed to ensuring that patients do not stumble when getting on or off the elevator, or that the wheels of the IV stand do not get stuck in the gap between the elevator car and the floor. Together with barrier-free measures such as installing audio guidance and handrails inside elevator cars, implement specifications that enable the speed and timing of the doors opening and closing to be controlled.

[Specific Examples]

- *Minimize the gap between the floor and the elevator car as much as possible.*
- *Install handrails in appropriate locations.*

C.1.4. Lavatory

☐C.1.4.1 (00 Basic)

Provide multiple types of lavatories in appropriate locations.

As a general rule, install a toilet in each patient room. In some cases, however, multiple toilets may be installed near patient rooms in consideration of the ward's nature/management or physical limitations. Moreover, consideration needs to be given to the appropriate placement of toilets in common spaces such as cafeterias and lounges for the use of patients and patients' visitors. Considering patients' illnesses, conditions, and disabilities, toilets for patients' use require specifications that enable use by patients who require assistance or are in a wheelchair.

[Specific Examples]

- *Provide lavatories that give consideration to use by patients in wheelchairs and ostomates, and also to lavatory assistance.*

☐C.1.4.2 (02 Lifestyle)

Make arrangements to encourage independence.

In order to promote early mobilization, patients' excretion independence needs to be encouraged. It is necessary to provide toilets designed and located with consideration given to distances and specifications that enable easy use in accordance with the patient's illness or condition, as well as ease of care for patients requiring assistance.

[Specific Examples]

- *Provide a variety of different lavatory stall layouts, including those supporting hemiplegic patients.*
- *Secure space enough to enter with a drip stand.*
- *Doors and other such fixtures should allow operation with one hand.*
- *Position levers where they are easy to operate.*
- *Attach back supports that maintain the user's posture.*
- *Toilet seats should be at heights suited to users.*
- *Design and build entryways not to have differences of level.*

☐C.1.4.3 (02 Lifestyle)

Make arrangements to ensure excellent operability/ usability.

In consideration of lessening the burden on staff, ingenuity needs to be used in toilet design to that patients with various different illnesses/conditions are able to easily operate the toilets. It is anticipated that the toilets will be used by patients with IV drips attached or paralysis on the left or right side of their body. In consideration of these factors, therefore, the toilets need to be arranged so that patients can operate them with either hand.

[Specific Examples]

- *Doors and other such fixtures should allow operation with one hand.*
- *Make the switch to make water run easily distinguishable from the emergency button.*
- *Design and build entryways not to have differences of level.*

☐C.1.4.4 (02 Lifestyle)

Implement specifications enabling excretion-related belongings to be brought in.

Depending on the patient's illness or condition, space inside the toilet stall is required for placing drugs (ointments, suppositories, etc.) or urine collection packs. Consideration also needs to be given to the positioning of wash basin so that patients can maintain cleanliness without having to return to their own room when using a toilet other than the one in their room. Also, handwashing stations with specifications providing excellent usability need to be installed so that patients can easily wash their hands regardless of their physical condition.

[Specific Examples]

- *Provide handwashing facilities inside lavatories.*
- *Provide handwashing facilities adjacent to cafeterias, lounge areas, and other such common areas.*
- *Secure space to place paper towels in common lavatories.*
- *Create space where towel, urine collection pack, ointment, suppositories, stoma care items, feminine hygiene products, and other such items can be placed temporarily.*
- *Use toilet seats equipped with warm water and warm air bidet-type functionality.*

☐C.1.4.5 (03 Safety)

Provide equipment to enable staff to be contacted in the event of an emergency.

In the case that a patient becomes ill or unable to move while in the toilet, it is essential that they be able to contact medical staff immediately. Furthermore, to enable staff to know whether or not toilets are in use, install motion sensor lighting, insert small windows in the door, and otherwise set up the toilets to make it easy to check whether or not they are occupied.

[Specific Examples]

- *Install nurse call systems in appropriate locations.*
- *Doors should be equipped with small windows that make the lavatory light visible.*

☐C.1.4.6 (03 Safety)

Make arrangements to ensure that doors can be opened in the event of an emergency.

Patients may collapse while in the toilet and be unable to get out by themselves. For this reason, measures need to be taken so that patients can easily be rescued from outside.

[Specific Examples]

- *Doors should be hinged doors that open outward.*
- *Use doors equipped with emergency unlocking devices and other such locking means that allow staff to open doors easily from the outside.*

☐C.1.4.7 (04 Privacy)

Pay consideration to patients' privacy.

Excretion is an action innately accompanied by a sense of personal shame. Consideration needs to be given to patients' privacy in terms of vision and sound so that they cannot be seen or heard from the hallway, and specifications need to provide a sense of security through the ability to lock the toilet door from the inside.

[Specific Examples]

- *Plan to place toilet fixtures as much as possible where they are not directly visible from the corridor and so on.*
- *In multi-patient rooms, locate the lavatories where patients' going in and out cannot easily be seen by other patients in the room.*
- *Doors should allow patients to engage the lock from the inside and allow staff to unlock it from the outside.*
- *Walls as well as doors and other such fixtures should have excellent sound insulation.*
- *Install noise masking equipment.*
- *Give consideration to leakage of light from lavatories at night.*

☐C.1.4.8 (06 Environment)

Provide the necessary ventilation equipment.

While ensuring that odors do not permeate toilets, at the same time consideration needs to be given to preventing odors from leaking outside toilets into hallways or patient rooms, etc.

[Specific Examples]

Ventilation should be dedicated.

☐C.1.4.9 (08 Physical)

Set up facilities so that they are easy for patients to use.

A patient's physical or muscular strength may decline due to their illness or condition. To enable such patients to go to the toilet with as much independence as possible, measures such as installing handrails in appropriate positions and lightening the door so that it opens and closes easily need to be implemented. Furthermore, to enable patients who cannot walk independently to use the toilet while in a wheelchair, toilets set up to accommodate wheelchairs need to be installed. It is also important to consider appropriate heights while considering the ease of getting on and off the toilet (highness of seat) and safety (lowness of seat).

[Specific Examples]

- *Sliding doors that open and close automatically or that open and close smoothly should be used.*
- *Attach door handles that accommodate diminished gripping strength.*
- *Install vertical handrails around doors.*
- *Door handles should be placed in locations that are suited to use from a wheelchair.*
- *Toilet fixtures should be at heights that are appropriate for use from a wheelchair.*
- *Secure sufficient space inside lavatory stalls to allow a wheelchair to turn.*
- *Install handwashing facilities in lavatory stalls that are also usable from a wheelchair.*
- *Attach guards to doors to protect them from wheelchair footrests.*
- *Provide a place to put walking sticks and other such items.*
- *Entryways should have electric locks.*

☐C.1.4.10 (03 Safety)

Make arrangements that facilitate cleanliness management.

To make maintaining a sanitary and comfortable environment easy, ingenuity is needed in using easy-to-clean materials and shapes as well as installing trash bins. Consideration also needs to be given to using interior finishing materials and toilet installation methods that make it difficult for odors to become ingrained.

[Specific Examples]

- *Use wall-mounted toilet fixtures that do not touch the floor.*
- *Flooring should allow easy cleaning.*
- *Flooring should have excellent water resistance.*
- *Secure spaces for placing paper towels.*
- *Provide sluice sink functionality for washing away human waste and so on.*

C.1.5. Washroom/Wash basin

☐C.1.5.1 (02 Lifestyle)

Make arrangements so that patients can maintain cleanliness and carry out personal grooming.

Grooming provides tremendous psychological support for patients, and it is essential to provide an environment that enables patients to groom themselves appropriately so that they do not lose their sociability while in hospital. Although some patients may have difficulty grooming themselves because of their illness or condition, from an early mobilization or home rehabilitation perspective it is desirable that they groom themselves as far as possible. It is therefore desirable that patient rooms be set up so that patients can freely wash and groom themselves in their rooms. In addition, facilities that enable patients to use washing/grooming tools or devices are required, and facilities with appropriate functions that can be easily used by anyone, including wheelchair users and children, need to be provided. Consideration needs to be given to the fact that such facilities are used not only by patients for daily washing but also staff.

[Specific Examples]

- *Design to provide appropriate brightness (to enable applying light makeup, shaving).*
- *Attach a mirror.*
- *Provide hot water supply function with mixer taps.*
- *Attach handheld shower fixtures.*
- *Provide power outlets.*
- *Provide towel racks at private room wash basins.*
- *Provide space for temporarily placing items used for personal care and face washing.*
- *For common use wash basins, provide separate spaces where patients can keep their personal care and face washing items.*

☐C.1.5.2 (02 Lifestyle)

Make arrangements to ensure excellent operability/ usability.

Easy-to-operate equipment needs to be selected and consideration that also takes into account wheelchair users needs to be given to the positioning of equipment.

[Specific Examples]

- *Provide hot water supply function with mixer taps.*
- *Attach handheld shower fixtures.*
- *Secure the space for caregivers to provide assistance.*
- *Install large mirrors that can also be used from wheelchairs.*
- *Install power outlets and switches at locations where they can also be used from a wheelchair.*
- *Use tap and faucet fixtures that accommodate diminished gripping strength and wheelchair use.*
- *Wash basins should be at a height that also allows use from a wheelchair.*
- *Plans should provide for wash basins that are open underneath.*
- *Arrange for places to put walking sticks and other such objects standing up.*

☐C.1.5.3 (03 Safety)

Secure safety.

Prevent burns caused by the hot water supply. Take care because the surrounding floor area may be wet. Equipment that can prevent the spread of infection via contact with faucet equipment needs to be selected.

[Specific Examples]

- *Hot water supply temperature should be controlled at about 60 degrees Celsius.*
- *Flooring should be non-slip.*

☐C.1.5.4 (04 Privacy)

Pay consideration to patients' privacy.

Visual consideration needs to be given to patients' privacy when washing their face, etc. Also, if wash basins are installed within patient rooms, care needs to be taken that a patient's wash basin does not intrude on other patients' living space because of its positioning.

[Specific Examples]

- *Install in a location where being in the line of sight of other people will not be a concern.*
- *Plans should provide for mirrors to be placed so as not to reflect other people's lines of sight.*
- *Plans should provide for mirrors to be placed so that nothing that infringes on the privacy of others will be reflected.*

C.1.6. Bathing room/Dressing room

☐C.1.6.1 (00 Basic)

Make arrangements to enable bathing that is appropriate to the patient's physical capabilities.

In order to maintain patients' health and hygiene, they must be able to easily and safely bathe and wash their hair. Because there are many types of bathing equipment available, take factors such as decline in physical functions into consideration when installing such equipment and thoroughly consider the various equipment types. For hospital inpatients, even slight differences in floor level can be quite a burden to maneuver across, and so adjustments need to be made to eliminate differences in floor levels around the entrance/exit. Because shower-chair-type wheelchairs may also be brought into bathing rooms, set up bathing rooms on the premise that shower chairs will be used. Furthermore, formulate plans that enable appropriate temperature settings for bathing rooms and changing rooms in order to prevent heat shock.

[Specific Examples]

- *Secure bathing and changing room space with consideration to the declining physical functions.*
- *Allow sufficient size for washing areas with the range of movements made by carers kept in mind.*
- *Set the height of taps with consideration to the use of shower chairs.*
- *Ensure the shower taps are suited to those with declining gripping power.*
- *Ensure the taps enable easy adjustment of water temperature.*
- *Use doors that open and close smoothly.*
- *Install vertical handrails around doors.*
- *Ensure there are no differences in height at entrances.*
- *Install nurse call buttons in easy-to-use positions.*

☐C.1.6.2 (02 Lifestyle)

Make arrangements to ensure excellent operability/usability.

Install equipment that has excellent operability, enabling patients to easily bathe and wash their hair. Ensure that the water temperature/volume and shower head position can be adjusted freely; that this equipment is easy to operate; and that the operating methods are easy to understand.

[Specific Examples]

- *Ensure the taps enable easy adjustment of water temperature.*

☐C.1.6.3 (02 Lifestyle)

Implement specification that facilitate cleanliness management/cleaning.

Changing rooms and bathing rooms used by patients need to be maintained in a sanitary and comfortable state so that patients do not feel uncomfortable. Appropriate interior finishing materials need to be selected, and consideration needs to be given to details that facilitate easy cleaning. Also, from the standpoint of preventing the spread of infection, plans need to take the positioning of trash bins into consideration.

[Specific Examples]

- *Use flooring materials that are easy to clean.*

C.1.6.4 (03 Safety)

Formulate plans that give consideration to measures to prevent burns.

Adjustments need to be made to ensure that patients do not inadvertently turn on hot water and burn themselves.

[Specific Examples]

- *Ensure the taps enable easy adjustment of water temperature.*
- *Enable the water temperature to be restricted to around 45 degrees Celsius.*
- *Ensure the taps are easy to manipulate.*

☐C.1.6.5 (03 Safety)

Provide equipment to enable staff to be contacted in the event of an emergency.

Not only can accidents occur in bathing rooms, but also patients can become ill while in the bathtub and be unable to climb out. It is therefore necessary to install a call button in a position that can be easily reached by the patient while in the bathtub to enable them to immediately contact medical staff in such situations.

[Specific Examples]

- *Install nurse call buttons in appropriate places near the floor etc. so that patients who fall over can reach them.*
- *Install handrails at appropriate points.*
- *Use flooring materials that are not slippery.*

☐C.1.6.6 (04 Privacy)

Pay consideration to patients' privacy.

It is imperative to secure an environment in which patients can take a leisurely bath with peace of mind, protected from the line of sight of other people.

[Specific Examples]

- *Check the connections between changing rooms and corridors.*

☐C.1.6.7 (06 Environment)

Provide the necessary ventilation equipment.

Because it is easy for bathing rooms to become unsanitary, with mold and so on developing, formulate plans so that moisture/dampness does not build up. At the same time, consideration needs to be given to ensuring that moisture/dampness from the bathing room does not spread outside the bathing room.

[Specific Examples]

- *Install adequate exhaust equipment.*

☐C.1.6.8 (06 Environment)

Formulate plans that include excellent sound insulation.

Because bathing rooms have large echoes, sound insulation needs to be increased. Consideration also needs to be given to the use of rooms next to bathing rooms.

[Specific Examples]

- *Do not install bathrooms adjacent to or opposite patient rooms.*

☐C.1.6.9 (08 Physical)

Make arrangements so that staff can easily provide bathing assistance.

It may be necessary to install mechanical bathtubs for patients who have difficulty maintaining posture. In such cases, not only the space for installing the bathtub but also the space around the bathtub required for staff to assist the patient need to be secured.

[Specific Examples]

- *Allow sufficient space for washing areas with the range of movements made by carers kept in mind.*
- *Install power sources and drainage equipment based on the location of automatic bathtubs.*

C.1.7. Laundry

☐C.1.7.1 (02 Lifestyle)

Make arrangements so that the cleanliness of personal clothing can be maintained.

Depending on their illness or condition, patients may need to change their clothing frequently. Accordingly, a place where patients and/or their family members can wash and dry the patients' clothing is required. In addition, space near patients' beds is required for storing washing detergent and other tools required for washing as well as changes of clothing.

[Specific Examples]

- *Prepare a drying room or place for drying items.*
- *Secure adequate space with consideration to wheelchair use, and devise features such as sunken floor spaces to accommodate apparatus so that people in wheelchairs can use them.*
- *Install wash stands.*

☐C.1.7.2 (06 Environment)

Give consideration to noise and the heat environment.

Because washing machines and clothes dryers can cause loud noise, consideration needs to be given to their positioning in relation to patient rooms as well as to soundproofing/sound insulation specifications for finishing materials, walls, and doors, etc. Because the room heats up when gas clothes dryers are used, it is necessary to install sufficient ventilation equipment.

C.1.8. Day room/Cafeteria

☐C.1.8.1 (02 Lifestyle)

Secure places where patients and staff can pass time calmly.

For patients in multi-patient rooms, it is necessary to secure a place within the ward where they can spend time peacefully, reading or visiting with family members/friends without feeling constrained by concerns about showing consideration to other patients in the room. Sufficient space and comfortable chairs need to be installed so that patients with various different illnesses and conditions can use these facilities.

[Specific Examples]

- *Locate day rooms in several locations.*
- *Provide chairs (high-back chairs etc.) to accommodate a variety of declining physical functions.*

☐C.1.8.2 (02 Lifestyle)

Provide equipment that enables patients/staff to eat and drink in accordance with their preferences.

To the extent that it does not interfere with patients' treatment, patients must be able to eat and drink freely as they like in addition to meals provided by the hospital.

[Specific Examples]

- *Provide hot water supply equipment.*
- *Install tea dispensers and vending machines.*
- *Install sink stands enabling simple cooking.*
- *Install microwave ovens.*

☐C.1.8.3 (06 Environment)

Provide the necessary ventilation equipment.

Consideration needs to be given to ensuring that smells do not permeate day rooms or cafeterias, and that smells do not spread outside the cafeteria.

[Specific Examples]

- *Install adequate ventilating equipment.*

C.1.9. Staff station

☐C.1.9.1 (00 Basic)

Secure sufficiently large spaces for nursing bases.

At staff stations, staff prepare nursing records and oral medications, as well as make preparations for other patient treatments. Space is also required for physicians, paramedics, and various other health professionals to conduct meetings as well as store carts and other equipment, charge computers, etc. Depending on the hospital, staff stations may also be equipped with satellite pharmacies manned by pharmacists; accordingly, sufficient space needs to be secured.

☐C.1.9.2 (00 Basic)

Formulate plans that make it easy to ascertain the situation in each ward.

Staff stations need to be located in a place from which staff can observe the situation in the ward at all times and respond swiftly when necessary. Staff station counters must provide good visibility, and open-counter designs that enable easy communication between patients and staff are desirable.

☐C.1.9.3 (03 Safety)

Formulate plans that enable checking of people's movement in and out of wards.

Hospital wards are visited by patients' family members and visitors, as well as vendors, contractors, and others. Plans must take security into consideration, such as locating the staff station in a position where it is possible to monitor the comings and goings of people from outside the ward.

☐C.1.9.4 (03 Safety)

Pay attention to ensure that drugs are handled appropriately.

At staff stations, work involving the handling of drugs, such as preparing intravenous drips, is carried out. As a means of preventing the theft or loss of drugs, consideration needs to be given to measures such as placing staff so that they are visible to other staff at all times and storing narcotics and drastic drugs in a safe. In places where drugs are prepared, it is necessary to secure a lighting environment that ensures that labels are sufficiently readable to prevent the misreading of labels.

[Specific Examples]

- *Install security cameras.*
- *Install safes regarding which security can be assured.*
- *Secure an appropriate light environment for working spaces.*

☐C.1.9.5 (04 Privacy)

Make arrangements to ensure that personal information can be kept confidential.

Beginning with medical information, the personal information of ward patients is collected in staff stations. To ensure that no one other than medical staff see this information, thorough consideration needs to be given from the perspectives of not only administration but also the building and equipment. However, in consideration of exchange between patients and staff, plans that are visually open yet physically enable easy management are desirable.

[Specific Examples]

- *Situate work tables that it is difficult to furtively look at.*
- *Employ easy-to-use medical chart trollies.*
- *Situate CRT equipment so that it cannot be seen from outside.*

☐C.1.9.6 (08 Physical)

Formulate plans that give consideration to communication with patients.

Architectural arrangements need to be made to enable interaction between wheelchair users and staff at staff stations.

[Specific Examples]

- *Provide counters that are of a height that pays consideration to wheelchair use.*

C.1.10. Conference room

☐C.1.10.1 (12 Staff)

Secure the space and arrangements required for holding staff meetings.

Because team staff conferences are held in wards, space that enables many different professions to gather together is required. Also, because medical professionals frequently discuss patients' personal information, plans need to give consideration to ensuring patients' privacy.

C.1.11. Staff break room/Nap room

☐C.1.11.1 (12 Staff)

Provide places where staff can relax.

Because of the diversity of staff working systems, wards also need spaces where staff can rest or nap. To ensure that staff are able to rest/nap sufficiently, plans need to give consideration to the lighting environment, noise, and odors.

[Specific Examples]

- *Install staff lavatories and showers.*
- *Provide break rooms in locations usable during emergencies.*
- *Install private rooms (booths) where naps can be taken in peace.*

C.1.12. Consultation/Counselling room

☐C.1.12.1 (04 Privacy)

Pay consideration to patients' privacy.

So that patients, family members, MSW (Medical Social Worker), and medical staff can have discussions about confidential matters when necessary, sufficient consideration needs to be given to sound insulation and lines of sight from the hallway.

[Specific Examples]

- *Secure rooms sizes with consideration to the number of participants.*
- *Use doors and windows with high sound proofing.*
- *Install doors in consultation rooms.*

C.1.13. Treatment room

☐C.1.13.1 (01 Medical)

Secure the medical equipment required for providing treatment.

Equipment and setups for smoothly performing the various treatments that are to be carried out in each ward are required.

[Specific Examples]

- *Pay consideration to the location of special equipment in each department.*
- *Make arrangements that are considerate to what is visible from the corridors by installing curtains or choosing the specifications of glass when windows are installed.*
- *Make partition walls soundproof.*

☐C.1.13.2 (02 Lifestyle)

Secure the space required for wheelchair mobility.

When treatment cannot be carried out in patient rooms, inpatients may be transported to the treatment room by wheelchair, etc. The patient may sometimes be transported by stretcher or bed, and in such cases it must be possible to transport the patient easily.

☐C.1.13.3 (04 Privacy)

Pay consideration to patients' privacy.

Treatments are fundamentally actions that should be protected from external lines of sight. Accordingly, measures need to be implemented to ensure that people cannot furtively look into the room when the door is opened/shut. Also, because patient discussions with physicians and nurses frequently contains content, such as information about medical treatment, that the patient does not want others to hear, consideration needs to be given to securing patients' privacy in terms of not only their being seen but also their conversations being overheard.

[Specific Examples]

- *Install curtains or screens.*

☐C.1.13.4 (06 Environment)

Provide the necessary ventilation equipment.

Consideration needs to be given to ensuring that treatment rooms do not become permeated with the smell of drugs, etc., or contaminated air. At the same time, consideration needs to be given to ensuring that odors or contaminated air do not spread outside the treatment rooms.

[Specific Examples]

- *Provide adequate amounts of ventilated air.*

C.1.14. Sanitation room

☐C.1.14.1 (03 Safety)

Implement specifications that make soiling difficult and cleaning easy.

Because various instruments are washed in the sanitation room, adjustments need to be made to ensure that water is not splashed about during washing. At the same time, consideration needs to be given to making it easy to clean the floor and walls when they become dirty. It is also necessary to secure sufficient space with a view to the time slots in which use of the room is concentrated.

[Specific Examples]

- *Secure appropriate space.*

☐C.1.14.2 (06 Environment)

Provide the necessary ventilation equipment.

Measures need to be taken to ensure that odors do not permeate the room when dirty items are being sanitized. At the same time, consideration needs to be given to providing air-conditioning that prevents odors or contaminated air from flowing out of the sanitation room.

[Specific Examples]

- *Use air conditioning equipment that does not disperse contaminated air.*

C.1.15. Food service room

☐C.1.15.1 (10 Duties)

Make arrangements to enable meal preparation.

The room needs to be set up so that meals delivered from the kitchen can be stored safely and preparations can be made so that staff can appropriately serve the meals. Consideration also needs to be given to the storage of meals that cannot be served at specified times because the patient is undergoing testing, etc.

[Specific Examples]

- *Install lockable doors.*
- *Install wash stands.*
- *Install storage refrigerators for patients who eat meals later than regular hours.*

C.1.16. Storeroom/Equipment storeroom/ Materials storeroom

☐C.1.16.1 (00 Basic)

Secure appropriate flows and appropriately sized spaces.

Various items are located in hospitals wards, including medical materials, drugs, and medical equipment. Appropriate routes, spaces, and management methods need to be secured. Also, note that the types and numbers of items differ depending on the diagnostic and treatment department.

[Specific Examples]

- *Install a wheelchair station in the departments where there are numerous wheelchair users, such as Orthopedic Surgery.*

C.1.17. Waste storage

☐C.1.17.1 (00 Basic)

Secure appropriate flows and appropriately sized spaces.

In hospital wards it is necessary to temporarily store various kinds of waste, such as general waste, used diapers, and medical waste. Appropriate routes, spaces, and management methods need to be secured.

C.2. Ward (infectious disease unit)

This ward is used as a Class 2 ward for patients with infectious diseases spread via contact infection, droplet infection, or airborne infection, and as an infectious disease unit for patients with tuberculosis.

C.2.1. Common items

☐C.2.1.1 (03 Safety)

Formulate plans that give consideration to measures to prevent airborne infection.

In the case of treating patients with an infectious disease spread via airborne infection other than a Category 2 infectious disease (chickenpox, measles, etc.) and complications, airborne infection countermeasures like those in tuberculosis wards are also required in wards and patient rooms for Category 2 infectious diseases.

[Specific Examples]

- *Control air conditioning by frequent ventilation, and control negative air pressure by configuring the airflows from clean areas to contaminated areas.*
- *Along the borders of specified areas and other areas create a structure that blocks the airflow, and make the doors automatically closing sliding doors.*
- *Adopt separate dedicated ventilation facilities and use a total exhaust system.*
- *When a common air intake facility is used, plan it so that there is no reverse flow or mixing of air even if the mechanical ventilation facility shuts down.*
- *Install the exhaust vent some distance from adjacent land, and ensure short circuit prevention.*
- *Install filters in the exhaust facilities.*

☐C.2.1.2 (03 Safety)

Take measures to prevent infection targeting infectious waste.

As an infection countermeasure, infectious waste needs to be kept and managed separately from other waste.

[Specific Examples]

- *Secure space for storing infectious waste.*
- *Create space for storing used apparatus and equipment brought in the hospital.*
- *Isolate clean items such as unused disposable products from contaminated items.*

☐C.2.1.3 (03 Safety)

Pay attention to nosocomial infection control measures.

Implement measures to prevent the spread of infection to other patients in the ward and staff. Especial care needs to be taken when transferring tuberculosis patients, who could be a source of airborne infection.

[Specific Examples]

- *Isolate from other wards.*
- *Prevent the general flows in the hospital from crossing the flows for infected patients.*
- *Secure dedicated carriage flows from infectious disease or emergency outpatient departments to the infectious disease wards.*
- *Install elevators enabling exclusive use.*

☐C.2.1.4 (03 Safety)

Ensure that cleanliness can be easily maintained.

In addition to everyday cleaning, it is often necessary to wipe down surfaces after cleaning up patients' vomit. Accordingly, specifications must give consideration to ease of cleaning and use of disinfectants.

[Specific Examples]

- *Select finishing materials such as PVC sheeting that can be easily wiped and disinfected.*
- *Select finishing materials that are durable against various cleaning disinfectants and detergents.*
- *Secure space for the storage of cleaning disinfectants, detergents and cleaning equipment.*

C.2.2. Patient room

☐C.2.2.1 (00 Basic)

Give consideration to patients' amenity.

An infectious patient may be prohibited from leaving their hospital room for the period during which their actions could cause other patients to become infected. Accordingly, plans that enable not only treatment to be carried out inside the infectious patient's room but also maintenance of the bare minimum of activities for daily living are desirable.

[Specific Examples]

- *In principle rooms should be for single occupancy.*
- *Install lavatories and showers within patient rooms.*
- *Install a dining table and chair, writing desk and chair, and sofa or armchair.*

☐C.2.2.2 (01 Medical)

Give consideration to the balance between nurses taking measures to prevent infection and monitoring patients.

Formulate plans that enable monitoring of the patient while avoiding contact with them as far as possible.

[Specific Examples]

- *Install windows with built-in blinds in the doors of patient rooms.*
- *Install a telephone, TV, nurse call communication system etc.*
- *Make the use of computer communications possible in rooms.*

☐C.2.2.3 (03 Safety)

Take measures to prevent visitors becoming infected.

In the case of Category 2 infectious disease patient rooms, as a general rule visiting takes place in the patient's room. Measures need to be taken to ensure that the patient's family members and other visitors do not become infected.

[Specific Examples]

- *Secure storage space for family members' masks and the disposal of used masks.*

☐C.2.2.4 (03 Safety)

Take measures to prevent infection targeting infectious waste.

It is necessary to take into consideration complications with tuberculosis and other infectious diseases spread by airborne infection and implement air-conditioning controls that counteract airborne infection.

[Specific Examples]

- *Build the walls up to the concrete slab of the floor above, and construct so as to block air from other patient rooms and corridors.*
- *Windows should in principle be shut, and their air-tightness secured.*
- *Use automatic closing slide doors.*
- *Make a plan enabling air pressure control so that the air pressure of the patient rooms is not positive in relation to that of the corridor.*
- *Install dedicated ventilation facilities.*
- *When a common air intake facility is used with the general patient rooms, plan it so that there is no reverse flow or mixing of air even if the mechanical ventilation facilities shut down.*
- *Use a total exhaust system.*
- *When recirculating air, install high-performance filters, and circulate air individually within each patient room.*
- *Install exhaust vents away from the air intakes of other buildings and the windows of patient rooms.*

☐C.2.2.5 (06 Environment)

Formulate plans that facilitate cleanliness management.

Because there is a risk of pathogens becoming attached to dust particles and being transported, measures for counteracting infection via dust need to be implemented.

[Specific Examples]

- *On the floors of recessed corners use seamless floor finishing methods including flash coving or rounded-edge flooring materials*
- *Employ a structure that dust does not collect on.*
- *Use windows with built-in blinds.*
- *Use finishing materials with impermeability that are easy to clean.*
- *Build the walls separating adjacent rooms and corridors up to the concrete slab of the floor above.*
- *Use dust-proofing in switch, socket and terminal boxes.*
- *Use airtight ceiling-attached light fittings.*
- *Select curtains and blinds that can be detached and cleaned.*

C.2.3. Patient room anteroom

☐C.2.3.1 (03 Safety)

Take measures to prevent infection targeting infectious waste.

In patient rooms containing patients who could cause airborne infection and patients who could easily become infected due to complications, etc., it is desirable that the patient room has an anteroom.

[Specific Examples]

- *Install antechambers or room entrance areas.*
- *Install a storage space for unused disposable products and a storage space for infectious waste, used gloves, masks, protective clothing etc. to be taken out of the hospital.*
- *Use negative air pressure in antechambers, and control the inflow of air to patient rooms (use a system enabling switching between negative/positive air pressure).*
- *Control the negative air pressure environment by installing a differential pressure gauge.*

C.2.4. Day room/Cafeteria

☐C.2.4.1 (05 Comfort)

Create an environment in which patients can spend their time comfortably.

Lessen the stress of patients staying in closed wards by enhancing amenity and providing various place where patients can spend time. Consideration needs to be given to tuberculosis patients in particular, as they are often hospitalized for long periods of time.

[Specific Examples]

- *Install windows providing pleasant views of outside scenery.*
- *Use calming designs and finishing materials.*
- *Install a chat corner, books corner and televisions.*
- *Install spaces for exercise on exercise bikes etc.*
- *Install vending machines.*

C.2.5. Unit anteroom

☐C.2.5.1 (03 Safety)

Take measures to prevent infection spreading outside the unit.

When considering airborne infection, take care to ensure that air does not leak from the infectious disease unit to other departments.

[Specific Examples]

- *Make the negative air pressure level greater than the corridors outside the infectious disease wards.*
- *Control the negative air pressure environment by installing a differential pressure gauge.*
- *Use an interlocking system in entrances and exits.*
- *Install handwashing facilities and hand sterilization equipment stations.*

C.2.6. Treatment room/Examination room

☐C.2.6.1 (03 Safety)

Pay attention to nosocomial infection control measures.

When infectious patients go outside the infectious disease unit, there is a risk that pathogens will infect other patients or staff. For this reason, it is desirable that an examination room and treatment room be installed inside the infectious disease unit so that treatment and testing of infectious patients can be carried out within the unit. It is particularly desirable to install dedicated examination and treatments rooms for tuberculosis patients, who could cause airborne infection.

C.3. Ward (hematopoietic stem cell transplantation unit)

The hematopoietic stem cell transplantation unit treats diseases that make it difficult for a patients to produce normal blood, such as leukemia and aplastic anemia, and is where donors' hematopoietic stem cells are transplanted. The "sterilized rooms in a general sense" are patient room for patients who are undergoing treatment for severe burns or serious cancer; chemotherapy for a hematologic disease; or a hematopoietic stem cell transplant or other organ transplant (heart, liver, kidney, etc.) This chapter discusses the hematopoietic stem cell transplantation patient room (protective environment room).

C.3.1. Common items

☐C.3.1.1 (03 Safety)

Implement unit-wide measures to prevent infection.

In the HSCT Unit (HSCT: hematopoietic stem cell) there are not only "protective environment rooms" where transplantation therapy is carried out, but also "semi-protective environment rooms" where patients stay before and after their transplants. Depending on the hospital workplace, "protective environment rooms" may be called "sterilized rooms" and "semi-protective environment rooms" may be called "semi-sterilized rooms". If the sterilized unit is isolated, plans must be formulated for implementing infection control, including in hallways and places where patients can meet with visitors, because infection prevention measures need to be implemented at the entrance to the unit.

[Specific Examples]

- *Make the entrances to wards double-doored, and plan the installation of handwashing basins for hand sanitation control in antechambers.*
- *Ensure that entrance and exit to wards are one-way, and be thorough in infection control.*

☐C.3.1.2 (03 Safety)

Secure space for storing infection control equipment.

In order to maintain infection prevention measures and cleanliness, space needs to be secured for installing/storing PPE (personal protection equipment), disinfectants, and cleaning equipment that are used frequently.

[Specific Examples]

- *Install storerooms for various cleaning equipment, and places to put PPE equipment and disinfectant etc.*

C.3.2. Protective environment room (hematopoietic stem cell transplantation patient room)

☐C.3.2.1 (03 Safety)

Give consideration to securing air and water safety.

Because patients' bacterial resistance declines as their immunity declines, give consideration to infection via air or water. Clean air and sterilized water for hand-washing need to be supplied. Also, when semi-protective environment rooms are being used as multi-bed patient rooms, air flow needs to be controlled in consideration of patients' attributes.

[Specific Examples]

- *With regard to the air-conditioning facilities for protective environments, consider using the vertical laminar flow method, horizontal laminar flow method, or a combination of both.*
- *Plan air outlet and return vents so that the patients' beds are on the upwind side and visitors and staff on the downwind side.*
- *Make the air pressure in protective environment positive relative to corridors.*
- *Secure airtightness as a countermeasure against the inflow of external air.*
- *Filter any inflowing air.*
- *Secure an appropriate frequency of ventilation.*
- *Plan in order that sterile water can be permanently supplied.*
- *Check the supply scope of sterile water to medical staff*
- *Install sterile water supply equipment on the taps of hand washers*
- *Check whether or not it is necessary to supply sterile water as the water used by bidet toilet seats and in showers.*

□C.3.2.2 (00 Basic)

Create a layout that makes cleanliness easy to maintain.

Design easy-to-clean details that prevent from becoming a breeding ground for germs and the gathering of dust. Furthermore, because of the risk of showers becoming a breeding ground for mold, give consideration to ease of cleaning.

[Specific Examples]

- *Use flash coving on skirting boards.*
- *Use finishes that can be easily kept clean.*
- *Select materials with smooth finishes.*
- *Install built-in blinds.*
- *Plan the shapes of door knobs, washing facilities, handles, bed frames and bedside cabinets etc. so that dust and dirt are easily removed through regular cleaning.*

□C.3.2.3 (02 Lifestyle)

Formulate plans that enable patients to excrete within a protective environment.

Give consideration to securing patients' QOL (Quality Of Life) and install toilets inside protective environment rooms.

[Specific Examples]

- *Install lavatories and handwashing facilities.*
- *Pay consideration to wheelchair use in washing areas.*

□C.3.2.4 (03 Safety)

Formulate plans that give consideration to measures to prevent patients being infected by visitors.

Plan the flow of air from air-conditioners so that patients are upwind and their visitors are downwind.

[Specific Examples]

- *Pay consideration to the flow of air conditioning so that the patients are on the upwind side.*

□C.3.2.5 (03 Safety)

Give consideration to safety during transportation.

Consideration needs to be given to the risk of infection during transportation of patients to their hospital rooms. Because patients are often transported by bed accompanied by medical equipment such as ventilators and dialysis machines, formulate plans that makes it easy to transport patients by bed. Also, TBI (Total Body Irradiation) may be used at the pretreatment stage for leukopenia, so it is necessary to secure swift transportation to that department.

[Specific Examples]

- *Pay consideration to the in-room air conditioning system and location of equipment, and secure adequate bedside space for the transport of patients' beds.*
- *Plan locations close to the transportation elevators.*

□C.3.2.6 (03 Safety)

Take measures to prevent patient falls and injuries.

During the period that patients' immunity is decreased, their physical capabilities decrease dramatically, and they also lose more muscular strength than they themselves imagine. Consequently, there is an especially high risk of falling. Measures to prevent falls or blows that could cause hemorrhagic macules or cerebral bleeding are required.

[Specific Examples]

- *Plan in order that there are no level differences or other obstructions.*
- *Plan in order that protruding corners are kept to a minimum.*
- *Pay consideration to protruding corners of apparatus such as sterilization devices and the location of paper towel holders etc. that patients may unintentionally bump in to.*
- *Ensure that beds are located near to lavatories, and install handrails as necessary.*

☐C.3.2.7 (05 Comfort)

Create an environment in which patients can spend their time comfortably.

Because patients cannot leave long-term protective environment rooms in accordance with infection risk management, their sphere of activity is limited to within the protective environment room. Accordingly, take care to ensure that a high QOL can be secured for patients within protective environment rooms.

[Specific Examples]

- *Prepare an environment equipped with the Internet and televisions.*
- *Use interior designs that will serve to invigorate patient recovery.*

☐C.3.2.8 (06 Environment)

Take measures to prevent noise from air-conditioning equipment.

To ensure that the positive pressure space is maintained, air-conditioning equipment is always in operation. Accordingly, give particular consideration to noise.

[Specific Examples]

- *Plan air conditioning with consideration to the noise made by the equipment.*

☐C.3.2.9 (06 Environment)

Give consideration to drafts from air conditioning outlets.

Because air-conditioning equipment is always in operation, give consideration to currents of air affecting patients.

[Specific Examples]

- *Plan air conditioning with consideration to the wind speed of the equipment.*

☐C.3.2.10 (06 Environment)

Secure the illuminance/brightness required for examining/treating patients.

Because there is a higher need to carry out medical examinations/treatment in protective environment rooms compared with general hospital rooms, the lighting intensity necessary for examinations/treatment is required.

[Specific Examples]

- *Plan general lighting so that brightness can be adjusted.*
- *Use dedicated light fittings in clean rooms.*

C.3.3. Protective environment room anteroom

☐C.3.3.1 (03 Safety)

Locate antechambers to protective environments as a means of preventing infection

To prevent bacteria and viruses from being brought into protective environment rooms from outside, it is important to plan an anteroom and ensure that everyone entering the room washes their hands and does not bring any belongings or personal effects into the room. Also, space is required for storing a considerable amount of medical equipment, such as intravenous drip stands, to enable this equipment to be used exclusively for patients in protective environment rooms and semi-protective environment rooms as part of infection prevention measures.

[Specific Examples]

- *Install handwashing equipment.*
- *Install lockers for hand luggage.*
- *Plan a ventilation system that maintains positive air pressure in protective environments.*
- *Install automatic doors between corridors, antechambers and protective environments, and use an interlock system that prevents them from being open at the same time.*

C.3.4. Day room

☐C.3.4.1 (02 Lifestyle)

Secure places for carrying out daily living activities within units.

Even during leukopenia, which is a temporary period, it is desirable to enable patients to easily go out into hallways and undergo rehabilitation in order to reduce their mental stress and control their decline in physical strength, securing their QOL. Also, create space within the unit where patients whose white blood cells are in good condition can receive visitors.

[Specific Examples]

- *Secure spaces where patients can exercise their bodies.*
- *Install an interview room.*

C.3.5. Staff station

☐C.3.5.1 (10 Duties)

Secure the space required for preparing blood transfusion and blood sampling.

In the case of hematopoietic stem cell transplantation units, more blood transfusions and blood sampling are carried out than are in standard wards, and space for these procedures is required.

C.4. Convalescent rehabilitation ward

C.4.1. Common items

☐C.4.1.1 (01 Medical)

Formulate plans that utilize the entire ward as a place for rehabilitation.

In the case of the convalescent rehabilitation ward, to enable rehabilitation to be carried out in patient rooms and various other places around the ward, the ward needs to be planned not only as a place for recuperation but also rehabilitation. Be careful to ensure that all activities of daily living, such as changing clothes and toileting, are a part of rehabilitation.

☐C.4.1.2 (03 Safety)

Select flooring materials on the premise that patients might fall over.

To enable rehabilitation to be carried out in patient rooms and common areas of the ward, it is necessary to select floor materials that will absorb the impact when patients fall, and give consideration to safety.

[Specific Examples]

- *Spread cushioning underlayment beneath vinyl flooring sheets.*
- *Select underlayment that is not too soft so it does not impede the movement of wheelchairs.*

☐C.4.1.3 (12 Staff)

Secure the space and arrangements required for holding staff meetings.

Because staff with various occupations (physicians, nurses, caregivers, physiotherapists, occupational therapists, social workers, etc.) work in the convalescent rehabilitation ward, it is necessary to secure sufficient space for holding conferences with large numbers of attendees. When discussing measures for after a patient is discharged, discussions need to be held between physicians and family members accompanying patients as well as other medical professionals, and so space giving consideration to this needs to be provided.

C.4.2. Patient room

☐C.4.2.1 (01 Medical)

Make arrangements for a place where rehabilitation can be carried out.

Consideration needs to be given to bedside rehabilitation aimed at improving patients' activities of daily living (ADL), such as getting out of bed, transferring to a wheelchair, and fitting orthotic devices, and space needs to be secured for transferring patients to wheelchairs and assisting with rehabilitation. Also check whether selection of floor materials premised on patients falling is required.

[Specific Examples]

- *Make plans that pay consideration to space for climbing onto and redirecting wheelchairs, and space for helpers to stand.*
- *Secure adequate bedside space.*
- *Install bedside handrails.*
- *Select flooring materials that are not slippery.*

☐C.4.2.2 (01 Medical)

Create a recuperation environment in accordance with the patient's paralyzed side.

Depending on whether the patient is paralyzed on the right or left side, the bed will be approached from a different direction. For this reason, check whether the hospital room expected to be used is for patients with left-side paralysis or right-side paralysis and set up the room environment accordingly. Taking into account the state of the patient's paralysis, the positioning of furniture to enable accommodation of the patient's paralysis either on the right or left side needs to be considered.

[Specific Examples]

- *Select movable furniture so that it can be moved around according to the physical state of patients such as those with paralyzed sides.*

C.4.3. Hallway

☐C.4.3.1 (01 Medical)

Make arrangements for a place where rehabilitation can be carried out.

Check the content of rehabilitation carried out in hallways and setup the hallways in accordance with the rehabilitation menu. Walking training is a typical rehabilitation menu item, and so consideration needs to be given to appropriate installation of handrails and selection of floor materials that anticipate patients falling. Because patient transfer is itself a part of rehabilitation, it is necessary to set hallway widths that enable rehabilitation, including rehabilitation using wheelchairs.

[Specific Examples]

- *Make the handrails continuous, and check their height through discussion.*
- *Check the need for installation of vertical handrails for practicing getting up and down.*
- *As it is necessary to check walking distances when patients are practicing walking, mark the floors with signs enabling patients and hospital staff to check the distance they walk (for example by making markers at meter intervals using the flooring pattern).*

C.4.4. Lavatory

☐C.4.4.1 (01 Medical)

Make arrangements for a place where rehabilitation can be carried out.

In order to improve ADL related to toileting, walking to the toilet is also regarded as being a part of rehabilitation. However, even in the case of collective toilets, it is desirable that the toilets be installed in multiple places around the ward rather than in one place. Secure toilet widths that anticipate patients' toileting while in a wheelchair or orthotic device, or assisted by staff who enter the toilet with them.

[Specific Examples]

- *Be as thorough as possible in making handrails continuous on routes to lavatories.*
- *Check the positioning of lavatory handrails according to the patients' rehabilitation menus.*
- *Make the handrail layout suitable for both left- and right-side paralysis patients.*
- *Secure adequate space for staff to assist and exercise patients.*

C.4.5. Bathing room

☐C.4.5.1 (01 Medical)

Make arrangements for a place where rehabilitation can be carried out.

In order to improve ADL related to bathing activities, practice under the same conditions as in general homes needs to be carried out. Set up bathing rooms so that the acts of transferring to the bathing room and undressing are also regarded as being part of rehabilitation. Consideration needs to be given to installing equipment and bathtubs premised on those used in patients' homes. Secure space in anticipation of some patients using the bathing room in a wheelchair.

[Specific Examples]

- *Check that bathtubs are the appropriate height and depth for training.*
- *Check the positioning of handrails according to the patients' rehabilitation menus.*
- *Install shower rooms in order to conduct rehabilitation in a variety of situations.*
- *Be as thorough as possible in making handrails continuous on routes to bathrooms.*
- *Check rehabilitation menus in changing rooms, and the positioning of handrails and washstands.*

C.4.6. Washroom/Wash basin

☐C.4.6.1 (01 Medical)

Make arrangements for a place where rehabilitation can be carried out.

Because their purpose is to improve patients' ADL, such as teeth-brushing, face-washing, and shaving, check whether or not there is a need for washrooms that enable rehabilitation.

[Specific Examples]

- *Check the height of washstands and whether or not there are handrails according to rehabilitation menus.*
- *Install cupboards for the storage of all patients' toothbrushes and cups etc.*
- *Secure spaces wide enough for group instruction and training using wheelchairs.*
- *Locate the washstands opposite day rooms.*

C.4.7. Day room/Cafeteria

☐C.4.7.1 (01 Medical)

Make arrangements for a place where rehabilitation can be carried out.

In order to improve ADL related to eating meals, it is desirable to secure space where it is possible for hospital inpatients to gather together for meals. In addition, check with the hospital as to whether there is a rehabilitation menu that is carried out in the day room, and whether it is necessary to select flooring materials that anticipate patients falling. Create a space with good visibility that enables staff to carefully watch over patients.

[Specific Examples]

- *Check the position of pillars and walls, and the location of furniture in order to create spaces with good visibility.*
- *Select cushioning flooring materials.*

C.5. Maternity ward (delivery room, LDR, newborn unit)

In the case of normal deliveries, expectant and new mothers are usually not "patients" but rather generally are not admitted to hospital until immediately before giving birth. Also, after giving birth they usually recover comparatively quickly both mentally and physically. Because of these attributes, the length of hospital stay for women giving birth is just a few days in many cases. Considering that such patients will spend time while in hospital connecting with their newborn infants and being visited by family members and accompanying persons, it is desirable that an environment be created within the department that gives a sense of a homelike atmosphere emphasizing "daily living" rather than "treatment".

C.5.1. Common items

☐C.5.1.1 (00 Basic)

Formulate plans in accordance with management methods.

To ensure that labor and delivery can take place smoothly, the relevant rooms need to be positioned within the department in accordance with the flow of labor from contractions to delivery to recovery. Also, give consideration to the positioning of these rooms with preparation rooms and patient rooms.

☐C.5.1.2 (00 Basic)

Plan with consideration to connections between related departments.

In some cases, a cesarean section or emergency operation may take place instead of a normal delivery. Moreover, newborn infants may require immediate treatment. In addition to considering and checking transportation methods for mothers and newborn infants in such cases, consider plans that locate related departments and rooms adjacent to the obstetrics department. Although the obstetrics ward is basically separated from other medical departments' beds, when obstetrics and gynecology are operated together as a mixed ward, give consideration to the mental state of patients with gynecological disorders and formulate plans that separate obstetrics and gynecology beds and allows easy bed control.

[Specific Examples]

- *Install a direct flow between the Emergency Department and Surgical Department.*
- *Make the maternity ward adjacent to the NICU.*
- *Make the maternity ward adjacent to the MFICU.*

☐C.5.1.3 (00 Basic)

Give consideration to smooth access outside normal hours for patients and their family members.

In the case of normal deliveries, it is not possible to control the timing of the patient's admission to hospital. For this reason, consider and check methods that enable smooth access to the obstetrics ward from outside the hospital even when the mother goes into labor on a public holiday or during the night. In the case of emergency deliveries rather than normal deliveries, consider access methods based on where it is anticipated the delivery/treatment will take place within the emergency department and maternity ward in accordance with the treatment content and the patient's condition. Similarly, care needs to be given to providing access to patients' family members and accompanying persons.

[Specific Examples]

- *Install a flow between the out-of-hours entrance and the maternity ward.*
- *Install lavatories and vending machines for accompanying persons, and pay consideration to the families of those giving birth.*
- *Install a dedicated air conditioning system and make adjustments easy.*

☐C.5.1.4 (00 Basic)

Formulate plans in accordance with management methods.

The size of the department differs according to the number of expectant and new mothers and the average number of days that they stay in the hospital. Also, the type, number, and composition of the rooms required differs according to the percentages of normal and planned deliveries; and whether or not labor/delivery takes place in a labor room and delivery room (two rooms) or in an LDR room (where labor, delivery, and recovery all take place in the same room). In recent years, some expectant mothers have been proactively requesting a diversity of birthing methods aimed at drawing out their birthing strength, such as freestyle labor styles that freely incorporate body positions and movements that feel comfortable. Accordingly, when formulating plans consult and deliberate with medical staff based on the hospital's actual situation. In doing so, give consideration to facilitating medical staff's provision of support to women in labor. Consider the number and composition of rooms, keeping in mind that there may be a high need for highly independent single-patient rooms depending on the content of rooming-in systems (mother and infant sharing a room following delivery).

[Specific Examples]

- *Make all the patient rooms private rooms.*
- *Install raised seating areas and arrange the interior facilities to enable a variety of childbirth styles.*

☐C.5.1.5 (03 Safety)

Take measures to prevent infection of hospital visitors.

As an infection control measure, entry to the obstetrics ward by family members or visitors of expectant and new mothers (especially children) may be limited in consideration of the season and area.

[Specific Examples]

- *Install a family member waiting room outside the ward.*
- *Install doors at the ward entrances and conduct the control of those entering.*

☐C.5.1.6 (04 Privacy)

Pay consideration to patients' privacy.

Because reporting to the family members and accompanying persons of the new mothers after delivery involves private information, give consideration to the environment. Also, because stillbirths may occur, formulate plans that show consideration such as protecting the anonymity of mothers and their family members when necessary, and enable easy bed control.

[Specific Examples]

- *Install a room for explanations to be given paying consideration to privacy.*
- *Increase the proportion of private rooms.*
- *Improve the level of soundproofing between patient rooms.*

C.5.2. Patient room

☐C.5.2.1 (00 Basic)

Secure the room size required for hospitalization.

In preparation for family members visiting patients in their hospital rooms or the mother and infant rooming-in together, sufficient space is needed around the bed for furniture and/or a newborn cot.

☐C.5.2.2 (00 Basic)

Set up the room so that staff can monitor the newborn's condition.

In the case of rooming-in, new mothers spend a lot of time with their newborn infants. Consideration needs to be given to measures for preventing infants falling out of bed as well as enabling mothers and nurses to check on the infants.

[Specific Examples]

- *Install windows in lavatories from which the room can be seen.*
- *Position beds and cots in places where nurses can easily check them from outside of the patient room.*

☐C.5.2.3 (02 Lifestyle)

Set up facilities to maintain the cleanliness of expectant and new mothers.

During pregnancy and the postpartum period, mothers' bodies may become soiled by urine or secretions. Consideration needs to be given to measures enabling them to immediately become clean if this should happen.

[Specific Examples]

- *Arrange patient rooms so that bathing and showering are possible.*

C.5.3. Nursing room

☐C.5.3.1 (00 Basic)

Secure the space required for breastfeeding.

In wards with a large percentage of multi-patient rooms, a nursing room may be installed as a place where nursing guidance can be given as part of childcare guidance. In such cases, secure sufficient space for the necessary furniture to enable multiple mothers to feed their newborn infants simultaneously. Also, consider setting-up the nursing room as a place where infants can be weighed after feeding and mothers can exchange information and prepare formula.

[Specific Examples]

- *Secure a space for placing baby scales to take weight measurements.*
- *Install power sources and water supply and drainage facilities to be used when formulating milk.*

☐C.5.3.2 (05 Comfort)

Create an environment in which newborns can breastfeed calmly.

Secure an environment that enables mothers to feed their infants calmly and quietly while also maintaining their privacy.

[Specific Examples]

- *Arrange the breast-feeding room so its interior cannot be seen from outside.*

C.5.4. Newborn bathing room

☐C.5.4.1 (00 Basic)

Secure the space required for bathing.

Infant bathing guidance may be provided in the newborn bathing room as part of childcare guidance as the time for mother and infant to be discharged draws near. Guidance includes how to undress the infant on the changing table and how to hold the infant during bathing and how to bathe them. Also, multiple mothers may undergo guidance at the same time. Accordingly, sufficient space is needed for the number of baby baths, changing tables, and other equipment required. Furthermore, setup and space enabling childcare guidance to be carried out smoothly is required.

[Specific Examples]

- *Create space around baby baths so that it is easy to provide childcare guidance.*

☐C.5.4.2 (06 Environment)

Secure an appropriate thermal environment for bathing.

Because newborn infants are undressed and given short baths, consideration needs to be given to the room's temperature.

[Specific Examples]

- *Install air conditioning so that individual room temperature can be adjusted.*

C.5.5. Treatment room

☐C.5.5.1 (05 Comfort)

Make arrangements for facilities that are easy for expectant/new mothers.

Give consideration to ensuring there is no burden on expectant/new mothers' bodies when they get on and off examination tables and pelvic examination chairs.

[Specific Examples]

- *Install electrically powered examination tables that enable height adjustments.*

☐C.5.5.2 (06 Environment)

Provide the necessary ventilation equipment.

Due to the characteristics of the obstetrics department, in some cases install drainage pipes around pelvic examination chairs and implement measures to ensure that patients do not feel uncomfortable because of odors.

[Specific Examples]

- *In order to prevent unpleasant odors fit the drain pipes from internal examination tables with lids.*
- *Secure adequate ventilatory volumes.*
- *Install individual air supply and exhaust passages with consideration to air balance.*

C.5.6. Multipurpose room

☐C.5.6.1 (00 Basic)

Make arrangements so that various types of activities and classes can be held.

Classes on various activities and childcare aimed at expectant/new mothers' family members or accompanying persons may be held in the obstetrics ward. Arrangements need to be put in place for handling these events.

[Specific Examples]

- *Secure a compact space with good visibility.*
- *Use easily movable furniture.*
- *Arrange rooms so that white boards, slide projectors and other equipment can be used.*

C.5.7. Labor and delivery department

☐C.5.7.1 (06 Environment)

Give consideration to sound leaking out.

When the voice of a woman in labor or giving birth leaks out of the delivery room, the sound may distress other expectant/new mothers or family members. Accordingly, ensure that the environment has high sound insulation.

[Specific Examples]

- *Use highly soundproof materials and structures on ceilings, walls and doors.*

Labor room

☐C.5.7.2 (00 Basic)

Secure the space required for having contractions.

The length of time taken from when the patient enters the labor room until she gives birth differs from birth to birth. Considering that labor may take a long time in some cases, the labor room needs to be equipped with multiple beds. Accordingly, sufficient space for these beds is required.

Delivery room

☐C.5.7.3 (00 Basic)

Secure the space required for giving birth.

In anticipation of patients being transported by wheelchair or stretcher, secure width and places to install fittings. Also, space is required around delivery tables for medical staff to approach the patient and to place equipment and machines necessary for treatment.

[Specific Examples]

- *Secure space to cope with stretcher transport.*
- *Secure space for vital signs monitors, shadowless lamps (ceiling-mounted type), infant incubators and cots.*
- *Install plug sockets and outlets for medical gas etc. on the on the wall close to the head of the bed.*

Delivery room

☐C.5.7.4 (00 Basic)

Make arrangements so that operations can be carried out smoothly.

Because the doors close as soon as delivery begins, it is difficult to know what is happening inside the room. Accordingly, measures need to be taken to enable staff outside the room to know how the delivery is proceeding. Also, when collection kits are provided and umbilical cord blood is to be collected, the collection method and subsequent transportation method need to be checked.

[Specific Examples]

- *Install signs indicating progress of birth on doors.*

Delivery room

☐C.5.7.5 (00 Basic)

Create a layout that makes cleanliness easy to maintain.

Consideration needs to be given to cleaning the floor and walls after delivery as they may be spattered with blood, body fluids, or drugs used during labor.

[Specific Examples]

- *Finish the rooms with slip-proof, easily cleaned and highly chemical resistant materials.*

Labor-delivery-recovery (LDR) room

☐C.5.7.6 (00 Basic)

Secure the space required for LDR.

In anticipation of patients being transported by wheelchair or stretcher, secure width and places to install fittings. Give careful consideration to using beds that change shape and can be turned into delivery tables, as well as the positioning of surgical lights and ability of medical staff to approach the patient. Also, in addition to securing sufficient space around the delivery table for placing the equipment and machinery required during delivery and treatment of the patient, it is necessary to secure space, such as a work preparation room, where the equipment, linen and devices (surgical lights) used in delivery can be stored.

[Specific Examples]

- *Secure space to cope with stretcher transport.*
- *Secure space for vital signs monitors, shadowless lamps (ceiling-mounted type), infant incubators and cots.*
- *Install plug sockets and outlets for medical gas etc. on the wall close to the head of the bed.*

Labor-delivery-recovery (LDR) room

☐C.5.7.7 (00 Basic)

Give consideration to the stress felt by women who are expectant/new mothers.

Because of anxiety about labor and childbirth, expectant mothers are under tremendous stress. Accordingly, measures need to be taken to ensure that expectant mothers are not subjected to unnecessary stress and to relieve their mental tension. Also, consideration needs to be shown to family members and accompanying persons who provide mental support for expectant mothers during labor and childbirth.

[Specific Examples]

- *Install shadowless lamps that can be stored on the ceiling.*
- *Install bathing facilities so that women in labor can be warmed up to enable smooth delivery.*
- *Design the interior in a fashion that reduces tension.*
- *Install furniture and equipment for accompanying family members.*

Labor-delivery-recovery (LDR) room

☐C.5.7.8 (06 Environment)

Implement specifications that enable adjustment of the light environment in accordance with the situation.

The LDR requires different lighting environments during labor and delivery. Accordingly, install equipment that enables not only the dimming of lighting for the entire room but also the concentration of lighting on areas necessary for the patient when staff are delivering the infant or carrying out treatment.

C.5.8. Newborn unit

☐C.5.8.1 (00 Basic)

Secure the space required for installing equipment.

In the newborn unit, in addition to newborn cots it is necessary to install specialized equipment for phototherapy in the case that a newborn develops jaundice. Accordingly, space for installing this equipment needs to be secured.

☐C.5.8.2 (03 Safety)

Give consideration to observing patients from staff stations.

There are two ways of thinking about the location of newborn units: locating the unit facing the hallway to enable observation of the newborns; and conversely locating the unit so that it cannot be observed from the hallway as a security measure to prevent infants being kidnapped. After checking the hospital's thoughts, consider positioning that ensures that the newborn unit is visible from the staff station and easy to manage.

[Specific Examples]

- *Install electronic locks or other security equipment etc. at the entrances of newborn units to prevent intruders from outside.*

C.6. Pediatric ward

Because admission to the pediatric ward is determined by age, the ward has patients with a range of illnesses, not only illnesses particular to pediatrics. Patients staying in pediatric wards are generally up to 15 years in age, and patient rooms are assigned in accordance with the patients' ages and state of growth. In-hospital classes and other aspects of the developmental environment are not discussed here.

C.6.1. Common items

□C.6.1.1 (00 Basic)

Formulate plans in accordance with management methods.

The ages and illnesses of children admitted to the pediatric ward may differ depending on the hospital. Also, operation of the pediatric ward may differ from the operation of other wards in terms of visiting hours, rules for accompany persons, etc.

□C.6.1.2 (00 Basic)

Formulate plans that are appropriate to pediatric patients' development.

It is necessary to bear in mind that generally speaking the hospitalization environment in the pediatric ward is both a treatment environment and a development (growth) support environment, and that child patients differ widely in terms of body measurements, degree of independence/dependence, and need to be accompanied, etc. It is therefore necessary to discuss policies regarding the management and hospitalization environment of the pediatric ward with the hospital.

[Specific Examples]

- *Design the door handles to be long enough to reach the lower part of doors without touching wheelchairs or drip stand casters.*
- *Locate the corridor fire extinguishers in places hard to see for pediatric patients.*
- *Line doors with rubber packing to prevent fingers from being caught in gaps when opening or closing.*
- *Enable choices in lavatories by installing both adult and child-size toilets, hand wash basins and mirrors.*
- *Install low parts on staff station counters etc. in line with the height of pediatric patients.*
- *Locate locks at a high point to prevent mischief.*

□C.6.1.3 (03 Safety)

Formulate plans that enable easy management of people going in and out of wards.

As a security measure and means of preventing the spread of infection, it is necessary to manage the entrance/exit to the pediatric ward to ensure that unauthorized persons cannot enter the ward from outside and that patients staying in the ward cannot leave the ward arbitrarily.

☐C.6.1.4 (03 Safety)

Make arrangements to enable staff to watch over patients easily.

Because child patients require constant supervision until they are of school age, and because child patients also feel safe and secure when they can see nurses at any time, create a space in which the child patients can be watched over regardless of whether they are inside or outside their rooms.

[Specific Examples]

- *Create a floor plan that reduces blind spots to an absolute minimum.*
- *Use furniture and arrangements that do not block the line of view of pediatric patients.*
- *Install windows in the corridor side of patient room walls.*
- *Install windows in the partitions between patient rooms.*

☐C.6.1.5 (03 Safety)

Make arrangements so that pediatric patients can play safely.

When designing playrooms, be mindful of ensuring safety in the event that children fall over, securing routes for moving around, and maintaining a clean environment. Not only child patients who can take off their shoes and sit on mats to play, but child patients with intravenous drip stands or in wheelchairs will come to the playroom to play. Because mats will become soiled if intravenous drip stands or wheel chairs roll over them, adjustments need to be made so that the space is sectioned but child patients can all experience the same play.

[Specific Examples]

- *Use carpets, cushioned floors or leather mats on the floor finishing.*
- *Attach cushioning materials or leather matting to wainscoting.*
- *Separate from the areas where footwear is worn, create some mat-flooring space for those without shoes so that pediatric patients attached to drips and those in wheelchairs can come to the three edges of the space and play.*
- *Provide play equipment, toys and books.*
- *Create a working space for ward nursery teachers.*

☐C.6.1.6 (03 Safety)

Pay attention to nosocomial infection control measures.

Because child patients have weak immunity and can easily become infected, even greater consideration needs to be given to infection prevention methods than in general wards.

[Specific Examples]

- *Install hand wash basins that are easy for pediatric patients to use.*
- *Install an appropriate number of patient rooms.*
- *Install rooms with windows enabling communication through glass under meeting restrictions.*

☐C.6.1.7 (04 Privacy)

Pay consideration to patients' privacy.

Although as a general rule the space needs to be structured so that child patients can be watched over regardless of whether they are inside or outside their rooms, consideration must be given to the privacy of upper elementary and junior high school aged children and their accompanying parents.

[Specific Examples]

- *Install blinds on the windows in the corridor side of patient room walls.*

☐C.6.1.8 (05 Comfort)

Formulate designs that ease anxiety.

Among child patients, infants and young children in particular may feel anxious about being hospitalized and be unable to adapt to life in hospital, or feel extremely tense about the change in their living environment, interfering with their ability to undergo treatment. Accordingly, designs that lessen anxiety and signs that are also easy for children to understand are important in terms of treatment support. Treatment should be carried out in the treatment room and not around the patient's bed so as to avoid frightening other child patients. Seeing steel instruments and other medical equipment as soon as they enter the treatment room may frighten the child patient, interfering with their treatment, and so consideration is needed.

[Specific Examples]

- *Use colors that are not overtly "hospital-like."*
- *Pay consideration to the fact that some pediatric patients are junior highs school students and use artwork appropriate for infants up to students.*
- *Use hiragana syllabary or pictures for signs.*
- *Pay consideration so that small steel instruments are kept hidden in storage space or behind screens etc. out of the sight of pediatric patients when entering the room, and take such items out when necessary once the patients are calm.*

☐C.6.1.9 (09 Equipment)

Take measures to prevent electric shocks.

If power outlets are located within reach of child patients, they may insert their finger or objects into the power outlet; therefore, countermeasures must be implemented.

[Specific Examples]

- *Fit covers over electrical outlets.*
- *Place electrical outlets where pediatric patients cannot reach them.*

C.6.2. Patient room

☐C.6.2.1 (02 Lifestyle)

Secure space to enable patients to be accompanied and attended to by family members, etc.

In many cases family members are not permitted to accompany the child patient into the room as a general rule. However, in cases where the child patient becomes mentally unstable due to their medical condition or the change in their environment, family members may accompany the child patient if decided so by the physician.

[Specific Examples]

- *Secure adequate space at patients' bedsides for placing a rollaway bed for the use of accompanying family members.*
- *Provide sofas that can be used as beds by accompanying family members.*
- *Secure privacy from corridors with curtains and furniture.*

☐C.6.2.2 (09 Equipment)

Make arrangements to accommodate baby or infant cots.

Among child patients, high-railed beds may be used for infants. In such cases, consideration is needed as it may be impossible to use consoles or equipment because of the railings on the circular bed.

[Specific Examples]

- *Decide the location of nurse call buttons, switches and electrical outlets after checking the measurements and location of items used in medical practice or the work of nurses.*
- *Make consoles vertical.*

C.6.3. Quarantine room

☐C.6.3.1 (03 Safety)

Pay attention to nosocomial infection control measures.

In pediatric wards, there are patients with infectious diseases such as mumps, chickenpox, rubella, and measles, and measures to prevent airborne infection are necessary in the case of chickenpox and measles. Child patients suspected of having an infectious disease need to be isolated immediately.

[Specific Examples]

- *Quarantine rooms should be located nearer to the elevator than the general pediatric ward, and near staff stations.*
- *Install doors and separate the quarantine rooms area.*
- *In the event that floors layout restrictions prevent the installation of doors, manage the quarantine rooms in tandem with ward operations.*
- *Locate quarantine rooms where they can be easily observed from the staff stations, and enable negative air pressure control.*
- *Install antechambers.*

C.6.4. Formula preparation room

☐C.6.4.1 (01 Medical)

Formulate plans in accordance with management methods.

In the case of large hospitals, because baby formula is generally regarded as food, it is prepared by nutritionists in the hospital kitchen or formula preparation room. A day's worth of formula is prepared and refrigerated, then transported in a refrigerated state to the formula preparation room in the pediatric ward where nurses heat up only the amount of formula they need using hot water. In the case of small hospals, nurses prepare the formula in the formula preparation room in the pediatric ward and give it to infants. It is necessary to check the hospital's policy.

[Specific Examples]

- *Paying consideration to the clearing up after milk formulation, and as an infection prevention measure, separately locate the pediatric and obstetrics/gynecology departments' formula preparation rooms.*

C.6.5. Newborn bathing room

☐C.6.5.1 (01 Medical)

Formulate plans in accordance with management methods.

Infants have different body sizes and may be bathed differently. Accordingly, install baths that are appropriate for each body size/bathing method.

[Specific Examples]

- *As an infection prevention measure, separate the location of the bathing rooms for the patients of the pediatric department and the healthy babies of the obstetrics/gynecology department.*
- *Install separate bathtubs for babies and for infants.*

C.7. Psychiatric ward

Psychiatric wards in acute hospitals differ from wards in psychiatric hospitals, and careful consideration needs to be given especially to the handling of physical complications and relationships with other wards. Also, because psychiatric wards have patients with a range of illnesses (dementia, schizophrenia, developmental disorders, etc.) and pathologies, it is important to set ward functions in accordance with patient groupings.

C.7.1. Common items

☐C.7.1.1 (00 Basic)

Give consideration to social connections and human rights.

The social connections and human rights of patients with psychiatric illnesses tend to be disregarded due to the nature of their medical conditions; it is therefore necessary to provide facilities and equipment appropriate to each patient's condition to ensure that their human rights as a patient are respected.

[Specific Examples]

- *Locate public telephone (booths).*
- *Prepare an Internet environment.*
- *Prepare an environment (place) to watch television.*

☐C.7.1.2 (00 Basic)

Formulate plans in accordance with management methods.

Because psychiatric wards in acute hospitals are required to not only give consideration to a range of patient groupings based on age, gender, illness, and medical condition, but also handle a prolonged length of stay, stress, dementia, and so on, it is necessary to check the appropriate patient room composition and rooms required at the design stage.

[Specific Examples]

- *Configure an appropriate number of single-patient rooms.*
- *Configure an appropriate number of quiet rooms and their specifications.*
- *Install occupational therapy rooms, common rooms and recreation rooms etc.*
- *Install lockers for personal items.*

☐C.7.1.3 (00 Basic)

Formulate plans that enable classification of nursing units by function.

To enable the ward to handle a range of patient groupings, single wards need to be divided into multiple units and measures implemented to enable management of individual functions and handling of changes in patient numbers and closed area. Also, some hospitals also install quiet rooms for severely ill patients in addition to general patient rooms.

[Specific Examples]

- *Install several control doors*
- *Install moveable partitions.*

☐C.7.1.4 (03 Safety)

Take measures to prevent patient self-harming.

Because patients may attempt to commit suicide or self-harm due to exhaustion or stress from hospital life or their mental condition, preventative measures need to be implemented throughout the ward. With regard to openings to the outside in particular, thorough safety measures need to be implemented to prevent intentional falls.

[Specific Examples]

- *Select soft finish materials.*
- *For glass surfaces use reinforced glass, security film and polycarbonate panels etc.*
- *Use components with shapes that strings and cords cannot easily be attached to on for handrails, door handles and knobs, door closer arms, hinges, signs, furniture and curtain rails etc.*
- *Install curtains that collapse under the weight of bodies.*
- *Install special wire mesh screens on natural smoke exhaust vents.*
- *Install push-button only nurse call buttons.*
- *Install windows with opening restrictions.*
- *Design buildings with no blind spots.*
- *Install security cameras.*

☐C.7.1.5 (03 Safety)

Take measures to prevent patients from leaving the ward/hospital without permission.

From the perspective of not only maintaining the safety of the patients themselves but also preventing them from bothering or harming other people or damaging property, thorough measures need to be implemented at the entrance/exit to the psychiatric ward and openings to the outside to prevent patients from leaving the ward/hospital without permission. Also, with regard to the fire alarms, care needs to be taken so that psychiatric patients cannot leave the ward arbitrarily if a false alarm sounds.

[Specific Examples]

- *Install electronic locks (manually openable locks) at the entrances of wards.*
- *Install security cameras.*
- *Install windows with opening restrictions.*
- *For glass surfaces use reinforced glass, security film and polycarbonate panels etc.*
- *Install high handrails and spiked fences (on roof gardens).*

☐C.7.1.6 (03 Safety)

Take measures to limit visitors and prevent prohibited items from being brought in.

Visitors and their belongings need to be managed/restricted in consideration of potential harm to patients and the effect on mental aspects/the treatment environment.

[Specific Examples]

- *Install video intercoms at the entrance of wards.*
- *Install reception desks at the entrance of wards.*

☐C.7.1.7 (03 Safety)

Take measures to prevent patients from harming others.

Because there are some psychiatric patients who may cause harm to others, consideration needs to be given to the safety of other patients and staff.

[Specific Examples]

- *Prepare rooms in case it is necessary to isolate patients.*
- *Install a staff call system.*
- *Install security cameras.*
- *Secure evacuation flows for staff.*

☐C.7.1.8 (05 Comfort)

Secure spaces where patients can recuperate restfully.

Patients' stress is caused by an array of factors and they may be sensitive to stress. Accordingly, it is necessary to secure a quiet treatment environment. As part of step-by-step training for patients who tend to seclude themselves in their room, secure places where patients pass time outside their room.

[Specific Examples]

- *Prepare areas for patients outside of their rooms.*
- *Prepare rooms for patients to meet with friends and family.*
- *Create alcove bench spaces in corridors and day corners paying consideration to width and light.*

☐C.7.1.9 (08 Physical)

Formulate plans that give consideration to decreases in physical functions.

Patients with psychiatric illnesses may also have side-effects from psychotropic drugs, physical impairments caused by their psychiatric symptoms, or disabilities accompanying physical complications. Many patients also have sight/hearing impairments due to aging. Accordingly, it is necessary to provide a safe treatment environment that gives consideration to a range of physical impairments.

☐C.7.1.10 (09 Equipment)

Take measures to prevent equipment damage/ destruction.

Because a characteristic of psychiatric patients is that they may intentionally dirty room interiors and damage property, preventative measures need to be implemented.

[Specific Examples]

- *Select interior finishing materials that do not become soiled easily.*
- *Select interior finishing materials that are easy to clean.*
- *Select interior finishing materials that are not easily scratched.*
- *Locate fire extinguishers grouped together.*
- *Install light fittings with acrylic coverings.*
- *Use painted signs.*

C.7.2. General ward (private/multi-patient room)

☐C.7.2.1 (05 Comfort)

Implement specifications that enable adjustment of light and sound.

Because some patients may be sensitive to perceptual stimuli such as light or sound, being able to limit or control such stimuli is desirable.

[Specific Examples]

- *Do not use excessively reflective or visually stimulating patterns on ceilings or in other interior finishing materials.*
- *Use light-blocking curtains and blinds that can control light from outside.*
- *Install light control equipment where necessary.*
- *Secure soundproofing in patient rooms.*

C.7.3. Observation room

☐C.7.3.1 (01 Medical)

Arrange the room to enable easy observation of patients.

Even in psychiatric wards in acute hospitals, treatment of patients with physical complications is carried out in an observation room within the psychiatric ward. Because constant observation is required, observation rooms need to be located in a place where they can be easily checked from the staff station and quickly reached by staff.

[Specific Examples]

- *Locate observation rooms adjacent to staff stations.*

C.7.4. Quiet room area

☐C.7.4.1 (00 Basic)

Secure a quiet room area as necessary.

Sometimes the ward may temporarily accommodate patients requiring isolation as a means of controlling their behavior due to harming themselves or others, or agitation. In such cases, it is necessary to install a quiet room area in a location separate from other areas of the ward and manage comings and goings at the entrance/exit to this area in order to protect the safety of the patients themselves as well as other patients and staff. Also, to facilitate the process of observing the patient before they return from the quiet room to the general ward, a day room may be installed within the quiet room area in order to observe the patient's interpersonal relationship skills.

[Specific Examples]

- *Plan quiet room areas separate from the general wards.*
- *Locate entrances and exits in places with good visibility from staff stations.*
- *Locate wash stands and day rooms in the common spaces of quiet room areas.*

☐C.7.4.2 (00 Basic)

Set up to be compatible with quiet room functions.

In addition to arranging the quiet room after checking the patient's condition and purpose for using the room, it is also necessary to facilitate their interpersonal skills before returning to the general ward.

[Specific Examples]

- *Adopt symptom-responsive flexible single-patient rooms in which the scope of movement restrictions (isolation) can be altered according to the state of patient illness or treatment method.*

Quiet room

☐C.7.4.3 (03 Safety)

Take measures to prevent patients from actions that harm themselves or others.

Because there are some patients who attempt to commit suicide, self-harm, or harm others, it is necessary to thoroughly remove any tools or arrangements that could encourage such attempts.

[Specific Examples]

- *Do not place cord or rope-like materials that could be used in suicide attempts, or install door handles or paper holders and so on to which they could possibly be attached.*
- *Ensure there are no dangerous protruding corners.*
- *Install protective covers on air conditioning outlets.*
- *Use high ceilings that cannot be touched.*
- *Either securely fasten or do not use furniture and items that could be used in self-harm or harming others.*
- *Select cushioned flooring and wall materials.*
- *Use toilets made from stainless steel or other hard to break materials.*
- *Use toilets in which water does not collect in the bowl.*

Quiet room

☐C.7.4.4 (03 Safety)

Formulate plans that balance staff safety and patient care.

Set up the area so that when a patient is disturbed, staff can observe them and provides services to them safely without entering the quiet room. Also, consideration needs to be given to meetings with family members and storage of patients' personal belongings.

[Specific Examples]

- *Make the doors of quiet rooms open outwards in order to make them easier for nurses to push.*
- *Install door viewers and observation windows.*
- *Locate an observation corridor.*
- *Install small holes for meetings/conversing in the observation corridors.*
- *Use reinforced glass, polycarbonate or lattice windows that cannot be easily broken in windows in the observation corridors.*
- *Plan a space for placing personal items that cannot be brought into quiet rooms for safety reasons, and clocks, calendars and photographs etc.*
- *Install serving hatches (in some cases on the antechamber side).*
- *Install ventilation slits.*

Quiet room

☐C.7.4.5 (04 Privacy)

Pay consideration to patients' privacy.

Ensure patients' human rights and privacy.

[Specific Examples]

- *Plan quiet rooms so their interiors cannot be seen by other patients.*
- *Install privacy wall around toilets (while attempting to maintain a balance between visibility for nurses and privacy for patients).*

Quiet room

☐C.7.4.6 (05 Comfort)

Implement specifications that enable adjustment of light and sound.

Ensuring that there is no excessive perceptual stimuli is necessary for maintaining patients' mental tranquility.

[Specific Examples]

- *Select interior materials without excessively visually stimulating patterns.*
- *Use walls and doors with a high level of soundproofing.*

Quiet room

☐C.7.4.7 (05 Comfort)

Make arrangements that facilitate cleanliness management.

Because some psychiatric patients may dirty floors or walls with excrement, it is necessary to not only give consideration to cleanability but also provide facilities that enable patients' washing to be done quickly.

[Specific Examples]

- *Select materials with easily cleaned finishes.*
- *Install shower rooms near quiet rooms.*

C.7.5. Day room

☐C.7.5.1 (00 Basic)

Make arrangements to enable a variety of activities.

Patients spend their time in the day room in various different ways, and they may watch television, chat with others, draw pictures by themselves, or play games in groups. For this reason, it is necessary to make adjustments to space and arrangements such as creating loose divisions between areas occupied by groups and individuals.

[Specific Examples]

- *Pay consideration to the layout of tables, sofas and other furniture.*
- *Secure spaces for meetings.*
- *Install a separate recreation room.*

☐C.7.5.2(05 Comfort)

Secure environments that are suitable for the patient's condition.

Within managed wards, day rooms are used as places for daytime activities. Although day rooms can be places where communication between patients is born, trouble can also occur between patients. For this reason, give consideration to keeping appropriate distances between patients while in the day room.

[Specific Examples]

- *Install multiple rooms enabling a variety of activities.*

C.7.6. Lavatory

☐C.7.6.1 (06 Environment)

Use equipment and materials that enable easy cleaning.

Various psychiatric symptoms may influence how patients use the toilet. Because toilets in psychiatric wards can become unhygienic more easily than toilets in general wards, give consideration to ease of cleaning.

[Specific Examples]

- *Use easily cleaned facility equipment such as wall-mounted toilets.*
- *Locate adjacent to sanitary rooms.*
- *Select equipment and materials with cleansing and deodorant action.*

C.7.7. Bathing room

☐C.7.7.1 (03 Safety)

Make arrangements to enable smooth responses in an emergency.

Because assisting patients at risk of harming themselves or others with bathing is also performed by a small number of staff, it can be very dangerous. Arrangements need to be made so that the patient can be assisted safely.

[Specific Examples]

- *Install emergency call buttons in easy to use places in bathrooms and changing rooms.*
- *Use doors with locks that can be opened from outside in emergencies.*

C.7.8. Staff station

☐C.7.8.1 (00 Basic)

Formulate plans that make is easy to ascertain the situation in each ward.

In cases where the psychiatric ward is divided into multiple areas — such as open, semi-closed, and closed areas — or separated into areas for men and women, it is necessary to ensure that each section is visible from and connected to the staff station. The staff station and ward reception need to be located in a position facing the main entrance/exit to the psychiatric ward, such as the elevator hall, and comings and goings need to be managed.

[Specific Examples]

- *Connect the staff stations in each zone by dedicated flows.*
- *Locate staff stations and ward reception desks facing the main entrances/exits.*
- *In the event that staff stations cannot be set up, install security monitors and intercoms.*

☐C.7.8.2 (03 Safety)

Secure staff members' safety.

Because patients in a disturbed state may behave in unpredictable ways within the staff station, it is necessary to secure the safety of staff. This also contributes to the securing of patients' safety.

[Specific Examples]

- *Separate staff station counters from the corridor with reinforced glass and protective sheets, and make them enclosed.*
- *Install roll-down shutters at staff stations.*
- *Ensure counters are of a height and width that patients cannot climb over.*
- *Select the type of door according to purpose of entry (by people or by patients accompanied by staff, or bringing in and out of goods or beds).*
- *Locate staff break rooms and nap rooms out of patients' sight.*

☐C.7.8.3 (04 Privacy)

Give consideration to staff members' privacy.

Psychiatric wards have many patients who react with hypersensitivity to the movements of people or things and focus their attention on these movements. In addition to securing visibility from the staff station, it is also necessary to give consideration to the privacy of staff.

C.8. Palliative care ward

This checklist is intended for in-hospital palliative care wards. Accordingly, it envisions situations in which there are comings and goings from diagnostic and treatment departments.

C.8.1. Common items

☐C.8.1.1 (00 Basic)

Give consideration to patients' treatment/care/recuperation environment.

Patients in palliative care wards have longer hospital stays than patients in other wards. Also, because patients in palliative care wards may have physical and mental pain, particular care needs to be given to creating an environment that eases the patients' pain. As the aim of care is to improve patients' QOL, high-quality daily hospital living needs to be provided. Furthermore, to give patients a change of scenery—having already considered safety aspects—it is desirable that outside spaces be created inside or near the ward for patients to use, and the amenity of outdoor spaces be enhanced.

[Specific Examples]

- *Pay consideration to the location of wards (on lower floors taking into account close proximity to ground level; on higher floors taking into account views) and the size and position of windows, in order to incorporate pleasant views of the outside.*
- *Locate terraces and balconies usable by wheelchair or beds so that patients with declining physical functions can go to outdoor spaces.*
- *Locate on the same floor a roof garden enclosed by fences etc. to prevent patients from falling.*
- *Use carpets on floors as a noise reduction measure.*
- *Use sound equipment for background music and so on.*
- *Introduce pet meetings and therapy dogs.*
- *Install works of art.*
- *Select finishing materials with an emphasis on wood and carpets etc. to prioritize interiors and sense of feeling at home.*

☐C.8.1.2 (00 Basic)

Give consideration to routes for transporting cadavers.

Because the mortality rate for patients in palliative care wards is high, consideration needs to be given to routes for transporting the bodies of the deceased and arrangements.

[Specific Examples]

- *Pay consideration to the flow to the mortuary in order that the flow to the elevator hall of the bed elevators does not intersect the flows between general wards.*
- *Use a door to separate the palliative care ward corridors from the general ward corridors.*

☐C.8.1.3 (01 Medical)

Give consideration to flows to the Diagnostic and Treatment Department.

Acute care hospitals provide medical treatment for patients with early-stage cancer as well as treatment for relieving the symptoms of terminally ill patients. For this reason, give consideration to routes to make it easy for inpatients to come and go from diagnostic and treatment departments.

[Specific Examples]

- *Pay consideration to the flow of patients to diagnostic and treatment departments.*
- *Pay consideration to ensure the flow of general patients does not intersect the flow to chemotherapy rooms.*

☐C.8.1.4 (02 Lifestyle)

Give consideration to patient care provided by family members.

Sufficient storage space needs to be provided in order to accommodate the increased incidence of family members accompanying patients undergoing long-term or terminal-stage hospital care. It is necessary to consider arrangements for patient rooms or family rooms that are required as living spaces for family members as well as places where family members can take a break away from the patient to rest.

[Specific Examples]

- *Install family rooms enabling overnight stays.*
- *Install lockers for keeping coats and carrier bags in patient rooms and family rooms.*
- *Install medical panels that can be stored in walls envisaging joint use of family rooms by patients.*
- *Prepare space for sofa beds and reclining chairs, and install mini-kitchens.*
- *Install laundry rooms.*
- *Install shower rooms for families.*
- *Install tatami mat day corners.*

☐C.8.1.5 (04 Privacy)

Pay consideration to patients' privacy.

Give especial consideration to privacy with regard to sound to ensure that the sound of sobbing or screaming when a patient dies or is at the end of their life cannot be heard in adjoining rooms.

[Specific Examples]

- *Patient rooms should in principle be for single occupancy.*
- *Secure a higher degree of soundproofing than in general wards in each room.*

C.8.2. Patient room

☐C.8.2.1 (02 Lifestyle)

Set up as a living space.

In order to maintain patients' QOL as far as possible, create interiors that take into consideration aspects related to the room being the place where the patient is living. It is desirable that various types of patient rooms be prepared in accordance with patients' needs so that the living environment that patients had at home can be continued in hospital. Furthermore, consideration needs to be given to the effect on a patient's QOL of changes in their appearance due to disease progression.

[Specific Examples]

- *Take care to avoid mirrors being shown.*
- *Take care in the design of interiors by using flooring materials and carpets similar to those used in homes.*
- *Prepare patient rooms with raised tatami mat areas.*
- *Prepare Japanese-style rooms with paper sliding screens.*
- *Provide balconies and terraces accessible from patient rooms.*

☐C.8.2.2 (06 Environment)

Provide the necessary ventilation equipment.

Because there are cases where the patient's illness causes an unpleasant odor or the patient is using a portable toilet, take care that odors do not remain in the patient room.

[Specific Examples]

- *Consider the amount of ventilation and location of exhaust vents.*

☐C.8.2.3 (08 Physical)

Formulate plans that give consideration to decreases in physical functions.

In the terminal stage, many patients have a low degree of independence, and thorough consideration is required because patients may experience motor paralysis or weakness, depending on their symptoms.

[Specific Examples]

- *Secure storage space for everyday items near beds so that patients spending their whole time in bed are not inconvenienced even when they become less independent.*
- *Design window shapes so that the external environment can be enjoyed while lying in bed.*
- *Secure enough spaces in lavatories with assistance in mind, and pay consideration to patients' declining independence by installing back and arm rests in addition to handrails.*
- *Reduce the length of flows from lavatories to beds, and enable beds to be moved to alongside lavatories.*
- *Secure the space required to attach assisted bathing stretchers to beds.*

C.8.3. Bathing room

☐C.8.3.1 (00 Basic)

Give consideration to various bathroom uses.

Taking patients' symptoms and independence into consideration, give them the choice of a bathtub. For the bathing room, give consideration to patients' independence and assistance provided by family members/staff. Also, give consideration to cases in which nurses and family members together wash and cleanse a deceased patient's body and hair, apply makeup, and dress the body for funeral purposes (washing tub for washing corpses).

[Specific Examples]

- *Secure enough space around power baths for patients to be easily transported from their beds to power baths.*
- *Use shower units with enough space for patients in wheelchairs to enter, and family members and staff assist them.*
- *Install power baths enabling mist bathing.*
- *Secure space with consideration paid to accompanying family members in washing bodies of the deceased.*

C.8.4. Kitchen/Pantry

☐C.8.4.1 (02 Lifestyle)

Give consideration to continuity with patients' lifestyles prior to hospitalization.

Set up the kitchen/pantry to enable family members to prepare food so that family members can eat meals together with the patient or prepare the patient's favorite food and serve it to them.

[Specific Examples]

- *Install kitchens with induction range kitchens.*
- *Ensure the kitchens can be equipped with microwave ovens and refrigerators.*
- *Secure space for the installation of cupboards for storing plates and cutlery for the use of patients and their families.*

C.8.5. Multipurpose room

☐C.8.5.1 (00 Basic)

Give consideration to patients' family members' expression of their emotions.

It is desirable to give consideration to easing the depression/grief of bereaved family members.

[Specific Examples]

- *Secure space for the families of the deceased to hold regular Bereaved Society meetings and exhibitions of artworks by society members.*

☐C.8.5.2 (02 Lifestyle)

Give consideration to setting the room up as a living space.

The room needs to be designed so as to enable the realization of usage in accordance with a patient's individual needs, such as for a change of scenery or to celebrate an anniversary, within an environment where the patient and their family members can relax in comfort and with peace of mind without needing to be concerned about being considerate to other people.

[Specific Examples]

- *Secure a high level of soundproofing in consideration of use as a healing room, and the playing of music and musical instruments.*

C.8.6. Conference room

☐C.8.6.1 (10 Duties)

Formulate plans that envision meetings involving participants from a diversity of professions.

In the palliative care ward, volunteers are also active as part of the care team in addition to professionals such as physicians, nurses, pharmacists, social workers, physiotherapists, occupational therapists, speech-language-hearing therapists, nutritionists, and psychologists.

[Specific Examples]

- *Configure an appropriate amount of space according to the type and frequency of conferences.*

C.8.7. Staff room

☐C.8.7.1 (12 Staff)

Secure arrangements that give consideration to staff members' feelings.

In providing care for patients, staff may become psychologically depressed. Space for staff to be alone and release their emotions or calm down when this happens is required.

[Specific Examples]

- *Secure a higher level of soundproofing than in the staff rooms of other departments.*
- *Envisage that the room may be used to cry in, and secure space for staff to be on their own.*

C.8.8. Volunteers room

☐C.8.8.1 (10 Duties)

Create a place for volunteers.

In the palliative care ward, volunteers play an essential role in team care supporting patients in order to assist patients and their family members with living in hospital. Accordingly, it is necessary to secure space where volunteers can be. Thorough consideration also needs to be given to coordination between the volunteers' room and the staff station.

[Specific Examples]

- *Secure an entirely separate space for volunteers.*

C.8.9. Christian chapel/Buddhist chapel/Meditation room

☐C.8.9.1 (02 Lifestyle)

Give consideration to patients' views of life and death/religious views.

Because patients are facing problems due to life-threatening illnesses, they may seek to obtain peace of mind through religious faith. For this reason, space accommodating multiple religions needs to be provided. Give consideration to such spaces being used by not only patients but also their family members and staff.

[Specific Examples]

- *Secure space in which at the bare minimum patients, families and staff cam meditate alone.*

C.9. Emergency ward

Hospitals that have an emergency department are classified from primary to tertiary emergency medical facilities, which treat patients with more serious conditions. How emergency wards are used differs according to the patients being treated there and the hospital's policies.

C.9.1. Common items

☐C.9.1.1 (00 Basic)

Formulate plans that enable operations suitable for the patients being treated.

When allocating nurses, it is difficult for emergency wards to exist as a single nursing unit, and the characters of the departments with which the emergency ward shares nurses (mainly the ICU and outpatient department) become apparent in the ward's operation, with it tending to be used as a place where patients wait for a step down to a general ward or to be held overnight until a bed becomes available in a general ward the next morning. Depending on how the ward is operated, patients may have serious conditions or minor symptoms, and the percentage of private rooms differs tremendously depending on whether the ward is operated like an ICU or for overnight stays. Although an open space is desirable from a nursing perspective, consideration needs to be given to the fact that some patients require a private room for recuperation or privacy-related reasons.

[Specific Examples]

- *Envisage responding to patients in a wide range of conditions including intoxication, suicide attempts, infectious diseases and so on.*
- *Install individual rooms for patients who are delirious or may have infectious diseases.*
- *Make plans in order to control the male/female use of patient rooms.*
- *If using ICU-type operations also refer to the points on ICU.*

☐C.9.1.2 (00 Basic)

Plan with consideration to connections between related departments.

The emergency ward need not necessarily be located adjacent to the emergency department. Because the adjoining departments will differ depending on the assignment of physicians and nurses and types of patients, check with the hospital regarding operations and formulate a layout plan.

[Specific Examples]

- *Verify the allocation of departments across floors, flows, and adjacently located departments.*
- *The layout plan should consider creating a highly acute phase floor that is: 1) adjacent to the emergency visit area, 2) adjacent to the surgical department and ICU, and 3) use the rooms for patients with severe symptoms in each ward for overnight stays.*
- *When adjacent to the surgical department and ICU, take into account possible future transfer to the ICU.*

☐C.9.1.3 (04 Privacy)

Pay consideration to patients' privacy.

Plan the ward so that patients cannot be seen by anyone other than staff, even when the patient is unconscious. Because some patients die in the emergency ward, consideration needs to be given to end-of-life care.

[Specific Examples]

- *Separate patient rooms by half-glass walls or partitions.*
- *Pay consideration to ensuring patients are not visible from the visitor routes.*
- *Plan according to where corpses will be taken after deathbed attendance.*

☐C.9.1.4 (03 Safety)

Pay attention to nosocomial infection control measures.

Depending on how the hospital operates, the emergency ward may have a mixture of patients with various different conditions. Consideration needs to be given to infection via staff or persons from outside.

[Specific Examples]

- *Install hand-washing facilities in appropriate locations.*
- *Plan with clear distinctions between the inside and the outside flows.*
- *Take infection prevention measures and provide a good air environment.*
- *Install quarantine rooms as a countermeasure against airborne contagion of tuberculosis etc.*

C.9.2. Patient room

☐C.9.2.1 (00 Basic)

Secure the room size required for hospitalization.

For patient rooms in emergency wards, which need to accommodate patients with various different conditions, sufficient space is required for staff to move around and to place multiple medical equipment in the room as necessary. Because patients may be moved between bed and wheelchair or the orientation of the bed in the room may be changed, secure sufficient space to facilitate this.

[Specific Examples]

- *Secure sufficient width in entrances and exits (doors) to enable the transport in and out of beds to which multiple devices are attached.*

☐C.9.2.2 (09 Equipment)

Install special equipment as required.

With regard to dialysis, negative pressure, and burns, provide equipment and plumbing giving consideration to the seriousness of the patients' conditions.

C.9.3. Family waiting room

☐C.9.3.1 (02 Lifestyle)

Provide a waiting area for family members and those accompanying patients.

In the case of the emergency department, many patients come to the hospital with attendants; however, attendants are not permitted in patient rooms and visiting rules are the same as for general wards. Provide an appropriately sized space near the emergency ward where the attendants of patients brought to the hospital at night can wait.

[Specific Examples]

- *Install in the vicinity of the emergency ward.*
- *Prepare large rooms, private rooms for family units etc. in line with the particular features of patients.*
- *Pay consideration to room interior features such as views and soundproofing.*
- *Plan with routes that are easily understood and take into consideration the privacy of other patients.*
- *Patients will be watched until they pass away in some cases so provide sofa beds and overnight stay amenities.*

C.10. Intensive care ward (ICU, HCU, CCU, SCU)

C.10.1. Common items

☐C.10.1.1 (00 Basic)

Check management methods and the relevant patients.

Depending on the patients being treated there, intensive care wards are given various different abbreviated names, such as the following, and the one abbreviation may have multiple meanings in some cases. In this section, the following terms are used: ICU (Intensive Care Unit: postoperative patients in general), HCU (High Care Unit: step down between postoperative care and transfer to a general ward), CCU (Coronary Care Unit: circulatory organs), and SCU (Stroke Care Unit: cerebral hemorrhage

- For NICU and GCU, refer to C.11.
- For MFICU, refer to C.12.

☐C.10.1.2 (00 Basic)

Plan with consideration to connections between related departments.

Patients with serious conditions need to be moved quickly, and so give consideration to transporting patients to the surgical operation department and related departments.

[Specific Examples]

- *Check the allocation of departments across floors, flows and adjacent locations.*
- *The units are often located 1) next to or immediately above or below the operation department, 2) or jointly attached to relevant wards such as those for the cardiovascular or brain surgery departments.*

☐C.10.1.3 (00 Basic)

Secure an appropriate number of single-patient rooms.

Although an open space is desirable from a nursing perspective, consideration needs to be given to the fact that some patients require a private room for recuperation or privacy-related reasons.

[Specific Examples]

- *Install single patient rooms for patients who are conscious in the CCU etc.*
- *Single patient rooms should be effective for infected or delirious patients.*

☐C.10.1.4 (04 Privacy)

Pay consideration to patients' privacy.

Plan the ward so that patients cannot be seen by anyone other than staff, even when the patient is unconscious. Also, some patients die without being able to be moved because they cannot be disconnected from medical equipment or other reasons, and so consideration needs to be given to end-of-life care.

[Specific Examples]

- *Separate from adjacent patient rooms by half-glass walls or partitions.*
- *Pay consideration to ensuring rooms are not visible from visitor routes.*
- *Equip rooms with sofa beds and so on to enable overnight stays by family members.*
- *Plan according to where corpses will be taken after deathbed attendance.*
- *Consider installing works of art.*

☐C.10.1.5 (03 Safety)

Pay attention to nosocomial infection control measures.

In the ICU, tests such as blood gas tests may be carried out within the ward. Formulate plans to ensure that needles and specimen samples left over from such testing are disposed of appropriately so that they cannot cause infection. Also, consideration needs to be given to infection via staff or persons from outside.

[Specific Examples]

- *Install hand-washing facilities in appropriate locations.*
- *Clearly separate the inside and the outside flows.*
- *Provide a good air environment paying consideration to infection prevention.*

☐C.10.1.6 (03 Safety)

Ensure patient safety in the event of an emergency.

Many patients staying in the ICU are connected to medical equipment and cannot be moved easily in the event of a disaster. Accordingly, it is necessary to secure a safe area.

[Specific Examples]

- *Secure power sources and dialysis water.*
- *Patient evacuation methods vary according to the Building Standards Act and fire prevention guidance, but either create fire compartments or make intensive care wards fireproof compartments where people can stay unharmed during fires.*

C.10.2. Patient room

☐C.10.2.1 (00 Basic)

Secure the room size required for hospitalization.

In the ICU, sufficient space is required for staff to move around and to place multiple medical equipment in the room as necessary. Patients may be moved between bed and wheelchair or the orientation of the bed in the room may be changed. Also, very early rehabilitation may be carried out on patients' beds or in their rooms.

[Specific Examples]

- *Secure adequate space around beds for various staff to perform their functions.*
- *Secure sufficient width in entrances and exits (doors) to enable the transport in and out of beds to which multiple devices are attached.*

☐C.10.2.2 (09 Equipment)

Install special equipment as required.

With regard to dialysis, negative pressure, and burns, provide equipment and plumbing giving consideration to the seriousness of the patients' conditions.

☐C.10.2.3 (02 Lifestyle)

Give consideration to continuity with patients' lifestyles.

The ICU may be used by patients who are unconscious or long-stay. Given consideration to providing such patients with daily rhythm and patients who are conscious with information about the world outside.

[Specific Examples]

- *Install windows and circadian rhythm lighting.*
- *Install clocks and calendars.*
- *Prepare an environment enabling connections to TV, telephones and the Internet.*

☐C.10.2.4 (06 Environment)

Plan facilities in accordance with the equipment to be used.

Ensure that various different equipment can be used in the room in accordance with patients' conditions.

[Specific Examples]

- *Pay consideration to the load capacity and range of motion of ceiling columns, the number of sockets, back-up power sources, dialysis water supply and drainage, types of medical gas, piping, isolation of medical devices and the elimination of static electricity.*
- *Use antistatic flooring.*
- *Install medical power distribution boards in rooms to enable easy insulation/current monitoring.*
- *Provide clocks and calendars.*

☐C.10.2.5 (06 Environment)

Make arrangements so that instruments and equipment can be used appropriately.

If parts are attached to walls or the ceiling without consideration to the layout of equipment, these may interfere with the movement of equipment and the line of sight from the staff station.

[Specific Examples]

- *Ensure devices and fittings do not interfere with the components attached to walls and ceilings.*
- *Ensure that devices can be connected to sockets even when beds are moved.*

C.10.3. Staff station

☐C.10.3.1 (03 Safety)

Formulate plans that enable staff to ascertain patients' state/conditions.

Because patients' conditions can change suddenly, ensure that both patients and biological monitors can be easily checked.

[Specific Examples]

- *Create a patient room layout that is readily visible from staff stations.*
- *Line up patient monitors in the staff station.*
- *Arrange the lighting layout so that it does not shine onto the patient monitor screens.*
- *Adopt a lighting plan that enables work to be carried out easily at night but does not leak into wards.*

Break room

☐C.10.3.2 (00 Basic)

Provide a break space for staff.

A place where staff who are in a state of tension for long periods of time can go to rest needs to be provided.

[Specific Examples]

- *Install break rooms.*
- *Provide a break space in one corner of the staff station.*

C.10.4. Medical engineering equipment storage area

☐C.10.4.1 (03 Safety)

Provide a place to put ME equipment.

Medical equipment is often stored near the surgical operation department, but generally place the necessary equipment inside or near the ward.

C.10.5. Night duty room/Conference room

☐C.10.5.1 (01 Medical)

Formulate plans that give consideration to team medical care provided by staff from various professions.

In the ICU, teams comprising members of multiple different occupations provide around-the-clock medical care. It is necessary to be prepared so that sudden changes in patients' conditions can be handled at any time.

[Specific Examples]

- *Pay consideration to enabling conferences to be held in the staff station.*
- *Install a night duty room where necessary.*

C.11. Intensive care ward (NICU, GCU)

The NICU (Neonatal ICU: newborns) is for newborns who are at risk of dying, including low-birth-weight infants. The GCU (Growing Care Unit: post-NICU continuing child care) monitors the progress of infants in a relatively stable condition, who have increased in weight and are no longer in danger of dying.

C.11.1 Common items

☐C.11.1.1 (00 Basic)

Plan with consideration to connections between related departments.

It is desirable that the NICU be located near the delivery room and obstetrics ward. It is also desirable that the NICU and GCU be located close together (adjacent).

☐C.11.1.2 (03 Safety)

Pay attention to nosocomial infection control measures.

Child patients have low immunity, and so especial care needs to be taken in the room with regard to infection prevention measures.

[Specific Examples]

- *Conduct entrance management using card readers and CCTV cameras as measures to prevent the abduction of newborn babies.*
- *Install antechambers, make the interior of intensive care wards positive pressure, and enable gowning procedures and disinfection of hands and fingers in the antechambers.*

☐C.11.1.3 (01 Medical)

Secure the room size required and views that encompass the entire ward.

It is important that the entire room can be seen so that staff can respond to any sudden changes in patients' conditions. Various different equipment is placed around child patients' beds in the NICU, including emergency resuscitation devices. Also, kangaroo care and visits with family members are carried out, so sufficient space for these activities is required. However, from the perspective of patients' privacy, it is also necessary to temporarily block lines of sight to child patients from others.

[Specific Examples]

- *Create an incubator layout that secures space for various medical devices and medical equipment carts.*
- *Secure space around beds for places where kangaroo care can be provided.*
- *Install roll screens and moveable partitions around beds.*

☐C.11.1.4 (06 Environment)

Create an appropriate environment for low-birth-weight babies.

Provide an appropriate environment as stimulation from light, sound, temperature/humidity, and vibrations affects the treatment and growth of low-birth-weight infants. In the GCU, an environment as close to natural sunlight as possible is desirable.

[Specific Examples]

- *In the NICU enable lights to be turned on or off individually for each low-birth-weight infant incubator, and use dimmable lighting.*
- *In the GCU install outward facing windows with blinds, and use circadian rhythm lighting.*

☐C.11.1.5 (06 Environment)

Create a light environment that gives consideration to nursing work.

Brightness is controlled in consideration of the effect of stimulation on low-birth-weight infants, but should also be planned according to nursing work.

[Specific Examples]

- *Install task lighting for nurses to perform work under.*

Other rooms

☐C.11.1.6 (10 Duties)

Position testing and preparations rooms for efficiency.

With regard to dialysis, negative pressure, and burns, considering the seriousness of patients' conditions, care needs to be taken with the layout of rooms as electrolyte quantitative tests, blood test analysis, and other tests are carried out and formula is prepared in the NICU and GCU.

[Specific Examples]

- *Install rooms for formula preparation, examination, bathing, pharmacy and treatment etc. for joint use by both the NICU and GCU.*

C.11.2. Family room

☐C.11.2.1 (05 Comfort)

Set up rooms so that patients can spend time there with family members.

Overnight stay training and home medical care training (observing the child patient around-the-clock) may be carried out. For this reason, provide a family room with a similar environment to the child patient's home. The family room is used as a place for families including patients' siblings, kangaroo care, and end-of-life care. Also, from the perspective of infection control and security, the family room should be located at the entrance to the ward and set up so that it can be observed by staff.

C.12. Intensive care ward (MFICU)

The MFICU (Maternal Fetal Intensive Care Unit) differs from the ICU and NICU in that it is for patients whose conditions range widely, from requiring early stage hospitalization as a precaution to requiring highly acute phase care. Expectant and nursing mothers are admitted to the MFICU because of (1) pregnancy complications, (2) hypertensive disorders of pregnancy (HDP), (3) multiple pregnancy, (4) placental malposition, (5) threatened miscarriage, or (6) fetal growth retardation, fetal malformation, or other fetal abnormalities. Such patients are at risk of their conditions changing suddenly, and many require bed rest. That is to say, it is necessary to envision cases in which expectant mothers "cannot move" from their beds, and space is required to enable medical staff to easily monitor their conditions and respond swiftly in the event of an emergency.

C.12.1. Common items

☐C.12.1.1 (00 Basic)

Plan with consideration to connections between related departments.

When an expectant mother's condition changes suddenly, it may become necessary to perform a cesarean section or emergency operation. Also, the newborn may receive medical treatment immediately after birth. Consider and check methods for transporting the mother or infant in such cases, as well as consider plans for locating related departments and rooms nearly.

[Specific Examples]

- *Plan flows directly connecting to the delivery room and surgical department.*
- *Make vertical flows to the elevators etc. as close as possible.*
- *Locate as close as possible to the NICU.*

C.12.2. Patient room

☐C.12.2.1 (00 Basic)

Secure the room size required for hospitalization.

In order to monitor the condition of the mother and fetus and enable staff to respond in the event of an emergency, the following equipment needs to be always kept in the room: (1) emergency resuscitation device (intubation set, ventilator, etc.); (2) electrocardiograph; (3) cardiopulmonary monitoring device; (4) delivery monitoring device; (5) ultrasonic diagnostic equipment (limited to devices that measure blood flow using color Doppler imaging). Accordingly, in addition to securing space for medical equipment to be stored and placed, sufficient space is required around patients' beds to enable multiple medical staff to approach the expectant/new mother.

[Specific Examples]

- *Secure space for the storage of medical equipment.*

☐C.12.2.2 (02 Lifestyle)

Give consideration to limitations on the movement of women who are expectant/new mothers.

Depending on their condition, expectant/new mothers may require bed rest, and their symptoms may even limit their ability to walk to the lavatory. In such cases, consideration needs to be given to enable patients to carry out various activities of daily living such as washing their hair in their room or while in bed.

[Specific Examples]

- *Install lavatories inside patient rooms.*
- *Make arrangements so that hair can be washed such as attaching shower heads to wash basins.*

☐C.12.2.3 (02 Lifestyle)

Ensure that external environmental factors can be adjusted.

If an expectant/new mother is ordered bed rest, consideration needs to be given to enabling her to adjust environmental factors entering the room from outside — such as light, sound, and room temperature — from their beds.

[Specific Examples]

- *Ensure it is possible to adjust air-conditioning on a room-by-room basis.*
- *Select interior materials with a high soundproofing level.*

D. Administrative, management, and supply department

D.1. Pharmacy department

D.1.1. Common items

☐D.1.1.1 (00 Basic)

Ensure that drugs can be transported safely and smoothly.

Because large quantities of drugs are used in hospitals, drugs are delivered to the pharmacy department several times each day. Furthermore, medical supplies are transported from the pharmacy department to the outpatient department, chemotherapy room, emergency department, surgical operation department, and wards, but drug transportation methods differ from hospital to hospital, so it is necessary to check. With the outpatient department, as a general rule prescriptions are filled outside the hospital, but in the case that some (such as at nighttime) or all prescriptions are filled in the hospital; a dispensary counter is therefore required. When an emergency nighttime dispensary counter is provided, also consider having it operate jointly as an outpatient dispensary counter. If the dispensary counter is located separately from the pharmacy, give consideration to pharmacists' routes regardless of whether or not there is always a pharmacist at the dispensary counter. If satellite pharmacies are located in wards, the surgical operation department, or the chemotherapy room, etc., be careful regarding drug transportation routes.

[Specific Examples]

- *Pay consideration to location in terms of security, and make the facility crime-proof.*
- *Decide upon a location that pays consideration to the flow from the service yard (or SPD) to the pharmacy department and pharmaceuticals storeroom.*
- *Pay consideration to the places for standing the medication cart used in transporting.*
- *In the medication delivery area, pay consideration to the flows from wards, and where necessary install pass boxes.*
- *Locate prescription counters in places easily accessible to outpatients, and provide waiting space.*

Area for checking patients' brought-in medicine

☐D.1.1.2 (00 Basic)

Secure the arrangements required for checking drugs brought in by hospitalized patients to be checked.

If an inpatient takes medicine regularly, they need to bring the medicine with them when they come to the hospital and checks need to be made to ensure that their regular medicine matches the medicine they will be receiving while in hospital. There are also cases in which pharmacists visit patient wards and perform the same function. When regular medicines are checked in wards, the patient's bedside or a corner of the day room or staff station (SS) is used as appropriate.

[Specific Examples]

- *Pay consideration to providing at least a minimal level of privacy.*
- *Consider the installation of booths for gathering information on and receiving regular medications near the hospitalization reception or in one corner of the outpatient department.*

D.1.2. Pharmacy

"Drug formulation" is a process whereby drugs are produced in a form that makes their active ingredients easy to use. Pharmacists check prescriptions, formulate intravenous drips and injections, and check that the drug has been formulated in accordance with the prescription.

"Dispensing" is a process whereby a formulated drug is packaged according to the amount of the drug the patient is to take in one dose. Pharmacists check prescriptions, measure and package/put together the appropriate quantities of the drug, check that the drug has been dispensed in accordance with the prescription, provide information to the patient (explain dose regimen and dosage), and provide drug counselling.

Because anti-cancer drugs are newly formulated and dispensed in accordance with the patient's condition on each day of treatment, the processes have various different names depending on the hospital, including "drug formulation", "drug dispensing", "preparation (drug)", and "mixing". Here the term "preparation drug" is used.

☐D.1.2.1 (00 Basic)

Secure the arrangements required for drug formulation, drug dispensing, and drug preparation.

Because drug formulation and dispensing can be divided into wet form (injection drug dispensing, etc.) and dry form (packing powdered medicine into capsules, mechanical dispensing, etc.), divide work areas by dosage form. Also, drug formulation can be divided into aseptic formulation (total parenteral nutrition), anti-cancer drug formulation, and general formulation. Because gas or electric heaters may be used for decoction when formulating Chinese herbal medicines, install formulation areas in accordance with dosage forms.

[Specific Examples]

- *Arrange areas in the room so that work can be conducted on a one-way basis from bringing in of drugs through to formulation, dispensing and preparation, and delivery.*
- *Create a unified space with no partitions to enable rationalization of work and future alterations.*
- *Decide upon window sizes and locations according to the fact that many medicines require shielding from light.*
- *Install ventilation equipment in consideration of the use of electric heaters in the formulation of Kampo medicines (herbal remedies based on traditional Chinese medicines) and their odors.*

☐D.1.2.2 (00 Basic)

Secure the necessary arrangements for staff to perform night duty.

The pharmacy may be required to dispense drugs during the nighttime.

[Specific Examples]

- *Install a night duty room.*

Sterile formulation room

☐D.1.2.3 (00 Basic)

Ensure it is possible to formulate drugs appropriately.

To avoid contamination of total parenteral nutrition (TPN), an appropriate level of cleanliness needs to be maintained when drugs are being formulated.

[Specific Examples]

- *Install laminar flow cabinets.*
- *Pay consideration to the degree of air purity in sterile preparation areas.*

Anti-cancer drug formulation room

☐D.1.2.4 (03 Safety)

Take measures against exposure to anti-cancer drugs.

There are concerns about exposure during anti-cancer drug formulation regarding not only the acute/short-term but also the long-term effects on medical staff. Because there are many anti-cancer drugs that have been proven to be teratogenic or carcinogenic, it is necessary to provide an environment where drug preparation work and transportation can be carried out safely.

[Specific Examples]

- *Install safety cabinets.*
- *Clearly separate the TPN preparation area from the anti-cancer drug preparation area.*
- *Pay consideration to either locating near to the chemotherapy room on the same floor, or where the floor-to-floor distribution of medicine is easy.*
- *Install handwashing facilities for cleaning the skin in the event of exposure to anti-cancer drugs.*

Pharmacy/Pharmacy anteroom

☐D.1.2.5 (00 Basic)

Enable staff to outfit themselves for performing their work.

Before carrying out work, staff put on their gowns and caps and straighten their appearance.

[Specific Examples]

- *Locate a space for changing clothes.*
- *Install mirrors enabling stains to be checked.*

Pharmaceuticals storeroom/Pharmaceuticals storage area

☐D.1.2.6 (00 Basic)

Make arrangements so that the required supplies can be managed appropriately.

Some drugs need to be stored in a refrigerator; accordingly, consideration needs to be given to space for installing a refrigerator as well as floor load.

[Specific Examples]

- *Create flows and install sorting racks that ease the checking of goods, their bringing in, restocking, storage and picking.*
- *Check that there is sufficient stock (about three days' supply) for normal times, during disasters and year-end and New Year holidays, and secure space for their storage.*

Emergency stockpile storeroom

☐D.1.2.7 (00 Basic)

Secure the required space for stockpiling pharmaceuticals.

Stockpile drugs and supplies in preparation for a disaster. Checks need to be made because each hospital may install an emergency supplies storeroom in the pharmacy department or a dedicated emergency supplies space.

[Specific Examples]

- *As disaster base hospitals, consider the installation of a pharmaceutical stockpile storage to meet massive medical needs during disasters.*

Narcotics safe

☐D.1.2.8 (03 Safety)

Ensure it is possible to manage narcotics for medical use safely.

When managing narcotics, consideration needs to be given to ensuring that the narcotic drugs safe cannot be seen by outsiders, cannot be opened easily, and is installed somewhere away from windows in order to prevent theft. A narcotics management office may also be installed.

[Specific Examples]

- *Decide upon the locations to install narcotics safes according to size and weight.*

D.1.3. DI room (drug information room)

☐D.1.3.1 (00 Basic)

Ensure it is possible to carry out DI duties.

The drug information office is responsible for gathering, organizing, managing, and providing information related to a wide range of pharmaceuticals ranging from drugs used at the hospital to over-the-counter (OTC) and other drugs, as well as making enquiries to and answering enquiries from other medical/research institutions and drug manufacturers. Information is provided via online materials or books, pamphlets, and other printed materials. Because it is difficult for all pharmacists and physicians to always have a complete knowledge of the latest drug information, assign a pharmacist specializing in drug management (drug information administrator).

[Specific Examples]

- *Locate adjacent to the pharmacy department in order to make it permanently staffed by a pharmacist.*
- *Plan a place for storing written material.*
- *Install a working place for the person in charge of drug information (DI) work.*

D.1.4. Clinical trial management room

☐D.1.4.1 (00 Basic)

Ensure it is possible to manage drugs used in clinical trials.

In order to test the efficacy of trial drugs in clinical trials, the patients participating in the trials as subjects are divided into two groups: those prescribed existing similar drugs (control drugs) or placebos; and those prescribed the trial drugs. To ensure that neither the physicians nor the patients know which is being administered, trials are managed and conducted using the "double-blind method" for prescribing drugs to patients. In many cases the pharmacy department is involved in trials, so give consideration to the location of the clinical trial management room.

[Specific Examples]

- *Install lockable cupboards in order to ensure the strict storage of records.*
- *Install a room or space for giving explanations to clinical trial subjects that pays consideration to privacy.*
- *Install a room or space for clinical trial sponsors separate from the clinical trial management room.*
- *Secure space for storing investigational drugs.*

D.2. Central supply department

D.2.1. Common items

☐D.2.1.1 (00 Basic)

Plan with consideration to connections between related departments.

Give consideration to the location of the central supply department in relation to the ICU and surgical department, to which large quantities of supplies are delivered frequently. Give consideration to the disposal and renewal of old tubes, supply of artificial joints that are sterilized externally, and discuss the necessity of external contractors.

[Specific Examples]

- *In the event that locating the central supply department adjacent to the surgical department is difficult, locate the central supply department so that it is vertically adjoined by the surgical department, for example, installing two dedicated elevators in the central supply department; one for clean supply and the other for dirty materials.*
- *Install space for dismantling the packing of sterilized materials.*

☐D.2.1.2 (00 Basic)

Check operation of the Central Supply Department.

Specify the supplies managed by the central supply department and the area within the department for dispensing/delivering these supplies. Also, check in-hospital/out-of-hospital policies, dispensing/delivering methods, and packing methods. Check about departments that require primary cleaning, as well as supplies that are to be stored after washing unassembled. Check hospital policies regarding clean/dirty zone setting levels and infection control and establish zoning policies (2 zones/3 zones, etc.).

[Specific Examples]

- *Secure space for increases in equipment in preparation for the extension of the surgical area.*

☐D.2.1.3 (00 Basic)

Secure space in accordance with operational policies.

Depending on operational policies, work may by outsourced. Accordingly, separate work areas, changing rooms, and lavatories for contractors may be provided.

Washing

☐D.2.1.4 (00 Basic)

Make arrangements to ensure adaptability to various machinery/tools used for washing.

Because there are washer disinfectors for instruments and equipment for tubes, design the room layout giving consideration to work efficiency. Also, because these items are brought in from various departments, install a receiving counter for better efficiency.

[Specific Examples]

- *Waterproof the requisite areas.*
- *Configure the power sources such as electricity, gas and steam according to the equipment.*

Sterilization

☐D.2.1.5 (00 Basic)

Set sterilization methods in accordance with the type of machinery.

Sterilization equipment includes autoclaves, low temperature steam formaldehyde (LTSF) sterilizers, and EO gas/hydrogen peroxide sterilization equipment. Check the necessity of each type of equipment used in sterilization.

[Specific Examples]

- *Configure the power sources such as electricity, gas and steam according to the equipment.*
- *Conduct the exhaust of ethylene oxide (EO) gas and steam, and process the emissions.*
- *Configure a clean area level.*
- *Waterproof the requisite areas.*

D.3. Nutrition management department

D.3.1. Common items

□D.3.1.1 (00 Basic)

Give consideration to flows for goods being carried in and people.

The nutrition management department prepares meals for each patient staying in the hospital, and meals are also said to be part of treatment. With three meals being prepared each day, an array of food ingredients is brought into the department and staff come and go. Accordingly, layouts that take the various flows into consideration need to be examined.

□D.3.1.2 (00 Basic)

Create an environment that is in accordance with operating policies.

Hospitals provide a diverse range of meals differing in number and type depending on in-patients' conditions (regular meals, soft meals, liquid meals, special meals). Because the design criteria—such as the number of rooms and floor area required—differ depending on the food preparation method, it is necessary to check how the department operates. Plans are required for selecting and supplying finishing materials that take hygiene aspects and work aspects (safety, heat resistance, water-resistance, cleanability) into account.

[Specific Examples]

- *It is necessary to consider installing separate refrigeration rooms and chilled storage rooms for cook-chill and cook-freeze.*
- *In the case of new cook-chill pre-plated meals check whether or not food carts have refrigeration functions and whether or not is it is possible to put the whole cart in refrigerators.*
- *Use coloring on floors to keep zoning and flows of cleanliness and uncleanliness clearly demarked.*
- *Plan a thermal environment appropriate to usage of rooms.*
- *Envisaging that naked flames will be used in rooms plan the appropriate fire compartments, and provide firefighting and ventilation equipment.*
- *Ensure all parts smoothly fitted so they are easy to clean.*
- *Configure appropriate exhaust routes and floor heights.*
- *Install handwashing basins in consideration of hygiene.*

□D.3.1.3 (09 Equipment)

Ensure it is possible to operate a dry system.

In many cases, dry systems are used to ensure across-the-board hygiene management.

[Specific Examples]

- *Install kitchen instruments, such as sinks with drainboards, that adapt to dry systems.*

☐D.3.1.4 (11 Growth)

Formulate plans to enable the hospital to respond to future changes.

Because equipment may be updated, consideration needs to be given to routes for transporting equipment in and out of the department.

[Specific Examples]

- *Pay consideration to the bringing in and out of items with regard to the dimensions of doors.*

☐D.3.1.5 (12 Staff)

Secure a warm environment where it is easy to work.

Because cooking involves heat and steam, it is important to maintain an environment in which it is easy to work, even for long periods of time.

[Specific Examples]

- *Plan facilities and interior finishes to be adaptable to cooking heat.*
- *Adopt kitchen appliances with low heat dissipation.*

Receipt inspection

☐D.3.1.6 (00 Basic)

Make arrangements so that receipt inspections are easy to carry out.

In the food inspection room, foodstuffs are received, inspected, and sorted. Food items that are dirty or have a high level of bacterial contamination (vegetables covered with mud, meat, seafood, etc.) are washed and processed. Accordingly, the space, flows, and setup to enable this work to be carried out smoothly are required.

[Specific Examples]

- *Install a service yard.*
- *Locate adjacent to the food preparation room and food storage, and fit them with doors.*
- *Install sinks and work tables.*

D.3.2. Food preparation room

☐D.3.2.1 (00 Basic)

Make arrangements with consideration given to water-proofing performance.

[Specific Examples]

- *Check cleaning methods, and select floor fitting and finishing materials appropriate to them.*
- *Plan an appropriate route for taking out kitchen waste.*
- *Locate the food preparation room adjacent to the food inspection room and cooking room.*
- *Install sinks and work tables.*

D.3.3. Kitchen

☐D.3.3.1 (00 Basic)

Lay out the kitchen giving consideration to cooking procedures.

The kitchen is mainly where food is cut up, heated, cooled, and arranged on plates, etc. Floor planning and kitchen appliance layout planning that enable this work to be carried out smoothly are required.

[Specific Examples]

- *Locate the kitchen adjacent to the antechamber, food preparation room, washing room, food storage and cart pool.*
- *Install the food storage so that it creates a zone separating the cooking room and food preparation room, and the eating utensil storage so that it creates a zone separating the cooking room and washing room, and install a door that people can go back and forth through.*
- *Between the kitchen and the cart pool install refrigerators, cold tables and counters, and install a door that people can go back and forth through.*

Formula preparation room

☐D.3.3.2 (00 Basic)

Ensure it is possible to maintain cleanliness.

Because the formula preparation room prepares formula for infants with low immunity, special care needs to be given to cleanliness. Check the places where formula will be prepared (inside/outside kitchen) and plan spaces for washing, sterilization and preparing formula appropriately.

[Specific Examples]

- *From the perspective of cleanliness control, separate the formula preparation room from the meals cooking space.*

Cart pool

☐D.3.3.3 (00 Basic)

Lay out the kitchen giving consideration to carts coming in and going out.

Consider locations that take flows of carts from the kitchen and from wards into consideration.

[Specific Examples]

- *Locate the cart pool adjacent to the cooking room and washing room.*
- *Between the cart pool and cooking room/ washing room locate equipment such as refrigerators and disinfection cabinets, and install a door that people can go back and forth through.*

Anteroom/Shoe changing area

☐D.3.3.4 (00 Basic)

Ensure that the set-up makes it easy to maintain cleanliness.

This is a space through which workers enter and exit each of the workrooms and where kitchen staff wash/sterilize their hands and outfit themselves for work. Easy access to each work room is required. Furthermore, because staff pass through the area when moving between dirty work zones (inspection room, preparation room, pantry) and non-dirty work zones (kitchen), plans must enable cleanliness management.

[Specific Examples]

- *Locate the antechamber/shoe changing area adjacent to the contaminated and non-contaminated zones, and install doors on each.*
- *Install full-length mirrors for checking appearance.*
- *Provide wall coat racks and shoe shelves.*
- *Check the number of staff who will change their footwear.*

D.3.4. Washing room

☐D.3.4.1 (00 Basic)

Create an environment where it is easy to work.

The washing room is where equipment and food utensils are washed, and sufficient work space for the number of meals provided needs to be secured.

[Specific Examples]

- *Plan a space for washing carts used to clear away leftovers.*
- *Locate the cleaning room adjacent to the cooking room via the disinfection cabinet.*

Eating utensil storage

☐D.3.4.2 (00 Basic)

Formulate plans that enable items to be taken out and put away/stored easily.

Consideration needs to be given to storage of food utensils after sterilization and their handling when food is placed on plates, etc.

D.3.5. Kitchen waste storage area

☐D.3.5.1 (00 Basic)

Give consideration to the ease of carrying kitchen waste in and out.

In positioning the kitchen waste storage area, give consideration to the transportation of waste in from the kitchen and then out of the storage area. It is necessary to check the frequency of kitchen waste collection and installation of garbage disposers and consider the size of the storage area.

[Specific Examples]

- *Install a floor-level drainage area for washing.*
- *Consider air-conditioning and ventilation according to the location of the kitchen waste storage area and the frequency with which garbage is collected.*

D.3.6. Nutrition management room

☐D.3.6.1 (00 Basic)

Formulate plans for an appropriate location.

Because the nutrition management room is where nutritionists plan menus and work schedules and hold meetings, secure sufficient space for the number of staff. Also, plan staff flows that take coordination with wards into consideration.

[Specific Examples]

- *Secure space for the installation of desks and chairs to conduct kitchen administration.*

☐D.3.6.2 (03 Safety)

Make arrangements so that staff can know what cooking activities are being performed.

Consideration needs to be given to creating an environment that enables work progress to be checked from the nutrition management room and food preparation to proceed.

[Specific Examples]

- *Install windows between the nutrition management room and kitchen so that the state of the cooking work can be observed.*

D.3.7. Changing room

☐D.3.7.1 (00 Basic)

Formulate plans for an appropriate location.

Install a dedicated changing room within the kitchen area.

[Specific Examples]

- *Install clothes lockers according to the number of kitchen staff.*
- *Check operations as in some cases the hospital personnel and outsourced personnel may be divided.*
- *Enable the room to be jointly used as a break room.*

D.3.8. Lavatory

☐D.3.8.1 (03 Safety)

Formulate plans that give consideration to hygiene.

Because lavatories that are used by an unspecified large number of people pose a high risk for contamination by viruses or bacteria, etc., install dedicated lavatories for kitchen workers. In order to prevent infection, it is desirable that the dedicated lavatories be located a distance away from the kitchen. Also, because hands are the most risky source of infection after using the toilet, arrange the lavatories so that people can wash their hands before touching doorknobs or their clothes.

[Specific Examples]

- *Install dedicated lavatories for the kitchen.*
- *Isolate the dedicated lavatories from the contaminated zone and the non-contaminated zone cooking room where food and cutlery are handled.*
- *Equip handwashing basins with automatic faucets, liquid soap, alcohol disinfectant dispensers and paper towels.*

D.3.9. Nutrition counseling room

☐D.3.9.1 (00 Basic)

Create a layout that staff can access easily.

Because patients and their family members undergo nutritional guidance and counseling, the nutrition counseling room needs to be located near the outpatient department. Also, give consideration to access from the registered dietitian's room.

[Specific Examples]

- *Secure space for placing tables and chairs for consultation regarding diet therapy and so on.*
- *As some explanations may involve the use of food samples, secure space for storing equipment.*

☐D.3.9.2 (04 Privacy)

Pay consideration to patients' privacy.

Take care to ensure that the sound of conversation cannot leak outside the room and be overheard.

[Specific Examples]

- *Secure soundproofing*

D.4. Medical engineering department

D.4.1. Common items

☐D.4.1.1 (00 Basic)

Secure the space required.

Because the equipment managed by the medical equipment center differs from hospital to hospital, this needs to be checked. After checking, secure the necessary area for the maintenance and stocking of various medical equipment as well as administrative work.

☐D.4.1.2 (00 Basic)

Plan with consideration to connections between related departments.

Check which departments work with the medical equipment center and locate the medical equipment center so that it has good access to all of these departments. In general, consider the movement of staff and locate the medical equipment center so that not only is it close to the surgical department, ICU, and dialysis department, but also the transportation of medical equipment and related goods to wards is taken into consideration.

[Specific Examples]

- *Locate the medical engineering department adjacent to the surgical department and ICU.*
- *Locate the satellite medical engineering department inside the surgical department.*
- *Pay consideration to access to the wards, and locate adjacent to a vertical flow (i.e. elevators).*
- *Locate the medical engineering department adjacent to service elevators.*

☐D.4.1.3 (00 Basic)

Formulate plans in accordance with management methods.

Because operating hours and procedures for borrowing and returning medical equipment differ from hospital to hospital, plans tailored to each hospital's system need to be formulated.

[Specific Examples]

- *Install a counter for lending out and returning equipment.*
- *Install a return box that can be used at night.*

☐D.4.1.4 (03 Safety)

Pay attention to nosocomial infection control measures.

Because used medical equipment poses a risk of infection, it needs to be managed to ensure that used equipment does not become mixed together with unused equipment.

[Specific Examples]

- *Separate the returns area and the storage area.*
- *Create a space for cleaning in the returns area.*

Maintenance area

☐D.4.1.5 (06 Environment)

Ensure that equipment/facilities match the work content.

It is necessary to know the content of maintenance carried out by the medical equipment center and provide the required equipment.

[Specific Examples]

- *Make the area adaptable to tests using medical gas.*
- *Install equipment for pouring away waste liquid.*

Storage area

☐D.4.1.6 (06 Environment)

Provide appropriate equipment/facilities.

Because charged devices may be supplied, formulate plans so that multiple devices can be charged simultaneously.

[Specific Examples]

- *Install medical equipment storage racks fitted with multiple sockets.*

Storage area

☐D.4.1.7 (10 Duties)

Check storage area work content.

Because procedures for lending equipment may be carried out in a section of the storage area, it may be necessary to set up the room to facilitate lending procedures.

[Specific Examples]

- *Install a space where ME equipment can be lent out in part of the storage area.*

Administration area

☐D.4.1.8 (12 Staff)

Secure the area of space required for administrative work.

Space is required for carrying out medical equipment center administrative work, but this needs to be checked as operating methods differ depending on the hospital.

[Specific Examples]

- *Install a room that can provide round-the-clock operations.*
- *Install a staff room.*
- *Install a changing room.*
- *Install a night duty room.*

D.5. Central storeroom

The central storeroom comprises areas for storing, managing, and dispensing/delivering goods such as medical materials (including test agents), offices supplies, and daily necessities. Goods management in hospitals may be carried out via SPD (Supply Processing and Distribution) by the goods supply department or through distribution outsourcing, but here we describe management methods using a central storeroom. The supply of goods that do not pass through the central storeroom and SPD related matters are addressed separately.

D.5.1. Common items

☐D.5.1.1 (00 Basic)

Secure an area of space large enough for the supplies inventory amount.

The inventory volume for stored goods differs according to the method used for managing/supplying goods. After checking the hospital's operational method, it is necessary to estimate the goods inventory volume.

☐D.5.1.2 (10 Duties)

Position in a location that makes it easy to carry supplies in and out.

Goods are delivered from outside the hospital and then supplied to each of the hospital departments. A block plan centered on flows for goods transportation and transportation volume needs to be configured.

[Specific Examples]

- *Locate the storeroom (for linen, medical supplies, etc.) of each department close to vertical flows and pay consideration to its location with respect to the central storeroom.*
- *Locate on the same floor as the service yard and enable direct access from outside.*
- *Place an emphasis on the position in relation to wards to which articles are transported frequently and in large volumes, and locate to overlap vertical directions.*
- *Pay consideration to position in relation to the surgery department, and install dedicated elevators to avoid directly crossing patients' flows.*

D.5.2. Goods storeroom

☐D.5.2.1 (00 Basic)

Formulate plans for appropriately replenishing and managing supplies.

Workflow flows, space for storage shelves, space for handling/sorting goods, and space for checking expiration dates need to be secured in order to ensure efficient replenishment and supply of goods. Because there are several kinds of supply methods and special shelves may be used, these matters need to be checked.

[Specific Examples]

- *Separate the storeroom for items in cardboard boxes as received from suppliers and the storeroom for items unpacked and stacked on shelves.*
- *Separate the storeroom where items are divided into smaller sizes or repackaged according to the designated unit for their provision and the storeroom for items unpacked and stacked on shelves.*
- *Install in a position close to mechanical transport facilities.*

☐D.5.2.2 (09 Equipment)

Install the air-conditioning equipment required.

Depending on the type of goods being stored—for example, drugs—temperature and humidity may need to be managed.

D.5.3. Goods management room

☐D.5.3.1 (00 Basic)

Secure the set-up and space required for carrying out the managements of supplies.

Managing goods includes checking quantities, delivery, and receipt of said goods. It is desirable that space required for this administrative work be provided near the delivery preparation area.

[Specific Examples]

- *Integrate the goods management room with the storage area, and install a PC area to place orders within the room.*
- *Install the management area close to the storage area as the work will involve dealing with delivery persons.*

D.5.4. Delivery preparation area

☐D.5.4.1 (10 Duties)

Give consideration to the size and number of the carts.

In order to prepare carts tailored to certain supply methods and goods, work space taking cart size and number into consideration needs to be secured. Furthermore, because these carts are taken to various departments within the hospital, provide space for loading a fixed number of sets into the carts. However, because there are also goods that can be delivered using machine transportation equipment, check with the hospital regarding their operational methods.

D.6. Linen-related rooms

D.6.1. Common items

☐D.6.1.1 (00 Basic)

Formulate plans in accordance with management methods.

There are five methods for having linens washed: (1) Lease; (2) Outsourcing; (3) Subcontracting method; (4) Direct hospital management; and (5) Joint hospital management. Depending on the method adopted, factors such as the number of washing machines and clothes dryers required, the area required for installing the machines, and the amount of linens transported out of and into the hospital differ from hospital to hospital. Accordingly, it is necessary to check with the hospital regarding the laundry method used.

[Specific Examples]

- *Provide parking space adjacent to linen-related rooms for trucks in which items such as curtains can be washed.*

☐D.6.1.2 (09 Equipment)

Ensure that the air-conditioning system operates independently.

Because cooling equipment needs to operate all year round when clothes dryers are installed, use an air-conditioning system that can be operated independently of other systems.

☐D.6.1.3 (10 Duties)

Formulate plans in accordance with management methods.

Linen is managed using two systems: management by fixing the number of linen types and supplying a certain number of each; and management using a nurse server cabinet. Because the area required for linen storage differs depending on the replenishment and supply system used, it is necessary to check the supply system used by the hospital.

D.6.2. Linen storeroom

☐D.6.2.1 (03 Safety)

Pay attention to nosocomial infection control measures.

Clean-dirty zoning needs to be implemented, and two linen storerooms need to be installed separately: a clean linen storeroom for storing clean linens; and a dirty linen storeroom for storing dirty linens after use. Linens used in the surgical operation department be disinfected and sterilized, and therefore need to be kept separate from general linens.

[Specific Examples]

- *Wash used and infected linen at high temperatures in the hospital.*

☐D.6.2.2 (09 Equipment)

Provide the necessary ventilation equipment.

Because some used linens give off unpleasant odors, install more ventilation in linen-related rooms than in general hospital rooms.

D.6.3. Bed center

☐D.6.3.1 (00 Basic)

Check bed management methods.

Because various different types of beds are used in hospitals, it is necessary to check how these beds are managed. Although it is common for beds to be managed according to ward units, with cleaning and disinfection also carried out by wards, some hospitals establish a bed center. In such cases, it is necessary to discuss and check in advance with the hospital with regard to the area required for the bed center. Also, because beds are transported in and out of the bed center frequently, sufficient door width and space for cleaning and other work needs to be secured.

[Specific Examples]

- *In addition to storage space secure work space for cleaning and inspection etc. in the bed center.*

☐D.6.3.2 (10 Duties)

Formulate plans in accordance with management methods.

Bed-related goods include (1) bedframes; (2) mattresses; (3) pads/pillows/linens/comforters/blankets; and (4) bedsore-prevention air mats. Linen-related goods are stored in wards or the bed center. When goods are stored in the bed center, the area of the bed center needs to be considered with this in mind. Pads/pillows/linens/comforters/blankets are frequently stored in linen storerooms.

[Specific Examples]

- *Bed-related items should not be centrally managed but done so on a case-by-case basis in each ward.*

D.6.4. Other

☐D.6.4.1 (00 Basic)

Secure places for conducting inspections of the various equipment ancillary to the bedside tables.

Devices accompanying bedside tables include (1) televisions/remote controls; (2) refrigerators; (3) security boxes (safes); and (4) nurse call buttons. Also, an increasing number of bedside tables have these devices built-in. Many hospitals lease bedside tables, but because the devices accompanying the bedside tables require maintenance, space within the hospital needs to be secured for this purpose.

[Specific Examples]

- *Secure a waiting space for contractors devoted to maintenance work.*
- *Install a stock space (equipment storeroom) for bedside cabinets, TVs and refrigerators etc.*
- *Install a working area for the staff permanently manning the equipment storeroom.*

D.7. Waste and cleaning-related rooms

D.7.1. Common items

☐D.7.1.1 (00 Basic)

Secure the required space in an appropriate location.

Waste and cleaning-related rooms are involved with every area of the hospital and also play an important role in protecting against infection. After identifying who operates the rooms (subcontractors, etc.), it is necessary to consider factors such as equipment storage methods, loading docks, cart routes, and cart storage space.

D.7.2. Infectious waste storage

☐D.7.2.1 (03 Safety)

Arrange so that items can be stored safely.

Infectious waste—such as body fluids and medical equipment contaminated with body fluids—needs to be stored separately from other waste. Care needs to be taken to ensure that unauthorized persons cannot enter the storeroom, and efforts need to be made to implement thorough management, such as odor management and regular disinfection. Also, the layout used must enable items to be stored according to type, and appropriate space for storing each container needs to be provided.

[Specific Examples]

- *Select floor finishes suited to cleaning with the disinfectants to be used (sodium hypochlorite)*

D.7.3. Non-infectious waste storage

Non-infectious waste storage includes general waste storage, kitchen waste storage, industrial waste storage, and specified hazardous waste storage. Consideration needs to be given to each hospital department's transportation routes and management methods for each type of waste.

☐D.7.3.1 (00 Basic)

Secure appropriate flows and appropriately sized spaces.

[Specific Examples]

- *Allow only the authorized staff to enter the storage area.*
- *Separate waste into general waste, industrial waste, kitchen waste, specified hazardous waste and infectious waste and install storage areas for them. Install a cart pool for collecting each type of waste.*
- *Install a storage space for waste containing personal information.*
- *In consideration of temperature rises in summer and less frequent waste collections over the end of year/New Year period, keep the non-infectious waste storage at a refrigerated temperature as a measure against unpleasant waste odors.*

D.7.4. Cleaning equipment storage

☐D.7.4.1 (00 Basic)

Secure the space required for storage.

As a basic rule, hospital cleaning is carried out using carts loaded with cleaning equipment; accordingly, check the size and number of carts, and secure space for storing cleaning carts.

D.7.4.2 (09 Equipment)

Install kitchen and bathroom facilities.

Equipment required for installing floor drains, sinks (SK), washing machines, and other appliances needs to be installed.

[Specific Examples]

- *Secure sufficient amounts of ventilation when installing driers.*
- *Select floor finishes suited to cleaning with disinfectants to be used.*

D.8. Electrical and machine room

D.8.1. Common items

☐D.8.1.1 (00 Basic)

Formulate plans for an appropriate location.

The electrical and machine room is a core facility for hospital operations. Because the room requires a certain degree of floor area and height, consider its location and how it is to be outfitted in the initial stages of planning, giving consideration to energy costs and various disaster-preparedness measures. Take care to ensure that there are efficient plumbing routes to all equipment rooms, and consideration needs to be given to minimizing the impact on nearby and adjoining rooms.

[Specific Examples]

- *Install the electrical and machine room close to the main pipe shaft.*
- *Take noise and vibration control countermeasures.*

☐D.8.1.2 (00 Basic)

Secure the required space and equipment.

Plan the size of equipment rooms in accordance with operation at normal times, when equipment is being replaced, and at times of emergency/disaster.

[Specific Examples]

- *Secure sufficient equipment floor space and height for maintenance and other work, according to the specification and number of units.*
- *Set adequate floor loads, and plan the positions and dimensions of facility piping, wiring pits and machine foundations.*
- *Secure the adequate air supply and exhaust for the volume of rooms and capacity of equipment.*

☐D.8.1.3 (03 Safety)

Secure safety.

Formulate plans so that equipment and machinery operate stably and safety can be maintained.

[Specific Examples]

- *Plan or execute countermeasures to ensure that the room is not damaged by flooding or water leakages.*
- *Install fire extinguishing facilities that do not damage equipment.*
- *Securely fix all equipment and piping.*
- *Partition floors, walls and ceilings with non-combustible material, and secure the fireproofing ability of doors.*
- *Make floors dust-proof and slip-proof.*
- *Plan so that fire prevention ordinances and other legal standards are met.*

☐D.8.1.4 (03 Safety)

Ensure that maintenance inspections can be carried out smoothly.

It is often that the electrical and machine room is located in an isolated area of the hospital, and in many cases it is not possible to secure sufficient space. In addition to securing inspection routes that also take transportation of equipment and evacuation into consideration, secure sufficient space to enable safe inspections.

[Specific Examples]

- *Clarify inspection routes, and position facility piping and equipment so that they do not interfere with one another.*
- *Secure the separation of equipment and piping.*
- *Secure evacuation routes for maintenance staff.*

☐D.8.1.5 (11 Growth)

Formulate plans to enable the hospital to respond to future changes.

To ensure that facilities and equipment can be replaced and/or expanded smoothly, formulate plans that anticipate replacement and expansion methods.

[Specific Examples]

- *Set replacement routes for equipment and secure sufficient passage width for carrying in and out, and entrances of adequate size.*
- *Where necessary install machine hatches and conduct measures for loading and unloading equipment.*
- *Secure space for vehicles carrying equipment to park right next to the room.*
- *Secure extension space for equipment expected to expand in the future.*

D.8.2. Electrical room

☐D.8.2.1 (03 Safety)

Ensure stability during operations can be secured.

Design spaces to ensure that electrical equipment can be safely operated, and that maintenance/inspections and replacement/expansion can be carried out smoothly.

[Specific Examples]

- *Install air conditioning to create an appropriate temperature and humidity environment.*

D.8.3. Emergency generator room

☐D.8.3.1 (03 Safety)

Ensure safety during operations and inspections can be secured.

Design space so that emergency generators can be operated safely and maintenance/inspections can be carried out smoothly.

[Specific Examples]

- *Take measures against loud noises and vibration control during inspections operation.*
- *Plan so the room is near to chimneys.*
- *Pay consideration to loud noises in adjacent areas when equipment is installed outside.*
- *Plan for the parking of tanker trucks next to oil tanks.*
- *Secure earthquake proofing and safety in the parts connected to oil tanks.*

D.8.4. Cogeneration room

☐D.8.4.1 (00 Basic)

Secure the required space and equipment.

As energy-saving equipment, cogeneration equipment enables the supply of both electricity and heat. Because the profitability of this equipment differs according to the size of the hospital, install this cogeneration equipment only after giving thorough consideration to whether or not it is necessary. Also, adopt fuel systems that can be easily procured.

[Specific Examples]

- *Plan so the room is near to chimneys.*
- *Check the regulations on exhaust gases and noise/vibrations of the local authority where the hospital is sited.*

D.8.5. Boiler room/Heat source machine room

☐D.8.5.1 (00 Basic)

Formulate plans in accordance with management methods.

Plans need to be formulated so that heat sources to provide the core for the hospital's air-conditioning system can fully supply the amount of energy required by the entire hospital. Also, check the necessity of a boiler considering the hospital's situation.

[Specific Examples]

- *Make all the rooms connected to boilers and heat source machinery facilities close to each other (chimneys, refrigerating machines, cooling towers, thermal storage tanks etc.).*

D.8.6. Cooling tower/Place for air-conditioner outdoor unit

☐D.8.6.1 (03 Safety)

Pay attention to nosocomial infection control measures.

Prevent the spread of infection from cooling towers installed on the hospital' roof and external air conditioning units.

[Specific Examples]

- *In order to prevent contamination with legionella bacteria, secure an adequate distance between cooling towers and air supply vents.*

D.8.7. Water tank/Pump room

☐D.8.7.1 (03 Safety)

Formulate plans to prevent outsiders from entering.

Prepare anti-intrusion measures to ensure that outsiders cannot intentionally contaminate the water quality.

[Specific Examples]

- *Plan so that locking management is possible.*
- *In the event of outdoor installation surround with a fence and lock doors.*

☐D.8.7.2 (00 Basic)

Give consideration to noise/vibrations traveling to surrounding rooms.

Consideration needs to be given to minimizing as far as possible the impact of vibrations and noise generated by the pressurized pumps in the pump room on nearby rooms.

D.8.8. Special wastewater treatment room/ Treatment tank/Pit

☐D.8.8.1 (00 Basic)

Ensure wastewater can be treated appropriately.

Because hospitals generate not only general wastewater and non-fecal wastewater but also wastewater that can have a harmful effect on the human body and the environment—such as kitchen, infectious, test, and dialysis wastewater—it is necessary to install machinery rooms and treatment tanks for processing wastewater designed for each system. Furthermore, when an underground pit frame is used as a treatment tank, structural design also needs to be taken into consideration. Because the wastewater may contain hazardous substances depending on the type of water tank, implement measures to ensure that hazardous substances does not leak out of the water tank before treatment.

[Specific Examples]

- *Waterproof the insides of the tanks.*
- *Select fiber-reinforced plastic (FRP) tanks.*

☐D.8.8.2 (00 Basic)

Provide the necessary ventilation equipment.

Because the special wastewater treatment tank emits unpleasant odors, consideration needs to be given to ventilation air volume and ventilation routes so that the surrounding environment is not impacted by the smell. When installing a wastewater storage tank, take care regarding the impact of the smell on the surrounding environment.

D.8.9. Cylinder room

☐D.8.9.1 (03 Safety)

Give consideration to safety in emergencies and during inspections.

Oxygen/nitrogen/carbon dioxide gas cylinders need to be prepared for the event of an emergency, have monitoring and alarm devices built-in, and have specifications that ensure continuation of the gas supply, even under single-fault conditions. Moreover, formulate plans enabling the gas cylinders to be separated from the supply line so that maintenance/ inspections can be carried out safely.

[Specific Examples]

- *Install valves to shield and separate medical gas supply during inspections and emergencies.*
- *Install equipment to detect abnormalities in supply sources and pipe pressure.*
- *Secure emergency power sources for alarms.*
- *Install backup supply appliances.*
- *Install appliances for switching to backup supplies.*

D.8.10. RI exhaust/Wastewater treatment room

☐D.8.10.1 (00 Basic)

Make arrangements to ensure the prevention of radiation leakages.

RI exhaust equipment is mainly installed on the roof or highest floor of the hospital building. Various filters are combined and exhaust gasses released outside after any radioactive substances have been removed. Also, with regard to RI wastewater, install an IR wastewater treatment tank inside an underground pit or pit located outside the building on the ground; then store and dilute the liquid radioactive substances and waste liquid before draining.

[Specific Examples]

- *Since filters need to be replaced at certain intervals, secure the routes and space for this.*
- *Install a monitor to check water leakages from treatment tanks and the pipes connected to them.*
- *Ensure that the structure of treatment tanks allows examination of every surface, and that the room cannot be easily entered by installing controlled area signage and surrounding with fences.*

D.9. Administration-related rooms

Here we discuss management-related rooms, focusing on the rooms of the hospital director, deputy-director, administration department director, and nursing department director.

D.9.1. Common items

☐D.9.1.1 (00 Basic)

Formulate plans that enable control of access from outside.

Consideration needs to be given to both administration department security and interaction with visiting suppliers, etc.

[Specific Examples]

- *Provide individual reception rooms etc.*

☐D.9.1.2 (04 Privacy)

Make arrangements to ensure confidentiality of personal information.

In management-related rooms, privacy needs to be secured to enable discussions regarding personnel affairs or other highly confidential matters.

[Specific Examples]

- *Provide individual reception rooms etc.*

D.9.2. Management-related rooms

☐D.9.2.1 (03 Safety)

Formulate plans that enable control of access from outside.

Take care to ensure that intruders or unspecified persons cannot easily visit management-related rooms.

[Specific Examples]

- *Restrict entrance using keycards etc.*
- *Install a secretarial office.*

☐D.9.2.2 (04 Privacy)

Formulate plans that are capable of handling visits by visitors.

Take care to protect the privacy of visitors and ensure that the content of conversations cannot be overheard outside the rooms.

[Specific Examples]

- *Provide individual reception rooms etc.*

D.9.3. Meeting room

☐D.9.3.1 (00 Basic)

Plan conference rooms in accordance with their intended use.

Because these rooms are used for internal hospital meetings and briefings, they need to be located near staff offices. Furthermore, ensure that space takes into consideration various kinds of meetings, such as presentations using VTR.

[Specific Examples]

- *Use adjustable lighting equipment.*
- *Plan a screen (wall) for projector use.*
- *Locate near to the medical office and nursing department.*
- *Provide rooms of different sizes according to the purpose of their use.*
- *Set up a room that also serves as a staff cafeteria.*
- *Install moveable noise reduction partitions to enable split usage.*

D.9.4. Telephone switchboard room

☐D.9.4.1 (00 Basic)

Make arrangements so that telephone calls to the hospital can be handled smoothly.

Formulate plans to ensure smooth connection of both internal and external telephone lines.

[Specific Examples]

- *Select equipment types conforming with the management of each hospital.*
- *Make room temperatures correspond to the amount of heat given off by equipment.*

D.10. Nursing management-related rooms

D.10.1. Nursing department director's room

☐D.10.1.1 (00 Basic)

Formulate plans for an appropriate location.

Because the nursing department director is positioned as both a manager of the entire hospital and the manager of the entire nursing department, thorough consideration needs to be given to the location of the nursing department director's room.

D.10.2. Nursing management room

☐D.10.2.1 (00 Basic)

Formulate plans in accordance with management methods.

Because nurses are the most populous group in the hospital by occupation, nurses' personnel/labor management, training, work management, and ward management may be carried out independently by the nursing management room. Because some nurses' duties may be overseen by the administration department depending on each hospital, check the content and scope of the duties the nursing management room oversees and make arrangements in accordance with the system as well as the number and positions of staff working there. Also, the room may require sufficient space for the nursing department director to gather staff together for meetings.

[Specific Examples]

- *Install meeting spaces corresponding to the number of head nurses.*

D.11. Medical quality management-related rooms

D.11.1. Medical safety management room

☐D.11.1.1 (10 Duties)

Formulate plans that enable administrative work to be carried out appropriately.

Space needs to be provided for staff or organizations who manage medical safety. Check with the hospital regarding the people responsible for medical safety management (generally nurses and physicians), and because meetings among the relevant staff take place, organize the positional relationships among nursing department management-related rooms and physicians responsible for medical safety.

[Specific Examples]

- *Install meeting spaces.*

D.11.2. Medical infection control room (ICT room)

☐D.11.2.1 (10 Duties)

Formulate plans that enable administrative work to be carried out appropriately.

Space needs to be provided for staff or organizations who manage medical infection control. Check with the hospital regarding the people responsible for infection control (generally nurses, physicians, and laboratory technicians), and because meetings take place among relevant persons both inside and outside the hospital, organize the positional relationships.

[Specific Examples]

- *Install meeting spaces.*

D.12. Facility management-related rooms

D.12.1. Common items

☐D.12.1.1 (00 Basic)

Formulate plans in accordance with management methods.

It is necessary to check with each hospital about the operation of facility management-related rooms and formulate plans that position these rooms to enable each management of the hospital overall.

D.12.2. Central monitoring/Disaster prevention center

☐D.12.2.1 (00 Basic)

Formulate plans for an appropriate location.

In addition to controlling and monitoring emergency elevators, smoke control equipment, and air-conditioning, etc., give consideration to staff routes (entrances/exits) when the room also functions as the janitor's room. The disaster prevention center may be positioned integrally with the central monitoring room; however, because firefighters may also come in and out of the room in such cases, as a general rule position the central monitoring/disaster prevention center on the evacuation floor. The room must be arranged appropriately in accordance with laws and regulations (Building Standards Law) and operations.

☐D.12.2.2 (12 Staff)

Provide a Staff break room/nap room

Because this is a place that is staffed 24 hours a day, provide space for resting/napping adjacent to or nearby the room.

D.12.3. Janitor's room

☐D.12.3.1 (00 Basic)

Formulate plans in accordance with management methods.

Position the janitor's room appropriately in accordance with hospital operations, such as placing the room along staff routes (entrance/exit) or facing the nighttime emergency entrance/exit.

D.13. Medical office

D.13.1. Common items

☐D.13.1.1 (00 Basic)

Secure the space required for office work.

Because various different work activities are carried out in the medical office, places need to be provided for each of these activities. In recent years it has become the norm to create an integrated space for these activities within the hospital. Furthermore, depending on the hospital, private rooms may be provided to staff according to their rank, so check each hospital's operations with regard to whether or not private offices for department managers and the medical office manager are required. At the same time, also check that space has been secured for residents.

[Specific Examples]

- *Provide floor surface according to job class and without assigned seating.*

☐D.13.1.2 (00 Basic)

Formulate plans that enable the control of access to executives' rooms from the outside.

Take care to ensure that intruders or unspecified persons cannot easily visit management-related rooms.

[Specific Examples]

- *Restrict entrance using keycards etc.*

☐D.13.1.3 (00 Basic)

Formulate plans in accordance with management methods.

At some hospitals, changing rooms and night duty rooms are provided in every department, while at other hospitals, these facilities are located all together in one location within the hospital. In addition to giving consideration to the positioning of these facilities in relation to the medical office, check with the hospital regarding whether or not these rooms should be installed in the medical office.

[Specific Examples]

- *Install a changing area in the medical office.*

☐D.13.1.4 (00 Basic)

Provide spaces that can be adapted to various activities.

Because physicians do not only sit at their desks but move around to perform activities, holding meetings with co-workers or visitors or doing research, provide appropriate space for them to carry out these activities. Also, be careful that these spaces do not interfere with physicians' circulations.

[Specific Examples]

- *Install meeting rooms (both closed room and open space types).*
- *Install telephone systems for calling on doctors.*
- *Install bulletin boards (for the sharing of information between doctors).*
- *Install a medical room secretariat space, residents' space, and space for looking at electronic medical records.*
- *In addition to working space provides spaces for resting and a library.*
- *Secure waiting space for medical representatives (MRs) who sometimes wait in corridors.*

D.14. Training-related rooms

D.14.1. Auditorium

☐D.14.1.1 (00 Basic)

Give consideration to the layout of the auditorium in view of users from outside the hospital.

Assume that the auditorium will be used not only for internal hospital meetings but also lectures and seminars targeting hospital outsiders and locate it in a position where it is independent from areas where medical care is provided. In doing this, give consideration to security for times when the auditorium is being used by hospital outsiders. In the event of a disaster, the auditorium may be used for treating disaster victims.

[Specific Examples]

- *Install a dedicated elevator.*
- *Install entrances and exits so that direct access from outside is possible.*

☐D.14.1.2 (00 Basic)

Formulate plans in accordance with management methods.

Provide the necessary facilities and equipment to enable the auditorium to be used for meetings, training, and various other purposes.

[Specific Examples]

- *Install lavatories for auditorium users.*
- *Install a storeroom near the auditorium.*
- *Install moveable soundproofing partitions.*
- *Install dimmable lighting.*
- *Install a wall projection screen.*
- *Install monitors.*
- *Install a central pipeline for times of disaster.*

D.14.2. Conference room

☐D.14.2.1 (00 Basic)

Secure the space and arrangements required for holding staff meetings.

In order to promote the provision of medical care by teams and the activities of various internal hospital committees, space is needed for meetings among medical staff. In certain cases, dispersal of conference rooms among the departments where they are required could also be considered.

D.14.3. Trainee waiting room

☐D.14.3.1 (00 Basic)

Formulate plans in accordance with management methods.

Depending on the hospital, trainee nurses and trainees in various other occupational fields may visit the facility for training purposes. Accordingly waiting rooms are needed for these trainees. Consider the size of trainee waiting rooms and the equipment that should be installed in them, keeping in mind the training period and number of trainees.

[Specific Examples]

- *Install lockers to provide secure storage of personal items.*
- *Install audio facilities for post-training meetings etc.*

D.14.4. Training room

☐D.14.4.1 (00 Basic)

Give consideration to various uses.

Hospital staff undergo various training and education in the form of OJT (On-the-Job Training) and Off-JT (Off-the-Job Training) in order to improve the skills that they require and acquire knowledge. In addition to differences in content such as procedures and equipment operation, there are also differences in training/education based on occupation, years of experience, and number of staff. It is necessary to check what training content will be carried out in the training rooms and how frequently, then consider the number and size of the rooms, the room environment, and the equipment to be installed in the rooms.

[Specific Examples]

- *Install mobile chairs, desks and moveable partitions and make it possible to adapt to various ways of use.*
- *Install dispersed power sources for medical equipment and facilities used in training.*
- *Install a storeroom for keeping furniture, and medical equipment and facilities used in training.*
- *Use carpets for flooring materials in view of the possibility that training will take place on the floor.*

D.15. Information-related rooms

D.15.1. Medical record storeroom

☐D.15.1.1 (00 Basic)

Ensure existing medical records/films can be stored.

Hospitals are required to preserve patients' medical records (charts) for a period of five years (Article 24 of the Medical Practitioners' Act). Hospitals are also required to preserve day-by-day records of patients' conditions other than medical records, prescriptions, surgical records, X-rays, and other documents for a period of two years (Article 20 Paragraph 11 and Article 21 Paragraph 1-14 of the Medical Care Act). Although use of electronic medical records is spreading, there are cases in which existing medical records need to be preserved. Furthermore, work involving scanning and organizing medical records may also arise.

[Specific Examples]

- *Consider amounts and management methods according to the situation of existing hospitals, appropriately envisage them and secure enough storeroom volume.*
- *Install facilities in which humidity can be appropriately controlled when storing paper and film records.*

☐D.15.1.2 (11 Growth)

Formulate plans to enable the hospital to respond to future changes.

While the number of paper medical records has decreased with the spread of electronic medical records, the number of physical items such as signature documents and picture DVDs needing to be preserved may actually increase. Accordingly, it is desirable that plans emphasize future flexibility.

D.15.2. Patient library/Information corner

☐D.15.2.1 (00 Basic)

Make arrangements so that information that patients and their family members require can be provided.

The items provided by the patient library/information corner can be broadly divided into items for hospital in-patients/regular out-patients and/or their attendants to use to occupy or entertain themselves; and information regarding diseases, lifestyles, testing/treatment methods, and patient support. Items are provided by way of displaying and/or lending books/magazines/pamphlets; installing computers that can be used freely; and installing DVD viewing booths. Also, select a decentralized/centralized arrangement depending on the content of the information that is expected to be provided and the staff allocated. In the case of a decentralized arrangement, classify and arrange information according to inpatients' attributes. Furthermore, although there is no evidence of infections being transmitted via books, give the same consideration to preventing the spread of infection as with other areas of the hospital.

[Specific Examples]

- *Install an information corner adjacent to the outpatient's area in order to provide information to patients while waiting or after consultation.*
- *Install a patients' library in one corner of the Regional Medical Liaison Office with consideration to the ease of use of the library for those undergoing lifestyle habit guidance and acquisition of information on the initiative of users.*
- *In order to provide inpatients and those accompanying them with leisure time, provide a book corner in one part of the day rooms in inpatient wards.*
- *Provide points for placing disinfectant alcohol at entrances and exits.*
- *Install the book return post in an easily accessible place.*

☐D.15.2.2 (00 Basic)

Formulate plans in accordance with management methods.

Many books are donated, and a place is needed for labeling, cleaning, and maintaining the books. The patient library/information corner may be operated by hospital staff or volunteer staff. Space is needed for these staff members to work and attend the facility.

[Specific Examples]

- *Install a volunteers' room.*
- *Provide working space.*

D.15.3. Medical staff library/Information corner

☐D.15.3.1 (00 Basic)

Secure space for providing information to medical staff.

More and more academic journals are being published online. In contrast, medical information magazines and systematic materials are stored and distributed on a paper basis. Accordingly, space is required for storing and browsing/reading these materials.

[Specific Examples]

- *Situate in relation to the medical office, residents' room and training zone.*
- *Situate the medical staff library outside the medical office so that staff other than doctors can also use it.*

D.15.4. Medical information room

☐D.15.4.1 (00 Basic)

Formulate plans for an appropriate location.

Necessary functions for medical information include medical information management, server management, and SE training. Going back and forth among these functions occurs frequently, and so it is desirable that rooms for these be positioned in adjacent locations.

D.15.5. Server room

☐D.15.5.1 (00 Basic)

Secure the space and equipment/facilities required for information processing.

Digitalization of medical information is progressing, and the amount and importance of information handled by servers is increasing. For this reason, sufficient capacity for storing the hospital's information system data needs to be secured.

[Specific Examples]

- *Set the equipment capacity and number of units to correspond to data volume.*
- *Secure a room of sufficient size and height for equipment and pipework.*
- *Plan an equipment layout that is easy to maintain and manage.*

☐D.15.5.2 (00 Basic)

Arrange so that the room can operate appropriately.

Servers are vulnerable to heat, humidity, electromagnetic waves, and water, etc. To ensure that the servers operate continuously without interruption, install them in an appropriate location and formulate contingency measures in the event of an emergency.

[Specific Examples]

- *Install air-conditioning to provide a heat environment appropriate to equipment operation.*
- *Locate in a position where there are no nearby equipment or rooms that could affect servers due to electromagnetic waves.*
- *Take noise and vibration countermeasures.*
- *Locate equipment in positions with no water leakage, or take appropriate countermeasures.*
- *Do not locate rooms using water or sanitary piping immediately above the server room.*

☐D.15.5.3 (03 Safety)

Ensure it is possible to secure the safety of the server.

Give consideration to measures for ensuring that the servers operate safely at all times.

[Specific Examples]

- *Firmly attach all equipment and piping.*
- *Install fire extinguishers that do not damage the servers.*
- *Connect to backup generators to allow operation during power outages.*
- *Investigate the risks of flood damage around the site and install on a floor higher than the potential flood elevation, or take countermeasures.*

☐D.15.5.4 (03 Safety)

Formulate plans that give consideration to security.

Given the importance of medical information, consideration needs to be given to security.

[Specific Examples]

- *Adopt electronic locking systems such as key card readers for restricted users only.*
- *Adopt a keycard system to restrict the authority to open room and door locks correspondent to personnel status and nature of work.*

☐D.15.5.5 (11 Growth)

Formulate plans to enable the hospital to respond to future changes.

Servers will need to be upgraded in the future. Accordingly, it is desirable that space be secured in or adjacent to the server room for future upgrades. Also envision upgrading methods.

[Specific Examples]

- *Install raised floors or free access floors.*
- *Plan routes for renewing equipment and secure sufficient corridor width and entrance space for the bringing in and out of equipment.*
- *Install storerooms, training rooms and so on adjacent to the server room so that they can be switched to use as renewal and extension space for equipment.*
- *Set an appropriate floor loading capacity, and plan the locations and measurements of wiring pits, racks and outlets.*

D.15.6. Backup server room

☐D.15.6.1 (03 Safety)

Formulate plans that give consideration to inspections and the event of a disaster.

Because servers cannot be stopped even during maintenance/inspections or emergencies, install a backup server room. Take care to ensure that the servers cannot be damaged in the event of an earthquake or tsunami, and formulate plans for operating backup servers in the unlikely event that the servers are damaged in a disaster. This does not apply in the case that an external cloud service is used.

[Specific Examples]

- *Install the backup in a different room or building to the server room.*
- *Investigate the risks of flood damage around the site and install on a floor higher than the potential flood elevation, or take the necessary countermeasures.*
- *Locate the main server within the facilities, and create a cloud-based backup system with contracts that disperse the backup servers over data centers located in various places remote from the hospital.*
- *Create plans so that in the event of line outages laptop computers can be used for minimal operations using the hospital's LAN, or offline using power sources.*

D.16. Welfare-related rooms

D.16.1. Night duty room

☐D.16.1.1 (00 Basic)

Formulate plans in accordance with management methods.

Because operations differ from hospital to hospital, it is necessary to check the hospital's operations first and then confirm whether night duty rooms should be dispersed among departments or centralized. Also check the hospital's policies regarding the installation of male/female rooms and shower rooms (whether showers are installed in single-person rooms or communal rooms) as well as equipment (TVs, desks, etc.).

☐D.16.1.2 (12 Staff)

Enhance sound-proofing/sound insulation.

Take care to ensure that the sound of a call for one night duty staff member does not interfere with the rest of the night duty staff member next to them.

[Specific Examples]

- *Install a simple soundproof door and "in use" signs.*
- *Consider appropriate methods for calling other night duty workers (in-hospital phones, in-hospital PHS etc.).*

D.16.2. Nap room

☐D.16.2.1 (00 Basic)

Give consideration to gender.

Room specifications — multi-person room, capsule-type, single-person room, etc. — need to be checked. Be sensitive to users' gender, both doctors and nurses, and consider providing separate areas for men and women.

D.16.3. Changing room/Waiting room

☐D.16.3.1 (00 Basic)

Formulate plans for an appropriate location.

Changing/waiting rooms for nurses, administrative staff, external contractors, and trainees (students, etc.) may be provided separately, so it is necessary to check operations and locations. In the case of communal changing rooms, take into consideration that the room will be used by people of various occupations, such as nurses and administrative staff, and ensure that it is easy to enter and exit.

☐D.16.3.2 (00 Basic)

Formulate plans that provide functions accompanying the changing of clothing.

Because uniforms are distributed and collected frequently, provide storage space for uniforms. Also consider methods for storing personal belongings that take up space, such as umbrellas and boots.

[Specific Examples]

- *Install a uniform corner.*
- *Plan space for umbrella stands.*

☐D.16.3.3 (03 Safety)

Give consideration to security.

Because valuables and other personal belongings are stored here, formulate a plan with high security.

[Specific Examples]

- *Position so that entering and exiting at night is safe.*
- *In addition to security controls for each locker, install key card readers and electronic locks to control access to changing rooms.*

D.16.4. Staff cafeteria/Staff lounge

☐D.16.4.1 (00 Basic)

Formulate plans in accordance with management methods.

Provide a cafeteria that can be used by staff, patients, visitors, and various other users. Check the hospital's operating policy as to whether or not separate cafeterias should be provided for staff and patients/ patients' visitors. When separate cafeterias are to be provided, check whether or not the cafeterias will share a kitchen. There are also staff who eat at times other than regular breakfast-lunch-dinner meal times depending on their work schedule (shift). Consider creating a place where light meals can be taken outside cafeteria operating hours.

[Specific Examples]

- *Prepare a staff cafeteria where staff can relax over meals and rest, and is separate from the cafeteria for patients and families.*
- *In the event that the patient and staff cafeteria is integrated, secure dedicated entrances and spaces for both parties.*
- *Take the views of the outside into consideration in places used by patients and families.*
- *In the event that the cafeteria is for the joint use of staff, patients and visitors, install one kitchen where food can be served to both patients and staff.*
- *Create an open space arrangement for one part of the cafeteria, where meals can be taken 24 hours a day.*

☐D.16.4.2 (10 Duties)

Secure the space and arrangements required for holding staff meetings.

Outside mealtimes, cafeterias may be used as meeting rooms. Accordingly, it is necessary to consider arrangements that make the room easy to use as a meeting room as well.

[Specific Examples]

- *Install moveable partitions that can be used in sectioning.*

☐D.16.4.3 (12 Staff)

Provide a place where staff can relax.

Give consideration to creating a space where staff can fully relax and refresh themselves, such as by providing an environment with pleasant views.

[Specific Examples]

- *Situate on a floor in which windows can be installed.*
- *Plan its positioning so its independence can be maintained as a cafeteria used by staff, and separate from patients and families.*
- *In the event that it is not possible to separate the staff cafeteria and the patients' cafeteria, make plans to enable sectioning with the use of partitions etc.*
- *Install an outdoor terrace.*

D.16.5. Staff childcare room

☐D.16.5.1 (00 Basic)

Formulate plans in accordance with management methods.

Check the staff childcare room's location, size, dropping off/picking up methods, opening hours, availability of childcare for sick children/convalescent children, and availability of a playground, as well as whether or not the facility is approved for also accepting local children, etc. Also check about the use of subsidies.

[Specific Examples]

- *Consider positioning so that direct access from outside the hospital and from staff entrances is possible.*

Child-care room

☐D.16.5.2 (00 Basic)

Create a space suitable for providing childcare for infants.

Check the items that need to be considered for a childcare room. Care needs to be taken with the arrangement and selection of interior materials that give consideration to scratches and stains, falling, little fingers getting caught, and collisions, as well as ease of cleaning and prevention of electric shocks. With regard to furniture and fixtures, think about dimensions and installation height, keeping in mind that these will be used by small children. Also, check necessary functions such as showering or bathing.

[Specific Examples]

- *Use doors, windows and equipment designed to avoid fingers getting trapped or caught.*
- *Select flooring and wall materials that prioritize shock absorption.*
- *Install sockets in positions where infants cannot touch them.*

Convalescent children's nursery

☐D.16.5.3 (03 Safety)

Take care to ensure that healthy infants do not become infected.

Consideration needs to be given to infants, who have low immunity compared to adults, and care taken to prevent child-to-child infection. Consideration also needs to be given to facilitating easy observation of sick children so that their condition can be known as necessary.

[Specific Examples]

- *Install walls and doors enabling sectioning.*
- *Install windows that staff can observe the room from.*
- *Install hand-washing and rinsing facilities for staff near entrances and exits.*

Sick children's nursery

☐D.16.5.4 (03 Safety)

Take care to ensure that healthy infants do not become infected.

Consideration needs to be given to infants, who have low immunity compared to adults, and care taken to prevent child-to-child infection. Consideration also needs to be given to responding to sudden changes in sick children's conditions.

[Specific Examples]

- *Position so that access does not require going through other rooms.*
- *Install walls and doors enabling sectioning.*
- *Plan lavatories specifically for sick children's nursery*
- *Plan sluice sinks for washing away human waste specifically for sick children's nursery*
- *Situate in a position easily accessible to doctors and nurses.*

E. General and common issues

E.1. Growth and changes

Hospital buildings need to respond to changes in healthcare demands as well as advances in medical technology and equipment, and hospital buildings need to maintain medical functions even as they become older. In order to continuously provide an environment for treating patients, it is desirable that hospital facilities are renewed when medical equipment is upgraded to enable mutual adjustment with related areas. Accordingly, hospital buildings "grow" and "change", repeatedly undergoing extensions/renovations and refurbishment. To enable hospital buildings to adapt to this "growth" and "change", the planning of layout, floors, structures and facilities must anticipate the future.

E.1.1. Rebuilding/Extension

☐E.1.1.1 (00 Basic)

Formulate a master plan.

While buildings are intended for long-term use, functions become obsolete and building frames exhaust their life span after a certain period of time. As time passes, both large and small improvements need to be made to medical functions, and functional conversion is also required. Accordingly, hospitals undergo complete rebuilding or extension while maintaining their medical functions. Accordingly, it is necessary to formulate a future plan for the building (master plan) with regard to land use planning, layout planning, flows planning, and distribution planning, as well as to review this master plan continually.

[Specific Examples]

- *Secure parking lots etc.to be used as the space for future total rebuilding.*
- *Plan allocation of departments with consideration to the scope of and departments for which extension and alteration work is foreseeable.*

☐E.1.1.2 (11 Growth)

Use a layout that enables extension and renovation planning.

When the hospital building is to be rebuilt within the hospital grounds, it must be located so that the hospital's main unit can be extended/renovated. Furthermore, give consideration to future measures regarding the planning of roads within the hospital site and setting of energy routes.

[Specific Examples]

- *Secure space enabling extension outwards from the ends of the main hospital building.*
- *Arrange the roads in the hospital grounds so the changes in the roads due to extensions are kept to a minimum.*
- *With extensions in mind, plan vehicular flows in which emergency vehicle flows do not run across future extension space.*
- *Secure space for facility piping in the direction of extensions.*

☐E.1.1.3 (11 Growth)

Implement a department layout plan that facilitates adoption of extensions.

Expansion or reduction of medical functions; new establishment, expansion, or centralization of clinical departments; changes in staff numbers—the architectural effects brought about by changes anticipated for the future differ from department to department. In addition to formulating plans that anticipate the size and content of future extensions to each department, it is also necessary to formulate plans for infrastructure.

[Specific Examples]

- *Secure space for future extension.*
- *In order that corridors can be lengthened when extensions are made to the ends of the buildings, make the end of corridors open-end/free-end and do not locate rooms there.*
- *Plan internal flows while envisaging extensions.*
- *Plan infrastructure while envisaging extensions.*

☐E.1.1.4 (11 Growth)

Consider the speed of departmental growth /change.

Within hospitals, departments grow at different speeds. Formulate plans based on the speed of growth.

[Specific Examples]

- *In order that extension and alteration work can be easily conducted in each department, locate inpatient wards and diagnostic and treatment departments in separate buildings.*
- *Locate departments in which equipment renewal has major impacts on other departments, such as radiotherapy treatment, in separate buildings.*
- *By installing horizontal main flows connecting each building enable the extension of corridors during enlargement and structural alteration work, so that the functions of each ward and department can be maintained.*
- *In order to enable extensions and alterations, install a main route for equipment connecting each building with the energy center.*

E.1.2. Refurbishment/Renovation

☐E.1.2.1 (11 Growth)

Implement floor planning that facilitates adoption of internal refurbishment.

In hospital buildings, internal refurbishment may be necessary within departments in order to improve/expand medical functions within departments because of increases in patient numbers, expansion of medical functions, and the addition of medical devices. Furthermore, changes to medical functions such as medical fee revisions and the introduction of new medical equipment and treatment methods may lead to a need for internal refurbishment. Moreover, because the lifespan of medical equipment is shorter than the lifespan of hospital buildings, medical equipment needs to be updated. It is therefore desirable that appropriate extra space for this purpose be provided in advance.

[Specific Examples]

<Responding to medical care functions expansion>

- *Plan spare rooms enabling future usage switches in diagnostic and treatment departments and outpatient departments where future medical functions expansion is foreseeable.*
- *Use modular coordination to create from the outset a well-ordered spatial structure, and enable both flexible sectioning using partitions and so on when necessary and changes to layouts.*
- *Secure double piping space.*

<Responding to changes in medical care functions>

- *By installing in advance rooms with flexibility of use such as meeting rooms, storerooms and conference rooms, secure space in which their functions can be switched to diagnostic and treatment purposes, and ease refurbishments by adopting double flooring.*
- *Plan four-bed patient rooms so that they can easily be converted to single patient rooms in the future.*
- *Design some of the operating rooms so that they can be improved to hybrid operating rooms in the future.*

<Responding to renewal of medical equipment>

- *Secure ample floor space envisaging future renewal etc. of medical equipment.*
- *Secure space for extension of linear accelerators (Liniac).*
- *Secure the carrying in routes and entrance dimensions for future renewals of MRI equipment.*

☐E.1.2.2 (11 Growth)

Implement structural planning that facilitates adoption of internal refurbishment.

Formulate structural designs that can adapt to future growth and changes.

[Specific Examples]

- *Adopt a pure framed structure with no earthquake-resistant walls.*
- *Plan long spans with the number of columns reduced to an absolute minimum.*
- *Leave sleeves on beams open in order for the renewal of facility piping.*
- *Secure sufficient floor height.*
- *Design a structure minimizing beam depth.*
- *Ensure ample loading capacity.*
- *Ensure floor loading capacity while envisaging the renewal of medical equipment (MRI).*

☐E.1.2.3 (11 Growth)

Ensure it is possible to carry out renewal/maintenance of equipment/facilities easily.

In hospital buildings, internal refurbishment is carried out for the purpose of improving, expanding or changing medical functions and upgrading medical equipment within departments. For this reason, measures need to be incorporated into designs to enable installation of new equipment and upgrading of existing equipment in accordance with changes in partition, room use and equipment layout. Because equipment and devices have a shorter lifespan than buildings, plans must be formulated to enable easy maintenance, upgrading, and repair.

[Specific Examples]

- *Install an interstitial space system (ISS) for the horizontal pulling of facility piping from upper floors.*
- *Secure sufficient floor heights, and ceilings and floor plenums.*
- *Install dedicated equipment corridors and underground trenches.*
- *Use double floors, raised floors, flat slab and free access floors.*
- *Install facility spaces at building ends (external walls).*
- *Install balconies for facility maintenance.*
- *Concentrate piping and facility spaces.*

E.2. Flow (flow of people)

E.2.1. Exterior flow

Entrance to hospital grounds

☐E.2.1.1 (00 Basic)

Give consideration to access to the hospital grounds.

With regard to access to hospitals, where the condition of pedestrians and use of vehicles varies, appropriate site entrance layout is needed with consideration given to the impact on the surrounding environment and the amount of traffic along the road in front of the hospital.

[Specific Examples]

- *Pay attention to the impact on safety and adjacent roads, and avoid direct entrance from main roads with heavy traffic.*
- *Secure sufficient length for entrance roads within the grounds.*
- *Install entrances and exits to the grounds for pedestrians.*
- *Secure separate entrances and exits to the grounds for different vehicle types (general vehicles, staff cars, service vehicles, taxis, hearses, and emergency vehicles etc.)*
- *Provide entrances with the minimal noise impact on surrounding buildings.*
- *When planning an out-of-hours dedicated entrance, locate it in a place easily identifiable at night.*

Flow within hospital grounds (traffic)

☐E.2.1.2 (00 Basic)

Ensure the flows are easy to understand and safe for patients to move around in.

In accordance with the nature of facilities treating patients with reduced physical capabilities and from the perspective of ensuring the efficiency and safety of patients' flow, it is recommended that flows be secured to enable safe and easy-to-understand movement from the hospital entrance to the patient's destination within the hospital over the shortest possible distance.

[Specific Examples]

- *Plan the flow of patients approaching the hospital so that there is as little as possible intersecting of private vehicles with goods vehicles and emergency vehicles.*
- *Plan routes from front roads and parking lots so that the distance patients have to walk is as short as possible.*
- *Near the main entrance install pull-up places for cars collecting hospital users, space for buses and other public transport, and a taxi pool.*

Flow within hospital grounds (traffic)

☐E.2.1.3 (00 Basic)

Ensure staff can provide services efficiently and smoothly.

It is essential to ensure the efficiency and safety of staff members' flows when they are moving around the hospital. Carefully consider movement methods and routes for each method for staff or service movement.

[Specific Examples]

- *Plan the flow of service vehicles so that they do not intersect with patient or emergency vehicles flows.*
- *Secure adequate space for a wide variety of service vehicles to pull up by.*
- *Plan a flow for staff vehicles.*
- *Plan parking space with the turning circle of large lorries in mind.*

Access to building

☐E.2.1.4 (00 Basic)

Ensure the building's entrance/exit can be accessed smoothly.

With regard to movement towards the hospital entrance/exit, consideration needs to be given to the outside environment, such as access from surrounding roads and parking lots, as well as directions. A comfortable environment needs to be created, with no intersection or duplication of circulations with different movement methods, or impediments or different floor levels along circulations, enabling stress-free access to the building's entrance/exit.

[Specific Examples]

- *Secure flows for pedestrians from the parking lot to the building entrances.*
- *Install covered walkways along pedestrian flows.*
- *Clearly distinguish the sidewalks and roads.*
- *Situate main entrance areas with consideration to local prevailing winds and the accumulation of snow etc.*
- *Install amenities along flows such as plants, water features and benches.*

Access to building

☐E.2.1.5 (07 Information)

Implement appropriate guidance plans for leading patients/visitors to their place of destination.

It is necessary to provide suitable guidance to the hospital entrance/exit appropriate for the required function, regardless of the time of the day, using an easy-to-understand and clear plan for the hospital's approach and appropriate guidance and signage.

[Specific Examples]

- *Install entrances and exits in places with good visibility.*
- *Install signs and signposts to guide people towards entrances and exits.*
- *Plan exterior illumination and lighting with consideration to visibility at night.*
- *Instead of a dedicated night hours entrance use a combined day and night entrance.*
- *Use different paving for pedestrians and parking lots.*

Parking lot

☐E.2.1.6 (00 Basic)

Secure an appropriately sized parking lot.

Although this is influenced by the availability of public transportation, hospitals usually require parking for an especially large number of vehicles. It is necessary to check the number of parking spaces required for general vehicles, administrative staff vehicles, service vehicles, and taxis, etc., and provide as many parking spaces as possible. Also, formulate plans giving consideration to the management style of the parking management, smooth flows for vehicles entering from the road in front of the hospital, and the relationship of the parking lot with the hospital's covered entranceway.

[Specific Examples]

- *Zone parking spaces by use in order to reduce intersection of vehicles.*
- *Plan dedicated flows of emergency vehicles and service vehicles in order to minimize their intersecting with other types of vehicles.*
- *When operating barrier gate systems extend the length of waiting lanes.*
- *Secure pedestrian-dedicated routes in order to assure the safety of pedestrians walking between the parking lot and the entrances.*
- *In order to enable smooth movement from multistory car parking install a bridge for direct entry to the hospital.*
- *Secure waiting space for ladder trucks and lorries.*
- *Provide out-of-hours security areas, and arrange them so that they can be shut off from flows other than those for out-of-hours usage.*

E.2.2. Interior flow

Interior flow

□E.2.2.1 (00 Basic)

Lay out and appropriately plan various flows.

When planning the hospital's internal flows, give consideration to the level of urgency, clean-dirty zones, and security. Also, with regard to the outpatient department, patients' movement needs to be smooth. Calculate the amount of elevator (EV) traffic, check the size and weight of elevator load, and decide specifications.

[Specific Examples]

- *Secure sufficient corridor width with consideration to volume of passersby and wheelchair users.*
- *Install elevators specifically for those visiting patients and the hospitalized.*
- *Install outpatient elevators and escalators.*
- *Install elevators for infectious patients.*
- *Separate the flows for those taking medical examination.*
- *Separate the flows for staff and servicing from those of patients.*
- *Install dedicated elevators directly connecting the emergency department with surgical department, ICU, emergency ward and maternity ward.*
- *Secure a transport route for the bodies of the deceased.*
- *Select finishing materials with due consideration to load-bearing capacity, wear resistance, shock resistance, and ease of maintenance and cleaning.*

Interior flow

□E.2.2.2 (00 Basic)

Plan with consideration to connections between related departments.

After clarifying the flows for people/goods between departments and operating policies, give consideration to the layout of flows in the horizontal direction (adjacent/nearby/facing). When planning the layout, select the target transportation method (EV, luggage carrier, pneumatic tube equipment, etc.) and consider connections in a vertical direction if this is unavoidable due to floor area constraints or measures to improve efficiency.

[Specific Examples]

- *Pay consideration to flows from the dedicated staff entrances and exits in management departments, and plan them to avoid intersecting with patients' flows.*

Interior flow

□E.2.2.3 (05 Comfort)

Ensure patients can move about smoothly.

Plans for easy-to-understand flows enabling easy access to each department need to be formulated based on the hospital's operational plan.

[Specific Examples]

- *Avoid making dead-end corridors.*
- *Pay consideration to facilitating wayfinding.*
- *Plan easily understood signage.*

Interior flow

□E.2.2.4 (10 Duties)

Secure the mobility of staff.

Formulate plans that contribute to greater efficiency by appropriately securing flows between interconnected departments and setting staff areas.

[Specific Examples]

- *Clarify staff flows.*
- *Provide security areas.*
- *Install a staff elevator, and adjacent staircases that staff can choose which to use.*

Entrance/Exit

☐E.2.2.5 (00 Basic)

Provide entrances to/exits from the building in accordance with the mobility of people and goods as well as the building's functions.

In hospitals, there are many different people — patients, staff, hospital-related persons — and goods constantly coming and going. Accordingly, entrances/exits need to be installed appropriately in accordance with the time of day, degree of urgency, or degree of cleanliness/dirtiness.

[Specific Examples]

- *In consideration of the fact that the majority of hospital visitors are outpatients, combine the main entrance and the outpatient entrance.*
- *Locate the out-of-hours entrance and exit next to the main entrance, and in a position easily recognized by hospital visitors.*
- *Locate the emergency entrance and exits in easily accessible places, and combine with the out-of-hours entrance and exits according to the size of the hospital.*
- *Concentrate the entrance and exits for staff, people involved in the hospital and goods in the backyard side.*
- *Paying consideration to bereaved families, situate the exit for transporting the bodies of the deceased in a location not visible to ordinary hospital visitors.*

E.3. Distribution (flow of things)

E.3.1. Management methods

☐E.3.1.1 (00 Basic)

Formulate plans in accordance with management methods.

A wide array of supplies is used in hospitals — drugs, medical supplies, food ingredients, equipment, etc. — and each of these needs to be delivered to the department where they are to be used, then collected and disposed of. Accordingly, it is necessary to organize the supplies that are to be delivered to each department and formulate plans for the best transportation methods and routes.

[Specific Examples]

- *Confirm whether the vertical transport of each item delivered will be conducted using an elevator or a dumbwaiter.*
- *Plan the separate routes of clean flows and dirty flows.*

E.3.2. Distribution planning

Management system

☐E.3.2.1 (00 Basic)

Formulate plans in accordance with management methods.

Previously, hospital supplies were managed by each department individually, but in recent years management of supplies by means of SPD (Supply, Processing and Distribution) by supplies distribution departments or distribution outsourcing has been spreading. An appropriate, easy-to-operate management method needs to be selected for each hospital, and distribution flows within the hospital need to be organized and planned.

[Specific Examples]

- *Confirm the methods for and the scope of outsourcing.*
- *Examples of outsourced work include sample tests, external cleaning/sterilization centers, external caterers, external warehousing, external linen cleaners, and leftovers and waste management.*

Objects to be transported

☐E.3.2.2 (00 Basic)

Formulate plans in accordance with management methods.

A wide range of objects required for continuous operation are handled at hospitals. Plans for in-hospital distribution must organize what objects need to be transported to/from each department and scrutinize factors such as clean/dirty zones, damageability, transportation areas and methods, regular or emergency transportation, and hours when distribution is required. Objects to be transported include the following.

- Medical care-related goods (drugs, sterilization equipment, hygiene materials, disposable products, medical equipment)
- Food (meals, drinks, kiosk)
- Specimens (blood, urine), pathology specimens
- Washing, linens, mattresses
- Various types of waste and cleaning-related carts
- Office supplies, daily necessities, non-digitalized medical records (charts, film) and documents and postal packages requiring storage.

[Specific Examples]

- *Confirm frequency of transport, transport schedules, transport methods (manual or mechanical), set appropriate routes and install mechanical equipment.*
- *Confirm inspection methods and collection and payment methods, and plan locations.*
- *Confirm stock volume and secure adequate space.*
- *Install a dedicated elevator for delivering meals.*

Supply, processing, and distribution (SPD)

☐E.3.2.3 (00 Basic)

Formulate plans in accordance with management methods.

In recent years, the management and supply of goods within hospitals has been centralized (Supply Processing and Distribution (SPD), and an increasing number of hospitals are outsourcing SPD. For each hospital, it is necessary to check where SPD is carried out as well as SPD targets, amounts, frequency, and routes; secure appropriate space in SPD-related rooms; and formulate plans that enable easy supply of consumable goods to each department.

[Specific Examples]

- *Confirm whether supply, processing & distribution (SPD) will be conducted by the hospital or outsourced.*
- *Confirm the operating hours of contractors.*
- *Confirm the methods for contact between contractors and hospital staff (particularly regarding the relationship between SPD and the Central Supply Room).*
- *Confirm whether or not to include pharmaceuticals as an SPD item.*

Waste

☐E.3.2.4 (00 Basic)

Check the operating method and plan an appropriate flow for collection.

The lies of flow for collecting waste affect all areas of the hospital and also play an important role in terms of infection control. In addition to being aware of contractors' operations, it is necessary to consider factors such as collection frequency, collection times, number of carts, and collection routes.

[Specific Examples]

- *Plan collection routes from each department to the waste storage so intersection with patients is minimal.*
- *Designate elevators for the collection of waste.*
- *Secure a service yard for waste collection vehicles to draw up to.*
- *Secure sufficient space for a waste collection cart pool.*
- *Locate waste storage close to cleaning-related rooms.*

E.4. Safety and security

E.4.1. Security

☐E.4.1.1 (03 Safety)

Prevent trespassing into unauthorized areas.

Because hospitals are places where unspecified people come and go, it is necessary to prevent malicious intrusions. These can lead to theft, kidnapping, contamination, or violent behavior. However, it is also necessary to consider measures for preventing people from simply wandering into the hospital. In general, hospitals are divided into zones according to the importance of security into maximum level, high level, and general level, and commensurate measures should be implemented.

[Specific Examples]

- *Divide the hospital into security areas corresponding to degree of importance.*
- *Conduct entrance and exit management according to security level using card readers etc.*
- *Restrict the floors that elevators stop at during the night.*
- *Install reception desks to identify visitors.*
- *Restrict the holiday and night hours entrances and open areas.*
- *Install a security camera system.*
- *Use an electronic locking system for all hospital entrances and lock them at night.*
- *Secure visibility of ward entrances from staff stations.*

☐E.4.1.2 (03 Safety)

Take measures to prevent abductions.

Because obstetrics and pediatric wards are places where unspecified visitors come and go, security may become insufficient and newborn/infant kidnappings occasionally occur. For this reason, it is necessary to conduct security checks for people entering/leaving the ward overall as well as the relevant rooms.

[Specific Examples]

- *Restrict the areas accessible to those visiting maternity and pediatric departments.*
- *Restrict flow so that they pass in front of the staff stations at newborn units etc.*
- *Install security doors using card readers and surveillance cameras at newborn units etc.*

☐E.4.1.3 (03 Safety)

Take anti-theft measures.

Unspecified people—patients, staff, visiting family members, etc.—are able to come and go, and not only can staff be absent from nursing-related rooms but also in-patients can be absent from their rooms when they go for tests, etc. Accordingly, measures need to be taken to ensure that drugs and other goods or money are not stolen.

[Specific Examples]

- *Install individual patient lockers that can be locked with a key.*
- *Install security boxes in bedside tables.*
- *Install security doors using card readers in staff changing rooms.*
- *Install staff lockers that can be locked with a key in break rooms.*
- *Install a cupboard or room for controlling the locking away of narcotics and medicine.*
- *In order to prevent the theft of laptops from reception desks install shutters and wire locks.*

□E.4.1.4 (03 Safety)

Take measures to prevent leakage of personal information.

Because staff stations and medical records rooms which handle personal information have monitors that can be used to check patients' personal information, measures must be taken to ensure that monitors cannot be seen/removed by suspicious persons or that information is not leaked.

[Specific Examples]

- *Locate medical record rooms in staff areas inaccessible to hospital visitors, and install security doors using card readers etc.*
- *Ensure the highest possible level of security for server rooms, locate them in staff areas inaccessible to hospital visitors and use a double-check system employing card readers and fingerprint verification.*

□E.4.1.5 (03 Safety)

Take measures to prevent harm to staff.

For counselling rooms, accounts offices/counters, and emergency departments, implement measures to protect staff from violence inflicted by hospital visitors due to disputes over money, etc., or prevent harm to night staff.

[Specific Examples]

- *Secure two-directional evacuation routes in consultation and accountancy rooms.*
- *Make the lighting in the night staff parking lot bright, and install a security system.*

E.4.2. Safety

□E.4.2.1 (03 Safety)

Secure the safety of the recuperation environment and an appropriate working environment.

Medical accidents can be broadly divided into those caused by the patient's care environment and those caused by staff's work environment. To prevent such accidents, architectural consideration tailored to hospital operations is required.

□E.4.2.2 (03 Safety)

Formulate plants that give consideration to measures to prevent patients from tripping over/falling.

Because their physical capabilities differ from their normal capabilities due to their illness or decline in physical strength, patients can fall easily, especially when getting out of bed and standing up or walking. For this reason, care needs to be taken to ensure that falls do not result in serious injury.

[Specific Examples]

- *Install vertical handrails and handrails suited to purpose of use in the entrances to lavatories, bathing rooms and patient rooms.*
- *Use the same materials in corridors and do not create any differences in level.*
- *Select shock-mitigating materials for the floors of areas around beds and where patients walk.*
- *Use floor plans for patient rooms that enable locating beds in positions from which it is easy to reach lavatories.*
- *Avoid sharp or pointed fittings and details.*

☐E.4.2.3 (03 Safety)

Arrange so as to prevent fingers, etc., getting caught.

There is a risk of hands/fingers getting caught due to people placing their hands on/in the wrong place. Particular care needs to be taken with parts that are used by elderly people or small children, who may have difficulty realizing the danger of getting hands/fingers caught in equipment during operation.

[Specific Examples]

- *Install gaps on doors to prevent fingers from being trapped, and use cushioning material.*
- *Install automatic doors that take into consideration door weights and the speed with which they close.*
- *Install vertical handrails on both sides of entrances.*

☐E.4.2.4 (03 Safety)

Take measures to prevent suicide.

As patients may attempt to commit suicide because of psychological stress due to their illness, measures for preventing suicidal behavior are required.

[Specific Examples]

- *Lock doors so that patients cannot go outside except during emergencies.*
- *Restrict the extent to which windows in patient rooms can be opened.*
- *Use curtain hooks that become loose under a certain weight, and curtain rails around which cords cannot be tied.*
- *Use intravenous drip hooks that collapse under a certain weight.*

☐E.4.2.5 (03 Safety)

Take measures to prevent patients from leaving the ward/hospital without permission.

Hospital inpatients may leave the hospital without informing staff. Because this may be life-threatening in certain cases, plans that enable management of patients' comings and goings need to be formulated.

[Specific Examples]

- *Install panic doors that automatically open in the event of emergencies at the entrance of external staircases, and fences to prevent people from jumping off staircase landings etc.*
- *Situate the staff stations in places where entrances and exits are visible in wards dedicated to demented elderly people.*
- *Install a room from which observation is possible close to staff stations at night.*
- *Use surveillance camera systems and electronic locking.*
- *Check the locations of locks and locking methods necessary to prevent accidents.*

☐E.4.2.6 (03 Safety)

Secure an environment where work mistakes do not occur.

Deficiencies in the work environment can lead to medical accidents such as misidentification. Care needs to be taken to ensure that accidents are prevented and staff can perform their work without problem by securing a suitable work environment.

[Specific Examples]

- *Secure sufficient light to prevent misidentification of patients.*
- *Make the equipment layout inside all patient rooms identical (i.e. do not employ a reverse mirrored layout).*
- *Enable the installation in wards of pictograms displaying the state of patients.*
- *In order to prevent the misidentification of patients use flows for walk-in patients in surgical departments and pay consideration to internal decoration.*

☐E.4.2.7 (03 Safety)

Secure an environment that gives consideration to occupational safety.

Special drugs are handled during hospital treatments and tests. To enable staff to carry out various work activities with peace of mind, a safe work environment needs to be secured appropriately.

[Specific Examples]

- *Use individual piping for areas where special medicines are used, formulation rooms, nuclear medicine, autopsy and controlled cleaning level areas, and where necessary install purifying equipment such as HEPA filters.*
- *In areas where special medicines are used, formulation rooms, nuclear medicine and autopsy areas install handwashers, eye washers, showers, safety cabinets, fume hoods and clean benches according to the work carried out.*

E.5. Infection control

E.5.1. Planning

☐E.5.1.1 (03 Safety)

Take measures to ensure that infection does not spread.

In hospitals there are patients who are infectious and patients who are easily infected. Symptoms may be apparent or latent, and measures need to be implemented for both cases. Also, in addition to implementing standard preventative measures and infection countermeasures for each infection route, infection countermeasures for individual patients need to be clarified.

[Specific Examples]

- *Install airborne infection isolation rooms.*
- *Install rooms for compromised patients (hematopoietic stem cell transplantation patient rooms etc.)*
- *Install quarantine consultation rooms.*
- *Install infection countermeasure notice boards or pictograms in front of patient rooms.*
- *Select doors that can be open or closed without touching them.*

☐E.5.1.2 (03 Safety)

Separate flows in order to prevent the spread of nosocomial infection.

Care needs to be taken to ensure that infectious diseases such as influenza are not passed on to other patients, family members, or staff. Implement measures that make it difficult for infectious patients to come in contact with other people. Also, plans need to be formulated to ensure that flows for items that are contaminated with the biological fluids of patients who are a source of infection (surgical instruments, endoscope tubes, etc.) do not intersect with other flows.

[Specific Examples]

- *Separate the entrances for infected patients in outpatient and emergency departments.*
- *Divide the pediatric outpatient waiting rooms where patients who are a source of infection and easily infected patients mingle.*
- *Install a temporary divided area.*
- *Wash small items used in treatment within the department.*
- *Install a dedicated transport route (elevator etc.) for dirty items.*

E.5.2. Facilities

☐E.5.2.1 (03 Safety)

Provide appropriate air-conditioning.

In order to prevent airborne infection due to air flow, it is necessary to give consideration to ventilation frequency as well as provide a negative–pressure room to prevent diffusion of the source of infection and a positive-pressure room to protect easily infected patients.

[Specific Examples]

- *Maintain negative pressure in patient rooms in order to prevent airborne infection from infected patients.*
- *Maintain positive pressure in operating rooms and rooms for compromised patients, and install high-performance filters.*

☐E.5.2.2 (03 Safety)

Install lavatories that give consideration to infection prevention measures.

Handwashing is an effective infection countermeasures with high reliability. Because medical staff can easily become a source of infection, it is necessary to install wash basins in positions that enable "1 Patient/1 Treatment/1 Handwashing (including alcohol disinfectant) " to be carried out easily as well as implement measures that prevent infection among users.

[Specific Examples]

- *Handwashing facilities should have automatic taps that prevent tap fittings from being touched.*
- *Washstand counters should adopt design details resistant to waters scale building up and easy to clean.*
- *Use wash basins without overflows.*

E.5.3. Environmental improvements

☐E.5.3.1 (03 Safety)

Ensure that the design makes it easy to maintain cleanliness.

Implement measures for creating an environment that enables the risk of infection to be permanently reduced. Select finishing materials that are easy to disinfect and details that enable easy cleaning, such as no allowing dust pools to accumulate.

[Specific Examples]

- *Ensure curtain rails are directly affixed to the ceiling in order to prevent dust from gathering.*
- *Make the top panel concealing sliding door machinery slanted in order to prevent dust from gathering.*
- *Select easily maintained finishing materials.*
- *Install wall-hanging toilets that are thoroughly cleanable.*
- *When using carpets use carpet tiles that can be partially replaced when necessary.*
- *When selecting materials that cannot be easily cleaned check the cleaning methods.*

☐E.5.3.2 (03 Safety)

Give consideration to ensuring there is no infection from environmental surfaces.

Because medical facilities have a high need to maintain a clean environment, various cleaning methods are used. For this reason, care needs to be taken to ensure that the finishing materials used can cleaned using these methods. Also, select details that make it easy to secure a clean environment when cleaning.

[Specific Examples]

- *Use wipeable wall materials.*
- *Ensure floor materials are flash coved.*
- *Do not allow dust to gather.*
- *Select materials that enable the easy cleaning of blood or bodily fluids.*

☐E.5.3.3 (03 Safety)

Take measures to prevent harmful insects and birds.

Because there are many patients with weakened immunity in medical facilities, effects caused by harmful insects/birds, which can be sources of infection, must be eliminated.

[Specific Examples]

- *Install mosquito screens.*
- *Install insect and bird nets on air vents.*
- *Install bird spikes on eaves and balconies.*

☐E.5.3.4 (03 Safety)

Take measures to prevent condensation/mold.

Condensation and mold not only cause buildings to deteriorate but also may affect patients with weakened immunity. Accordingly, measures need to be taken to not only reduce the effects of condensation/mold but also prevent condensation or mold from occurring.

[Specific Examples]

- *Use double sashes and double glazing.*
- *Create airflows on perimeter zones.*

E.5.4. Other

☐E.5.4.1 (03 Safety)

Install personal protective equipment (PPE) in appropriate locations.

Because infection countermeasures (sterilizing hands, wearing a mask/apron, etc.) need to be carried out before and after medical practices, the required number of PPE (Personal Protective Equipment) and handwashing facilities need to be placed in appropriate locations.

[Specific Examples]

- *Install alcohol-based disinfectant dispensers around the entrances to patient rooms.*

E.6. BCP

E.6.1. Earthquakes

Advance planning

☐E.6.1.1 (00 Basic)

Check the hospital's business continuity plan (BCP).

Architectural planning needs to be carried out after checking the purpose of functional continuity in line with medical functions in accordance with the hospital's BCP (Business Continuity Planning) and target standards for specific capabilities.

[Specific Examples]

- *Consider the scenarios and requisite functions in times of disasters, and decide the size of rooms and equipment capacity accordingly.*
- *Envisage the acceptance of aid providers and evacuees from outside.*

Construction

☐E.6.1.2 (03 Safety)

Take measures in advance from an architectural perspective.

In addition to lessening the impact of seismic motion on the building frame, it is necessary to prevent furniture/fixtures from moving and non-structural components or piping equipment from falling/being damaged.

[Specific Examples]

- *Check the seismic resistance (seismic code) of buildings used.*
- *Use seismic isolation, damping and seismic-resistant structures.*
- *Secure furniture.*
- *Use bracing on ducts and waters supply and drainage pipes, and pay consideration to ensuring they do not interfere with ceiling joists.*
- *Secure sufficient seismic resistance in ceiling joists (such as by using seismic-resistant ceilings etc.)*

Electricity

☐E.6.1.3 (01 Medical)

Secure the electrical equipment required for maintaining medical functioning.

So that medical functions can be maintained even in the event of a major power outage, the electrical room and cubicle need to be located in places that enable overall functional loss due to problems caused by water leakage, etc., or partial malfunctioning to be avoided and maintenance to be carried out safely even in the event of a disaster. Furthermore, after specifying the priority locations for sending electricity, decide the capacity of emergency generators based on the estimated usage and secure that amount of fuel. The type of fuel used to operate the emergency generator needs to be selected based on regional characteristics.

[Specific Examples]

- *When locating on roofs, install within rooftop mechanical rooms.*
- *Secure natural daylight (surgical departments, patient rooms etc.)*
- *Decentralize power sources and adopt two-line power receiving systems (multiplexing of power receiving system).*
- *Set the emergency generator capacity at around 60% of the usual level, and secure enough fuel for three days.*
- *Conclude agreements on the prioritized supply of diesel and fuel oil with the fuel suppliers.*

Telecommunications

☐E.6.1.4 (07 Information)

Secure means of communication for contacting the outside in the event of a disaster.

In the event of a disaster, it is necessary to contact entities outside the hospital and make requests for cooperation. Implement measures to ensure that the means of communications itself does not malfunction.

[Specific Examples]

- *Envisage a room to serve as an emergency headquarters and install satellite phones etc.*

Air-conditioning

☐E.6.1.5 (01 Medical)

Secure the air-conditioning equipment required for maintaining medical functioning.

Even if lifelines are disrupted due to a disaster, ensure that the temperature, humidity, and level of cleanliness necessary for medical practices can be secured in the zones where these are carried out, including securing the living environment.

[Specific Examples]

- *Introduce passive design using wind flow and air ventilation not requiring the use of electricity.*

Water

☐E.6.1.6 (01 Medical)

Secure the water supply equipment required for maintaining medical functioning.

In order to maintain medical functions, it is essential to secure water. Also, be mindful that in supplying water, simultaneously disposing of waste water is also essential. Plans need to be formulated to enable specification of estimated usage amounts and use of water for a certain period of time even when the water supply is interrupted. Furthermore, in the case of disaster base hospitals, around three days' worth of water needs to be secured. Also, in order to maintain medical functions and continue hospital activities, it is necessary to formulate plans for drainage storage tanks so that any wastewater that is generated can be treated.

[Specific Examples]

- *Install water tanks on higher floors so that gravity instead of electricity can be used to supply and drain water.*
- *Install recycled water storage tanks and purification devices so that well water and rainwater can be used.*
- *If there are dialysis patients in the hospital, plan the adequate additional water volume for supply and drain water for dialysis treatment.*
- *Plan wastewater storage tanks in preparation for the event that it becomes impossible to release water into the public drainage pipes in times of disaster.*

Gas

☐E.6.1.7 (01 Medical)

Secure the gas equipment required for maintaining medical functioning.

In preparation for external gas supplies being disrupted, plans must be formulated so that heat sources can be secured continuously. It is also necessary to prevent damage to gas pipes buried within the hospital grounds.

[Specific Examples]

- *Make joint use of cooking equipment adaptable to propane gas or electricity.*
- *Install a trench from the gas governor to the hospital buildings and connect with gas pipes.*
- *Take in medium-pressure gas, which is highly seismic resistant.*

Medical gas

☐E.6.1.8 (01 Medical)

Secure the medical gas required for maintaining medical functioning.

Medical gas is essential for patients' life support, even in the event of a disaster. In addition to preparing for in-hospital gas supplies being disrupted, a back-up system needs to be secured in preparation for situations where gas replenishment from outside the hospital is delayed.

[Specific Examples]

- *Arrange gas pipes in a loop in preparation for damage to the gas supply system.*
- *Ensure there is adequate capacity in reserve tanks.*
- *Conclude an agreement on the prioritized supply of gas with the medical gas suppliers.*

Medical staff/Healthcare providers

☐E.6.1.9 (12 Staff)

Implement the measures required to enable staff to perform their jobs.

In the event of a major earthquake, medical staff need to be secured. Accordingly, preparations need to be made to ensure that staff can quickly and safely come to the hospital and carry out their work. It is also necessary to anticipate the hospital hosting DMATs (Disaster Medical Assistance Teams).

[Specific Examples]

- *Install the requisite telecommunication equipment and charging equipment in order to secure a communications setup during emergencies.*
- *Secure in advance space for accommodation and childcare.*
- *Secure in advance the space for the bicycles, cars and lifeboats that become means of transport during emergencies.*
- *Designate accommodation and resting places for DMAT members and staff during emergencies (such as in conference rooms and rehabilitation rooms).*
- *Store food and water for medical staff.*

Acceptance

☐E.6.1.10 (00 Basic)

Anticipate establishment of a triage post for disaster victims.

Disaster base hospitals also accept patients from outside. In preparation for situations in which the hospital needs to accept a large number of patients all at once, it is necessary to check which places and operations are capable of accepting patients from outside and decide in advance the places where triage for victims will be carried out (triage points) and triage flow. It is also necessary to anticipate the hospital accepting support.

[Specific Examples]

- *In order that large numbers of patients can accepted by the hospital while triage is conducted on them, plan the positioning of routes from the parking lots and pulling up places for cars.*
- *Plan the first-floor lobby, outpatient department corridors, waiting spaces and halls with the acceptance of patients in mind.*
- *Install piping to provide medical gas, water and electricity to spaces where it is envisaged that disaster victims will be accepted.*
- *Select sofas that can be used as simple beds for fixtures in waiting areas.*
- *Install a space for outdoor triage tents and manholes for portable lavatories.*
- *Secure flows from spaces to put bodies of the deceased and spaces for triage.*

Emergency stockpile

☐E.6.1.11 (02 Lifestyle)

Ensure that there is a sufficient stockpile of all required items and a place to store the stockpile.

Stockpiles of various supplies need to be made in preparation for the event of a disaster. Also, in preparation for situations in which elevators cannot be used, it is desirable that bulky goods are distributed to the locations where they will be needed. Also give consideration to tie-ups with nearby supermarkets and convenience stores in order to create stockpiles for not only the hospital unit but also the community overall.

[Specific Examples]

- *Install a space for storing medicines, food, blankets, rollaway beds and portable lavatories, and distribute linen among each floor.*
- *In order to conserve water, install portable lavatories on each floor.*
- *Plan in advance an adequate space for the hygienic storage for three days of soiled items (such as diapers).*
- *Place storage boxes for flood barriers at various points around the hospital entrances.*

Evacuation/Refuge compartment (fire-proof compartment)

☐E.6.1.12 (09 Equipment)

Formulate a plan that enables people to stay inside the hospital.

In areas where there are patients for whom evacuation is difficult—operating room patients, ICU patients, sterilized/infected room patients—or patients whose conditions could worsen by being moved for evacuation, particular care must be given to ensuring that medical function can be maintained even when infrastructure has been disrupted. Because many patients have difficulty walking and outside the hospital building is fundamentally dangerous, formulate plans and designs premised on sustainable operations generally being possible without patients needing to evacuate the hospital and going to other facilities.

[Specific Examples]

- *Install supplies and backup equipment in preparation for the hospital becoming cut off.*

Vertical flow

☐E.6.1.13 (03 Safety)

Give consideration to vertical flows in the event of an emergency.

When a building is struck by large seismic motion, it is not possible to use the elevators until they have been inspected by the elevator manufacturer. When vertical evacuation is necessary, evacuation is generally via evacuation stairs. Elevators equipped with a self-diagnostic/temporary emergency restoration device can be operated temporarily in the event of small- or medium-sized earthquakes. Formulate plans that anticipate patients who are attached to life support equipment or otherwise would have difficulty evacuating via the evacuation stairs being evacuated via elevator.

[Specific Examples]

- *Consolidate vertical flows so that there is no chaos even when elevators stop working.*
- *In order that patients can be transported up and down staircases when elevators stop working, install emergency evacuation transport equipment and space to put it near each staircase.*
- *Make a transport plan combining use of dumb waiters in order not to rely entirely on elevators.*
- *With regards to elevators that function in power outages, be thorough in letting staff and users understand their use and location.*
- *Envisaging situations in which orders of priority have to be decided, install elevators that are equipped with self-diagnosis and temporary recovery devices operable in up to medium-sized earthquakes.*

Transportation

☐E.6.1.14 (03 Safety)

Secure means of transporting patients in the event of a disaster.

Anticipating that transportation of patients and goods overland may be impossible due to road ruptures, etc., it is necessary to secure alternative methods for transporting patients and goods.

[Specific Examples]

- *Install a helipad adaptable to hospital transport and secure means of transport.*
- *In flood-prone areas install lifeboats and a platform corresponding to flood depths.*

E.6.2. Water damage due to tsunami/flooding

Construction

☐E.6.2.1 (00 Basic)

Check policies regarding flood-control measures in advance.

Check hazard maps, etc., and establish hospitals in locations where there is no danger of flooding. If low-level flooding is anticipated, take the necessary measures. Also prevent rainwater from penetrating the hospital building during storms and secure safe approach routes around the hospital entrance. The electrical room and cubicle need to be located in places that enable overall functional loss due to problems caused by flooding or water leakage, etc., or partial malfunctioning to be avoided and maintenance to be carried out safely even in the event of a disaster.

[Specific Examples]

- *Build the hospital on raised land.*
- *Use land elevation and pedestals, and ensure the basic functions of the hospital are located in places not at risk to flood danger.*
- *Locate server rooms, electrical and machine rooms, and the main equipment of control machinery in central monitoring rooms in places where there is no danger of flooding.*
- *Attempt to ensure the continuation of medical functions through the allocation of functions across floors, such as locating parking lots and administrative functions on the first floor.*
- *Pay consideration to the free area ratio of grilles, and take measures to prevent the permeation of rainwater during strong winds and torrential rain by adopting waterproof grilles, and locating them under eaves etc.*
- *Install piloti entrances or entrance porches to secure safety around entrances in times of strong winds and torrential rain.*
- *Install tide barriers and flood barriers at entrances.*

Electricity

☐E.6.2.2 (01 Medical)

Secure the electrical equipment required for maintaining medical functioning.

In order to maintain medical functions, securing electricity is essential. It is necessary to avoid problems caused by flooding or water leakage, and specify the priority locations for sending electricity. Furthermore, decide the capacity of emergency generators based on the estimated usage and secure that amount of fuel.

[Specific Examples]

- *Plan indoor UPS (uninterruptible power supplies) and cubicles (electrical rooms).*
- *Install generator oil tanks in places where there is no risk of flooding, and ensure their specifications are resistant to flooding and submergence.*
- *Conclude agreements on the prioritized supply of diesel and fuel oil with the fuel suppliers.*
- *Separate systems liable and not liable to flood damage.*

Vertical flow

☐E.6.2.3 (03 Safety)

Give consideration to vertical flows in the event of an emergency.

When a building is struck by large seismic motion that could cause a tsunami, it is not possible to use the elevators until they have been inspected by the elevator manufacturer. If the hospital is located somewhere that a tsunami is expected to hit or flooding is anticipated, evacuate both patients and staff vertically to a high place.

[Specific Examples]

- *In the event that the kitchens etc. are not located on the lowest floor install at least one elevator that does not stop at the lowest floor, and secure elevators that can be used even when the hospital is flooded.*

Transportation

☐E.6.2.4 (03 Safety)

Secure means of transporting patients in the event of a disaster.

For areas where there is a risk of water damage or flooding, anticipate situations in which transporting patients or goods overland is impossible.

[Specific Examples]

- *Install lifeboats and a boarding place for lifeboats at a level corresponding to predicted flood depths.*

E.6.3. Other disasters

Construction

☐E.6.3.1 (00 Basic)

Check the patient evacuation/confinement plans in advance.

In general, two-direction indoor-outdoor or two-direction indoor evacuation routes are established; however, in the case of hospitals, in view of the fact that there are many patients who are difficult to move, anticipate that patients will be moved to a primary safe section (depending on the scale of the building, also a secondary safe section) via horizontal evacuation. In spaces where moving patients is itself difficult—such as operating rooms, ICU, and infection-related patient rooms—medical practices are continued uninterrupted premised on a long wait for evacuation, even in the event of fire. For this reason, make such spaces sections that are protected from the surrounding area (refuge compartments).

[Specific Examples]

- *Select non-combustible or flame-resistant interior and exterior materials, furniture and fixtures, fabrics and linen products.*
- *Pay consideration to the evacuation of patients who are difficult to move, and do not plan the installation of evacuation balconies.*
- *Split each floor into at least two fire compartments.*
- *If fire doors have wicket doors (small doors within the door itself) design them so there is no need to step over frames etc.*
- *Make evacuation routes clearly visible and plan to raise the level of awareness of them by using them on a day-to-day basis.*
- *In the event of the outbreak of fire in other parts of the hospital create a fireproof compartments protected from the surroundings where it is possible to continue medical practices until the fire is extinguished.*

Electricity

☐E.6.3.2 (01 Medical)

Secure the electrical equipment required for maintaining medical functioning.

In sections that are protected from the surrounding area—operating rooms, ICU, infection-related patient rooms—(refuge compartments), medical practices are continued uninterrupted premised on a long wait for evacuation, even in the event of fire. For this reason, plans need to be formulated to ensure that there is an uninterrupted electricity supply.

[Specific Examples]

- *Install circuits for electricity supply to the fireproof compartments.*
- *Install emergency power outlets.*

Firefighting equipment

☐E.6.3.3 (09 Equipment)

Secure the firefighting equipment required for maintaining medical functioning.

Keep in mind that there are rooms where it is not possible to extinguish fires using water, such as rooms equipped with advanced medical equipment (CT, MRI, etc.), the electrical room, or the machine room.

[Specific Examples]

- *In places such as CT and MRI where flood damage could have an impact on medical activities use standpipe with hose system instead of sprinklers for alerts.*
- *Use inert gas fire suppression systems in server rooms, and store the gas cylinders in places where entry and exit is possible without having to go through or near protection areas.*
- *Install fire department connections in two directions, and use bypass piping.*

Medical gas

☐E.6.3.4 (01 Medical)

Secure the medical gas equipment required for maintaining medical functioning.

For areas where medical practices are continued uninterrupted (operating rooms, ICU, etc.) even in the event of fire, plans need to be formulated to ensure that there is an uninterrupted medical gas supply.

[Specific Examples]

- *Connect gas piping to the fireproof compartments.*
- *Arrange gas pipes in a loop in preparation for damage to the gas supply system.*

Evacuation

☐E.6.3.5 (08 Physical)

Formulate plans that enable patients with decreased mobility to evacuate safely.

In hospitals where there are many patients who have difficulty in walking, plans need to be formulated to enable staff and patients to temporarily evacuate to a different area in the event of fire and wait for rescue services to arrive.

[Specific Examples]

- *Formulate well-balanced horizontal evacuation compartments, and provide staircases leading to each of them.*
- *In the event of a fire at the hospital make plans in which elevators are not used.*

Acceptance

☐E.6.3.6 (00 Basic)

Ensure large numbers of patients with injuries from CBRNE (chemical/biological/radiological/nuclear/explosive) events can be accepted.

Taking into consideration the possibility of infection/contamination, anticipate that decontamination may be necessary first of all in some cases. Furthermore, because there is a risk of infection/contamination, medical staff need to be protected from secondary disaster.

*CBRNE disaster: chemical/biological/radiological/nuclear disaster

[Specific Examples]

- *In order to cope with chemical substances and biological weapons (pollution) conduct zoning to enable isolation when necessary.*
- *Since it is necessary to assess whether or not patients can enter the hospital building according to their condition in certain cases secure space to organize outdoor tents.*
- *Paying consideration to pollution and infection, install storage space for PPE (personal protective equipment).*

E.7. Accessible design

Aiming to achieve acceptance of and coexistence with a diversity of people, the concept of accessible design is essential for shaping public environments. In addition to patients with various different backgrounds and attributes and their family members, staff and volunteers working at the hospital are positioned in hospital plans as facility users. It is important to check where necessary whether or not these people's requirements are reflected in planning design. From the perspective of accessible design, the first priority is to overcome physical barriers for users who have difficulties with their physical capabilities or judgement. In addition to overcoming various physical barriers, understanding cultural and gender diversity is also required. Understanding and resolving the above issues is essential for creating comfortable treatment environments and safe workplaces, and ultimately also leads to the securing of users' QOL.

E.7.1. Common items

□E.7.1.1 (00 Basic)

Check policies for handling various users.

In hospitals, adjustments need to be made in order to respond to a diversity of situations—adults, children, elderly people, people with disabilities, etc. In addition to architectural spaces and equipment, these adjustments also consider human (staff) responses with the aim of creating a safety net that combines all these factors. While checking usage trends for the target locations, it is also necessary to be attentive about usability in concrete terms, giving consideration to detailed dimensions.

[Specific Examples]

- *Install staff call devices at heights where patients in wheelchairs can reach them.*
- *Install staff entrances close to reception counters so that human response can be provided straight away.*

□ E.7.1.2 (03 Safety)

Give consideration to the effects of designs eliminating barriers posed by a specific disability on people without that disability.

With designs that remove barriers for certain disabilities, the design may become a barrier for other people. It is difficult to resolve all issues with a single design, and a design approach that enables selectability and a diversity of usage methods is required.

[Specific Examples]

- *Pay consideration to preventing children from colliding into handrails by fitting them within walls.*
- *Install tactile paving that is minimally protrusive in order to avoid elderly people stumbling on them and the interruption of wheelchair progress.*

☐E.7.1.3 (07 Information)

Ensure people can comprehend the required information and go to their destination.

Facility users—patients, attendants, visitors—vary greatly in terms of age and physical/mental condition. The hospital facilities environment must enable all users to use the facilities without burden, even if their physical or cognitive functions are declining. Accordingly, planning of flows, spatial composition, and department layout that ensures the shortest and easiest-to-understand flows is an important item for consideration. Display signs that are the best size/color for their content to be easily understood at the best height/in the best position for them to be easily seen in order to ensure that anyone can correctly comprehend the information that they need and move smoothly to their destination.

[Specific Examples]

- *Locate general information counters in easily found positions.*
- *With regard to low vision accessibility refer to the suggestions provided in the MLIT's Survey on the Safety and Convenience of those with Low Vision (2012), and decide upon sizes and colors.*
- *Select colors according to the color universal design guidelines stipulated by prefectures etc.*
- *Install guidance floor graphics.*
- *Install atriums to serve as landmarks making it easy for people to identify their location.*
- *Plan signs that combine multiple information methods (words, pictograms, colors, numbers etc.)*

☐E.7.1.4 (07 Information)

Ensure people can use the facilities regardless of whether they do or do not have a disability, and the level of their disability.

Hospitals are required to show consideration so that anyone—both patients and medical staff—regardless of whether or not they have a disability, are able to easily receive support so that they use the facilities. Also, attention needs to be given to architectural considerations so that users with disabilities are able to smoothly move about, use spaces, and undergo treatment by themselves without the support of others.

[Specific Examples]

- *Lead evacuation during disasters using audio guidance and flashing guide lights.*
- *Conduct guidance using sound and music by installing motion sensors around lavatory entrances.*
- *Install a wheelchair-adapted lavatory for staff.*

☐E.7.1.5 (08 Physical)

Formulate plans that take decreased mobility into consideration from an architectural perspective.

The most noticeable decline in a patient's physical function is said to be a decline in their physical mobility. This is also linked to difficulty moving a certain distance and in maintaining a standing posture such as when waiting for the elevator or riding on an escalator. However, the environmental criteria for facing such difficulties are relative and differ according to each patient's physical condition. To ensure that the hospital is easy to use, it is essential that in using the hospital building each patient has the ability to choose a usage environment appropriate for their own physical condition, and that the methods for using this environment are presented to users in an easy-to-understand form. Environments need to have instinctively easy understandability and selectability.

[Specific Examples]

- *Install space for seating in elevator halls.*
- *Install foldable benches near entrances inside elevator cars.*
- *Install handrails in elevators.*
- *Locate elevators, staircases and escalators in groups.*
- *Arrange places where people can rest where necessary.*
- *Install continuous handrails around fire hydrants and fire doors.*
- *Adopt escalators that can be set to move at slow speeds.*
- *Secure elevators that disabled staff can use.*

☐E.7.1.6 (08 Physical)

Formulate plans that give consideration to decreased mobility from an architectural perspective.

Because patients' physical functions generally decline in various ways, they need to be able to use the facilities conveniently, such as the facilities they use causing only a small burden or the patients being able to select how they use facilities to match their capabilities.

[Specific Examples]

- *Use wide elevator cars in order to prevent people from panicking and falling when getting on or off.*
- *Install easily understood signs.*

☐E.7.1.7 (08 Physical)

Formulate plans that give consideration to decreases or changes in vision from an architectural perspective.

Many elderly patients have cataract-related conditions and/or declining eyesight. It is necessary to consider taking brightness into account and field of vision characteristics, and give thought to designs that facilitate measures to counteract declines in these functions.

[Specific Examples]

- *Devise lighting and signage plans that accommodate patients suffering from cataracts or glaucoma.*
- *Arrange the position of ceiling lighting, for example in rows, so that routes can be understood.*

E.7.2. Consideration for people with various disabilities

Hearing disorders

☐E.7.2.1 (07 Information)

Ensure people with hearing impairments can appropriately acquire required information.

If sounds cannot be heard or are difficult to hear, it can be inferred a patient is suffering from deafness or hearing impairment. There are also people who have difficulty producing sounds when they speak. Accordingly, there may be situations where audio communication is difficult or impossible, and it needs to be kept in mind that people with disabilities may sometimes encounter difficulty having other people understand that they do in fact have a disability due to their outward appearance.

[Specific Examples]

- *Keep areas of wall space so that it is possible to provide written guidance on various calls and states of emergency.*

Cognitive dysfunction

☐E.7.2.2 (07 Information)

Give consideration to mistakes/misunderstandings.

Cognitive impairment causes problems with memory, thinking, orientation, comprehension, calculation, learning, language, and judgement. Accordingly, it is first of all imperative to make adjustments to make it easy for such patients to comprehend where they are inside the facility building. In order to cover the aspects of a diverse range of disabilities, adjustments need to be made to enable patients to easily locate places using several more effective methods.

[Specific Examples]

- *Employ signage using pictograms, photos, pictures and colors.*
- *Use difficult-to-distinguish colors and shapes for entrances and exits to staff areas.*

Intellectual disorders

☐E.7.2.3 (07 Information)

Ensure users with intellectual impairments can comprehend locations.

In some cases, cognitive impairment may make communication difficult or impossible, such as comprehending and making decisions based on information from letters or figures, or conveying one's own ideas or thinking to others.

Internal disorders

☐E.7.2.4 (08 Physical)

Formulate plans that give consideration to internal disabilities from an architectural perspective.

Due to damage to heart, kidney, respiratory organ, bladder, rectum, small intestine, liver, or immune functions, a patient may tire easily, be unable to stand for lengthy periods of time or move about, or have elimination difficulties. Also, if the patients use a portable cylinder, walking up and down stairs may be difficult.

Mental disorders

☐E.7.2.5 (05 Comfort)

Ensure that even people with a mental disorder can use the facilities with peace of mind.

Due to some kind of mental disorder, patients may experience symptoms such as a decline in motivation or interest, or strong tension/anxiety, and in certain cases delusions, hallucinations, or visions. Accordingly, it may be difficult or impossible for such patients to stay for long periods of time in the same space as other patients or communicate with other people.

E.7.3. Consideration for foreign-national users

□E.7.3.1 (05 Comfort)

Ensure it is possible to handle patients/visitors from different cultures.

Be aware that people's attitudes towards illness and medical treatment may differ according to their culture. Consider places for explaining differences, and places for measures enabling the acceptance of differences. Specialist staff and/or volunteers could also be recruited, so space is needed for such people to use.

[Specific Examples]

- *Install a consultation room for foreigners and room for foreign staff.*
- *Prepare a multi-faith prayer room.*

□E.7.3.2 (07 Information)

Ensure it is possible to handle multilingual patients.

With the increase in the number of foreign nationals in Japan, there is an increasing trend in opportunities for foreign nationals to undergo medical examinations, and so consideration needs to be given to this. Effective methods for enabling foreign-nationals to use hospital facilities easily include not only displaying multilingual signs but also implementing adjustments to signs so that anyone can understand their meaning without using words or characters.

[Specific Examples]

- *Use pictograms and numbers as the main means of expression, and plan signs so that they can be readily understood without the use of words or characters.*
- *Plan signs so that they contain the requisite text in other major languages*

E.7.4. Considerations for users accompanied by small children

□E.7.4.1 (05 Comfort)

Ensure it is easy to care for children, regardless of whether they are male or female.

A basic condition for public facilities is providing an environment that facilitates child-raising. It is desirable that areas that involve the care of children are well-organized and that appropriate designs for public facilities are provided. In hospitals, particular care needs to be given in cases where the physical capabilities of the carer are declining. It goes without saying that gender equality in child-rearing is fundamental, so install childcare facilities such as diaper changing stations that can be used by male or female carers.

[Specific Examples]

- *Install children's toilets in both the male and female lavatories.*
- *Secure space for placing strollers brought by patients while undergoing diagnosis or treatment.*

E.7.5. Matters to consider regarding gender

□E.7.5.1 (05 Comfort)

People can use the facilities comfortably, regardless of gender.

To enable people who are transgender or who have other gender issues to use the hospital facilities comfortably, adjustments need to be made so that the environment is supportive of gender diversity.

[Specific Examples]

- *Install multipurpose lavatories combining adult and child lavatories.*

E.8. Amenities

This section summarizes the items that should be considered in order to secure the comfort of staff and patients using the medical facility. A "Necessity" is a service that is covered by medical fees. A "Luxury" is a service that patients may receive by paying the difference between the cost of the service and the amount covered by medical fees. An "Amenity" is a service for patients that does not fall under either of the previous two categories.

E.8.1. Common items

□E.8.1.1 (00 Basic)

Enhance amenities as living spaces.

Due to extreme population aging, increasing severity of disease, and diversification of values, people's everyday lives are no longer uniform. Accordingly, measures that give consideration to diversity and increase selectability are necessary.

E.8.2. Patient amenities

□E.8.2.1 (02 Lifestyle)

Create an environment that is capable of responding to the needs of individual patients.

In hospital wards, it is necessary to create environments that are similar to patients' everyday living in order to improve the quality of patients' lives in hospital. Accordingly, consideration needs to be given to the positioning of television sets and information terminals such as for the Internet based on how the layout of the bed and furniture in the room is envisaged. With regard to washrooms, secure sufficient storage volume for the number of patients using the hospital room (private/multi-patient) and give consideration to positioning. Implement specifications that take into account the aging of patients and the increasing severity of their illnesses. For hospital environments where young children or severely ill patients are staying, be careful to ensure that the patients' circadian rhythms are not disrupted. Coordination with the hospital is necessary to ensure that these considerations do not interfere with the treatment environment.

[Specific Examples]

- *Install washrooms where patients can tidy their appearance and use hair driers or brush their teeth.*
- *Arrange furnishings in which personal belongings can be stored.*
- *Install a shop or vending machines where everyday goods can be purchased, and refrigerators should be equipped in patient rooms.*
- *Install multifunction overbed lighting that can be used for all daily activities including treatment, eating and reading.*
- *Install indirect lighting on the wall above patients' heads and plan lighting so that it is gentle and has an at-home feeling.*
- *Conduct lighting planning in tandem with circadian rhythm.*

☐E.8.2.2 (02 Lifestyle)

Create a highly convenient environment.

For patients who have been hospitalized for a long period of time and are unable to leave the hospital, take care to ensure that they can spend their time in hospital comfortably.

[Specific Examples]

- *Install vending machines, convenience stores, cafes and lounges.*
- *Install a lactation room.*

☐E.8.2.3 (02 Lifestyle)

Give consideration to patients' families.

Give consideration to the family members of inpatients, family members accompanying outpatients, and other family members of patients who spend nearly as long in the hospital as the patient.

[Specific Examples]

- *Prepare a space for patients to meet people.*
- *Secure sufficient space in lavatories and patient rooms and plan them in a manner easing patient care.*
- *Ensure ample space at the main entrance for pulling up places so it is easy to help patients get in and out of cars.*
- *Plan the sending-off route from the mortuary with consideration to patients' families (for example by ensuring it is not intersected by garbage transport routes etc.).*
- *In addition to waiting areas, prepare spaces such as lobbies and lounges in outpatient departments where patients' families can spend time.*
- *Plan an adequate number of family waiting rooms in consideration of the number of surgical procedures performed.*
- *In places such as palliative care wards plan in-ward rooms where families can stay and shower rooms for the use of accompanying family members.*
- *Plan lavatories for family visitors in wards.*

☐E.8.2.4 (04 Privacy)

Pay consideration to patients' privacy.

Hospital in-patients and outpatients all have different illnesses, and so thorough consideration needs to be given to securing patients' privacy. However, there are situations in which medical practice should be given priority over the patient's privacy.

[Specific Examples]

- *Partition the waiting areas in the gynecology department, and make them women-only.*
- *Separate the flows of hospitalized patients to the examination department.*
- *Call patients using numbers instead of names.*
- *Do not display patient names outside of patient rooms.*
- *Install waiting room for patients who have been transported by bed.*
- *Prepare spaces with privacy in mind for patient visitors and consultation with nurses and doctors.*

☐E.8.2.5 (05 Comfort)

Create an environment in which patients can spend their time comfortably.

Consideration needs to be given to the light environment, sound environment, thermal environment, humidity environment, and color environment.

[Specific Examples]

- *Install humidifiers and dehumidifiers.*
- *Display hospital art.*
- *Pay consideration to child patients.*
- *Install large windows that take in plenty of light and provide pleasant views.*
- *Use walls with acoustic absorption materials and a high level of sound insulation.*
- *Play background music.*
- *Conduct rehabilitation using outside spaces.*

E.8.3. Staff amenities

☐E.8.3.1 (12 Staff)

Provide a place where staff can relax.

Because patients face various situations that make them tense or nervous, care must be taken so that staff can help them to adjust their feelings.

[Specific Examples]

- *Install break rooms with windows.*
- *Install gender-considerate lavatories and night duty rooms.*
- *Prepare spaces suited to different ways of resting, in which staff can chat, and where they can spend a quiet time alone.*
- *Install break rooms near to staff posts so that they can rest even for short periods.*
- *Install well-equipped staff cafeterias.*

☐E.8.3.2 (12 Staff)

Secure flows in order to avoid unnecessary contact with patients.

Care needs to be taken to ensure that conversations between staff are not carelessly leaked to patients. Furthermore, because some staff do not wish to interact with patients outside working hours, give consideration to where staff are staying and their flows when entering or leaving the hospital.

[Specific Examples]

- *Install staff-only entrances.*
- *Construct staff-only zones.*
- *Pay consideration to the distance of spacing between seating in the medical office etc.*

E.9. Maintenance

E.9.1. Facilities

☐E.9.1.1 (09 Equipment)

Install equipment/facilities that are easy to maintain/manage.

Medical facilities have a higher mechanical equipment ratio for Life Cycle Costs (LCC) and they must operate continuously. Accordingly, consideration needs to be given to mechanical equipment that is high-safety and easy to maintain/replace.

[Specific Examples]

- *Install a catwalk.*
- *Use LED lighting equipment.*
- *Install equipment in locations where maintenance can be carried out from corridors and common areas.*
- *Prepare hatches and carrying in routes for large machinery.*

E.9.2. Building

☐E.9.2.1 (03 Safety)

Take measures to prevent building damage.

Medical facilities are used by many people and large quantities of goods are transported in and out, so the buildings can easily sustain damage. Accordingly, consideration needs to be given to preventing building damage.

[Specific Examples]

- *Install corner guards and stretcher guards.*
- *Add protective guards to the lower part of the wall as a countermeasure against scratching.*
- *Use reinforced gypsum plaster boards to partition fireproof walls.*

☐E.9.2.2 (09 Equipment)

Plan structures that are easy to maintain and manage.

Medical facilities are used by many people and large quantities of goods are transported in and out, so contamination or damage can easily occur. Accordingly, give consideration to selecting materials that can be easily maintained, replaced, and/or repaired.

[Specific Examples]

- *Use no-wax flooring materials.*
- *Use carpet tiles.*
- *Use single-layer vinyl flooring materials.*
- *Secure a stock of reserve items for replacement.*

E.9.3. Energy-saving/Resource-saving

☐E.9.3.1 (00 Basic)

Give consideration to saving energy/resources.

Hospitals have high unit energy consumption and nighttime energy consumption per square meter, as well as high water consumption. Accordingly, measures need to be taken in consideration of the environment, such as energy-saving and global warming countermeasures. For this reason, beginning with planning all materials, equipment, and sanitary facilities, etc., must be selected with the utmost care.

[Specific Examples]

- *Reduction of Burdens*
- *Build the hospital (wards) on an east-west axis.*
- *Install louvers and eaves on patient room windows.*
- *Install green walls and green roofs.*
- *Use highly thermal insulation materials (glass).*
- *Pay consideration to energy-saving through appropriate selection of electricity (LED), gas, fuel oil and water.*
- *Use energy-saving toilets.*
- *Control of Burdens*
- *Use natural resource energy.*
- *Conduct centralized monitoring of lighting, air-conditioning and equipment and machinery.*
- *Use rainwater as non-potable water.*
- *Control use of lighting through motion sensors (in lavatories, stairwells etc.)*
- *Enable the separation of areas during and outside of consulting hours, and make plans to avoid the wasteful use of energy outside of consulting hours.*

E.9.4. Life-cycle cost (LLC)

☐E.9.4.1 (10 Duties)

Ensure balance between building costs and running costs.

Consideration must be given to reducing not only building costs but also running costs. For this reason, give consideration to ease of maintenance, selection of low-energy equipment, methods for cutting peak demand, and using natural energy. In addition, reductions need to be made to construction costs, utility costs, preservation costs, renewal costs, and general management costs (tax, insurance, rental), as well as maintenance/running costs.

[Specific Examples]

- *Reduction of Running Costs and General Management Expenses*
- *Use nighttime heat storage.*
- *Select equipment and machinery with long life spans.*
- *Use well water and rainwater.*
- *Use geothermal heat and trench cooling.*
- *Use natural ventilation during mild seasons.*
- *Reduction of Upkeep and Maintenance Costs*
- *Adopt maintenance-free photocatalytic exterior materials.*
- *Adopt easily maintained materials such as linoleum, which has excellent ant-bacterial effects and does not require waxing.*

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