Formal Interpretations

***Guidelines for Design and Construction of Hospitals*, 2022 edition**

Decisions published here were rendered after a multi-person panel of Health Guidelines Revision Committee (HGRC) members reviewed the request and consensus was achieved. These decisions are considered formal interpretations of the HGRC, but they are not binding for states that reference the *Guidelines*. Rather, they are advisory in nature and are intended to help users and adopting authorities having jurisdiction (AHJs) maximize the value of the *Guidelines*.

Further comments from members of the Interpretations Committee have been added to some interpretations. These comments are intended as explanatory information for users of the *Guidelines* and are not to be considered part of the formal interpretation.

Formal interpretations are rendered on the text of the requested edition of the *Guidelines*. However, any interpretation issued shall apply to all editions in which the text is identical, except when deemed inappropriate by the HGRC.

In all cases, it is important to remember that the ultimate interpretation of information contained in the *Guidelines* is the responsibility of the authority having jurisdiction.

The Facility Guidelines Institute administers the procedure for developing formal interpretations. Please visit the FGI website at https://fgiguidelines.org/interpretations to read "Rules for Requesting a Formal Interpretation" before submitting a request. Also on the FGI website is an electronic form for requesting a formal interpretation.

This document has been downloaded from the FGI website at the address just above. Interpretations are compiled continuously, and this summary document is periodically updated.

REQUEST

Guidelines *edition:* **2022 Hospital** Guidelines *reference:* **2.1-2.4.3**

We recently had a question in our office regarding the 2018 and 2022 FGI standards for hospitals and the quantity of seclusion rooms required in a facility. Currently, we are in the design phase for two acute psychiatric hospitals, with 144 beds and 152 beds respectively, split among six patient care units in each hospital.

Question 1: Based on the information below, the facility with 144 beds appears to require 6 seclusion rooms (144 beds divided by 24 = 6). The facility with 152 beds, based on the language in Section 2.1-2.4.3.1, appears to require the same number of seclusion rooms. Since the difference in bed quantities between the facilities is only 8 (152 – 144 = 8), that would not be an increase of a "major fraction," which we understand to be 12 or more beds. If the project were to increase to 156 beds, we take this requirement to then require a total of 7 seclusion rooms (since the additional 12 is a "major fraction" increase over the original 144 bed quantity). Is this understanding of total required quantities for seclusion rooms correct?

Response: Yes, our calculation also yields 6 seclusion rooms per facility (144 divided by 24 = 6 and 152 divided by 24 = 6.33; a major fraction is one half or more).

Question 2: Additionally, we understand that Section 2.1-2.4.3.1 (2)(c) permits seclusion rooms to be grouped together and both their location and quantity is a function of the total size (bed capacity) of the hospital. We have typically grouped the spaces together so that a single seclusion suite (comprised of multiple seclusion rooms) is shared between multiple patient care units. We do not typically prefer to have a single seclusion suite provided for each and every patient care unit, since that would take up more space and cause higher project costs. Is this correct?

Response: Yes, organizing the required number of seclusion rooms into a seclusion suite meets the intent of the requirement. However, we would encourage you to conduct a behavioral and mental health risk assessment to assure that co-locating the seclusion rooms in one location rather than having one seclusion room in each unit supports patient and staff safety.

Further Comments

Senior architect specializing in behavioral and mental health facilities: The rooms can be grouped together if accessible to all units. The total number of seclusion rooms has to be equal to one for each unit, and if a unit is more than 24 beds there must be one for every 24 beds or [major] fraction thereof.

Senior architect specializing in behavioral and mental health hospitals: I have no issue with the understanding that the seclusion rooms can be grouped together if accessible to all patient care units. However, with the development of a single grouped seclusion suite (comprised of multiple seclusion rooms). attention should be paid to the associated support spaces.

Senior clinical design adviser with a behavioral health specialty: I concur with the previous comments and second the concern for adequate support spaces for the single seclusion suite. The *Guidelines* are being applied correctly by the inquirer, and thus I would state that the requirements are clearly written for 2022.

Senior architect specializing in behavioral and mental health hospitals: I do think the requirement potentially reads like it is for the number and not the specific location of the seclusion rooms. I have always interpreted this that the plan could have two or more seclusion rooms adjacent if it had more than 24 beds in adjacent units, for instance, in a common area (where the clinical support areas, including nurse station, consult, group activity areas, etc., are located) at the intersection of two nursing units on the same floor.

For most of the hospital designs I have been involved in, the patient care units were broken down into smaller pods for safety and other architectural reasons. My concern is that anyone needing to go into seclusion is under great distress and is aggressively acting out. Transporting that patient to another floor or even a far distance on the same floor can be dangerous for both staff and the patient; therefore, the rooms should be dispersed accordingly.

Engineer specializing in health care codes and design: The inquirer's solution appears sound as long as patient access to the seclusion suite is not hindered because of its location and the authority having jurisdiction agrees.

REQUEST

Guidelines *edition:* **2022 Hospital** Guidelines *reference:* **2.1-7.2.3.1 (7)(a)**

Question: Is it the intent of *Guidelines* Section 2.1-7.2.3.1 (7)(a)(vii) (Floor and wall base assemblies) to require the toilet room associated with an AII room to have the same flooring type as the patient room?

Response: Yes, the intent of the *Guidelines* is to require the toilet room associated with an AII or a protective environment (PE) room to have floor and wall base assemblies that are monolithic and have an integral coved wall base that is carried up the wall a minimum of 6 inches (150 mm) and is tightly sealed to the wall.

Further Comments

Health care facility manager/owner: By its very nature and its adjacency to the AII room, this bathroom increases the risk of potential infection if it is not kept just as clean as the patient room it serves.

Health care architect: I think the coved base is a requirement because of the amount of cleaning and sanitizing needed for the listed spaces. Since the patient toilet room is a part of the patient room and serves the same patient, the cleanability requirement for the AII or PE room should extend to the associated patient toilet room.

Authority having jurisdiction: The requirement for a monolithic flooring material with an integral wall base is to provide for efficient cleaning and sterilization of the room. Because the toilet room is attached to the patient room, open to the patient room, and used by the same room occupant, the rooms are basically one and the same and would require the same level of cleaning and care; thus, the floor throughout both rooms is intended to be monolithic with an integral base.

Health care architect/owner: In my opinion, it is reasonable that the AII patient bathroom carry the same flooring requirement as the AII room based on the requirement in Section 2.1-2.2.6.1 (Patient Toilet Room: General), which states "each patient shall have access to a toilet room *without having to enter a corridor*." [Italics added.]

"Without having to enter a corridor" means the toilet room is contiguous with the patient room. Since this is so, it would logically follow that the material requirements would also follow through. I do not see it as practical to meet the monolithic floor requirement in Section 2.1-7.2.3.1 if a different material is used in the adjacent/contiguous patient toilet room.

It would have been helpful to include the toilet room as an explicit requirement as the anteroom (although where provided) was, but that further strengthens my belief that the toilet room should have the same flooring requirement (why would a monolithic floor and wall base assembly be required for the anteroom and AII room but not for the bathroom?).

Compliance officer/owner: The toilet room is an extension of the patient care room and must have a monolithic floor with an integral coved base that has a minimum height of not less than 6 inches. The flooring material may change so it is technically not "the same" material, but the floor is monolithic with an integral base.

Infection preventionist: The patient toilet room is an extension of the AII room and, therefore, the same minimum requirements apply.

REQUEST

Guidelines edition: **2022 Hospital** *Paragraph reference:* **2.2-2.10.11.12**

***Guidelines* edition:** 2022 Hospital
Chapter/Section: 2.2-2.10 Obstetrical Unit

2.2-2.10.11.12 Support areas for recovery spaces for cesarean delivery suite
(1) Reserved

(2) Nurse station and documentation area. The recovery room shall have a nurse station with documentation area located to permit visual observation of all patient care stations.

(3) – (7) Reserved

(8) Medication safety zone. See Section 2.1-2.8.8 (Medication Safety Zones) for requirements.

(9) – (12) Reserved

(13) Equipment and supply storage. Storage for equipment and supplies shall be available.

(14) – (15) Reserved

(16) Clinical sink. A clinical sink with a bedpan-rinsing device shall be directly accessible to the recovery patient care space.

Question 1: Is a bedpan-rinsing device on the patient toilet an equivalent way to meet the patient waste requirements (as it would in an ICU or patient room) without having to add a clinical sink?

Response: Yes, a bedpan-rinsing device on the patient toilet could be an equivalent way to meet the requirements in Section 2.1-8.4.3.7 (Plumbing Systems—Human waste disposal system).

Further Comments

Authority having jurisdiction (AHJ), state plan reviewer:
I think an equivalency could be considered for the bedpan-rinsing device on the patient toilet if a fully considered ICRA effectively demonstrated the variation does not reduce the *clinical* safety or operational effectiveness of the facility required by the intent of the *Guidelines*. As currently written, without additional guidance in the text or appendix as to why another clinical sink is required in the suite, it seems a careful case-by-case consideration for an equivalency would be reasonable. Apparently, the rooms the submitter describes do have their own dedicated toilet rooms and could be equipped to perform a similar function.

Architect, director of codes and standards:
Looking at the requirements for recovery in surgery, in provisions for Section 2.2-3.4.5.8 (12) (Support areas for pre-and postoperative patient care areas) references back to Section 2.2-3.4.7.12 (Soiled workroom or soiled holding room), which allows the use of an "alternative method of fluid waste

disposal," I don't know why a C-section recovery area would be more restrictive than a general surgical soiled room.

Manager of infection prevention and control:
In my opinion, a bedpan-rinsing device on a toilet is equivalent and would be preferred by the infection preventionist.

Clinician:
Because all of the support spaces under Section 2.2-2.10.11.8 (Support areas for the cesarean suite) are needed (a soiled workroom or soiled holding room), and the plan is to provide a patient toilet for each triage/post c-section recovery room, a bedpan-rinsing device on a toilet is equivalent and would prevent the need for staff to transport blood and body fluids in a non-enclosed container (e.g., bedpan) to a location outside each patient room.

Authority having jurisdiction (AHJ):
Yes, in my opinion, a bedpan-flushing device at a nearby toilet is equivalent and could prevent travel with infectious waste, thereby reducing the likelihood of spills.

Question 2: Would an inwall disposal unit, such as the Meiko Topline bedpan washer-disinfector, be acceptable in lieu of a clinical sink? Patient waste would be disposed of without entering a corridor and the bedpan would be sterilized elsewhere.

Response: Yes, an inwall disposal unit would be acceptable in lieu of a clinical sink.

Further Comments

Authority having jurisdiction (AHJ), state plan reviewer:
An in-wall disposal/washer/disinfector unit could conceivably serve the purpose. The owner would undoubtedly consider whether the idea would be to install one in each of the triage/recovery rooms or in some location directly accessible to the recovery space.

Clinician:
Based on my response to the first question regarding the transport of blood and body fluids, I would consider this a viable option to the clinical sink.

Authority having jurisdiction (AHJ):
Yes, an inwall disposal unit, if located in proximity to the patient care area could provide the same service. This would need to be located to prevent cross-contamination.

REQUEST

Guidelines *edition:* **2022 Hospital** Guidelines *reference:* **2.2-3.4.3.2**

***Guidelines* edition:** 2022 Hospital
Chapter/Section: 2.2-3.4.3 Operating Rooms

2.2-3.4.3.2 Space requirements

(1) Operating room

(a) Area. Each operating room shall have a minimum clear floor area of 400 square feet (37.20 square meters).

(b) Clearances. The following minimum clearances shall be provided around the operating table, gurney, or procedural chair:

(i) 8 feet 6 inches (2.59 meters) on each side

(ii) 6 feet (1.83 meters) at the head. This dimension shall result in an anesthesia work zone with a clear floor area of 6 feet x 8 feet (1.83 meters x 2.4 meters).

(iii) 7 feet (2.13 meters) at the foot

(c) An operating room used for cesarean and other delivery procedures shall meet the requirements in Section 2.2-2.10.11.1 (Cesarean delivery room).

(2) Operating room for image-guided surgery using portable imaging equipment or surgical procedures that require additional personnel and/or large equipment

(a) An operating room of this type shall:

(i) Be sized to accommodate the personnel and equipment planned to be in the room during procedures.

(ii) Have a minimum clear floor area of 600 square feet (55.74 square meters) with a minimum clear dimension of 20 feet (6.10 meters).

(b) Where renovation work is undertaken and it is not possible to meet the above minimum standards, these rooms shall have a minimum clear floor area of 500 square feet (46.50 square meters) with a minimum clear dimension of 20 feet (6.10 meters).

(3) Fixed encroachments into the minimum clear floor area. Fixed encroachments shall be permitted to be included when determining the minimum clear floor area for an operating room as long as:

(a) The encroachments do not extend more than 12 inches (30.5 centimeters) into the minimum clear floor area outside the sterile field.

(b) The encroachment width along each wall does not exceed 10 percent of the length of that wall.

Background from requester: The manufacturer, Intuitive, has provided a statement that the da Vinci system is not image guided surgery. The da Vinci robotic unit (cart) uses an endoscopic camera attached to one of its arms which is inserted into a small incision. The manufacturer indicates this is similar to laparoscopic surgery. There appears to be no C-Arm in the room as part of this system.

If the three primary da Vinci 5 components were aligned side by side, they would probably take up as much floor space as a C-Arm; however, they are generally spaced variably throughout the operating room. The surgeon sits at the console and views the endoscopic image with their head in the helmet-like part and each hand inserted into a controller. My understanding is the console is often positioned near a corner of the operating room.

***Question 1*:** Does the committee agree that the da Vinci 5 robotic surgical system is not large equipment? nor image-guided equipment?

***Response*:** Yes, six committee members believe the components and space required to work around them qualify as "large" equipment. One committee member was silent on whether the da Vinci system does not qualify as "large" equipment, and one didn't respond to the question.

***Question 2*:** Does the committee agree that the da Vinci 5 robotic surgical system is not image-guided equipment?

Response: No consensus
2= yes
2= interpretative/not necessarily
4 = no

***Question 3*:** Is 600 SF the correct minimum square foot area for this type of minimally invasive surgery per Section 2.2-3.4.3.2 (2).

Response: Yes. Seven out of eight committee members believe that the minimum square footage of the operating room should be minimum of 600 square feet. One member thought 900 square feet would be ideal, and a second suggests 500 SF for renovations when possible.

Further comments

Anesthesiologist: Yes, [the operating room for imaging and/or large equipment] is large. I am a definitive "NO" on [whether or not the da Vinci 5 is image-guided surgery]. It is not image-guided by definition. Image guidance refers to radiologic imaging to guide the procedure. The robot is similar in space requirements to image guidance equipment but does not involve radiology. My concern with using image guidance as a term for robotics is that if an architect or planner asks the client if it's image-guided they will definitely get a NO answer for robotics. My suggestion: change the question to "image-guided or robotic."

Director of surgical services and ambulatory surgery at an ASC: Minimum is 400 SF, and this is not considered imaging equipment. Space would fit the robot, single counsel, and monitor/camera tower. [However], the end user [will] need more square footage if the robot features a dual console for training residents. The owner may also wish for more square footage if the layout (doors to room and core) impacts space around the robot, back table, or if additional equipment like a C-Arm will be needed during robotic cases.

If their renovation allows, I'd suggest 500 SF or more, but operationally, I've been in lots of 400 SF rooms with robots.

Medical doctor and clinical professor: While not a radiologic tool, it provides enhanced visualization for the procedure and takes up more space.

Nursing executive with extensive hospital operations experience: Absolutely this is image-guided surgery using portable large equipment that requires additional personnel and/or large equipment. The vision cart has a direct line to the camera, which connects the surgeon's view to the operative field. The surgical tech or scrub nurse is constantly monitoring this connection, cleaning the camera, etc. Without this camera navigation, there is no robotic surgery.

You also have to consider that some robotic surgeries have multiple specialties using it with different spatial requirements (e.g., robot in different positions plus residents and/or fellows).

Critical care registered nurse and health care strategist: Yes, the 600-square-foot minimum should apply, especially in the academic settings where there are two surgeon consoles. Yes, the system together—which is required to be used together—should be considered a large piece of equipment, [but] this is not regarded as image-guided surgery. Image-guided surgery is the use of medical imaging (such as fluoroscopy, CT, or MRI) to plan and guide the procedure.

Former director of perioperative services: My instinct is that more room is better when planning a space that is needed to accommodate a robot (and other large equipment that requires coordinated movement of team members during procedures). The minimum area of 600 SF would apply unless the clinical team can demonstrate that space requirements can be less (i.e., they functionally are using a space that is smaller than 600 feet for this purpose without complications/negative patient outcomes/undue burden on the perioperative team (without struggle to make space "do").

Image-guided has been historically used to describe X-ray, MR, CT guidance in procedures where the field is more directly visualized. However, from a literal standpoint, using video to guide the proceduralist without direct visualization of the field could be considered "image-guided." But this question is not the real question. The real question is whether or not the 400 feet is adequate to safely accommodate the robot (which I would argue is definitely "large equipment"…because of the issues characteristic of maneuvering the equipment (e.g., issues of cable management, navigating around booms, potential for obstruction of pathways when docking related to crowding, congestion compromising sterility, etc.).

Authority having jurisdiction: The overall "Yes" answer is "It depends." The da Vinci system is a tool. It depends on how you are going to use it, and what you are going to do with it. It truly goes to the intended procedures. I do agree that [an operating room that includes] the da Vinci system would qualify [as an] "operating room for image-guided surgery using portable imaging equipment or surgical procedures that require additional personnel and/or large equipment."

Although it can be used in smaller ORs for simpler "minimally invasive" surgical procedures, limiting the procedures might be underutilizing the system. 600 square feet would be the appropriate default minimum size. If existing space is limited, the facility should graphically layout the OR with all the equipment and personnel needed for the worst-case procedure and demonstrate adequate clearances needed to perform the procedure. This should include the da Vinci components, anesthesia equipment, anesthesiologist(s), fluid disposal system, surgeons, scrub nurse, instrument table(s), circulating nurse, case carts, mobile cabinets, fixed cabinets, etc. It would be good to include the power/med gas booms, surgical light booms, monitor booms, etc. If the da Vinci is used in cardiovascular surgery, space would be needed for the perfusionist(s) and cardiopulmonary bypass equipment resulting in a minimum of 650 square foot clear space, or more. Similarly, if a portable "C" arm is used. Consequently, use of the da Vinci system is not really the defining factor but only a contributor.

Section 2.2-3.4.3.2 (2) is a good [location] to expand to include "surgical robotic systems." Typically, they would not be "fixed equipment" but multiple pieces of mobile equipment such as the da Vinci. Subsection (a)(i) [of that section] already includes sizing the room to respond to equipment and personnel needed for the procedure. If procedures are limited to simpler "minimally invasive" procedures and can be graphically demonstrated that a smaller room can accommodate them, then the "intent" of subsection (a)(ii) or (b) can be met with an alternate means of compliance (AMC), as allowed in Chapter 1.

Architect: Yes to the 600 SF minimum, and yes to the large equipment designation. While I think it's a bit interpretive on the image-guided designation, I appreciate both sides of the debate. Regardless of that categorization, I definitely agree that the 600 SF minimum and the equipment specific/room specific operational layout that considers equipment layout, equipment movement patterns and space requirements, clinical operations layout for staff, instrumentation, and equipment, and staff circulation patterns are essential. Additionally, cable management planning also becomes important to the detailed coordination of robotics ORs.

The da Vinci system includes a minimum of three components: the robotic arms (large by themselves); the surgeon's console; and the monitor tower. Each will take space, and the anesthesia equipment will take more. This would qualify for "multiple" pieces of large equipment, even though the da Vinci could "replace" an assistant surgeon in the sterile field. A second console/surgeon would compound space a bit further.

Further comments from FGI:
Although there wasn't absolute agreement on whether or not the da Vinci 5 robotic surgical system qualifies as "image-guided equipment," the interpretations committee did determine that the system qualifies as "large equipment," and therefore the 600 square foot minimum clear floor area required by Section 2.2-3.4.3.2 (Operating Room—Space Requirements) in the 2022 *Guidelines for Design and Construction of Hospitals* is the appropriate minimum standard.

REQUEST

Guidelines edition: **2022 Hospital** *Paragraph reference:* **2.2-3.5.8.19 (2)(b)**

2.2-3.5.8.19 Facilities for processing ultrasound probes. Where cleaning and high-level disinfection of ultrasound probes are performed in a dedicated room or area outside of a central sterile processing area, the following requirements shall be met:
...

(2) Where ultrasound probes are processed at the point of use or in a separate room or area using a self-contained, automated high-level disinfection unit specifically designed for ultrasound probes:

(a) Space for the device with access to an electrical receptacle shall be provided.

(b) Access to a soiled workroom with an instrument-washing sink shall be provided in the same clinical area to support probe decontamination when necessary.

Question: If a self-contained unit (Trophon) is used for probe decontamination, is a soiled *workroom* required or does the "when necessary" language in 2.1-3.5.8.19 (2)(b) mean it is up to the health care organization to decide whether or not a soiled workroom is provided? Specifically, can a soiled *holding room* be provided instead of a soiled *workroom*?

Response: Where ultrasound probes are processed in a separate room or area using a self-contained, automated high-level disinfection unit specifically designed for ultrasound probes (such as a Trophon),

the requirements in (a) and (b) apply; space for the device with access to an electrical receptable shall be provided and access to a soiled workroom with an instrument-washing sink shall be provided in the same clinical area. *A soiled workroom is required*.

Further Comments

Vice president, plant services/facilities: The soiled workroom includes a sink, which is necessary in the decontamination process for the probes, even if a Trophon is used. The sink is used to wash bulk material from the probe. "When necessary" refers to when high-level disinfection is necessary, not whether the health care organization decides to include a soiled workroom. High-level disinfection triggers the requirement for the soiled workroom.

Authority having jurisdiction, state plan reviewer: These self-contained, automated high-level disinfection units are not plumbed, so any biological material that is on the probe could not be disposed of in that unit; therefore, the probes should be cleaned, when necessary, prior to being placed in the unit.

Engineering program manager, state department of health: The term "when necessary" refers to occasions when probes must be cleaned in an instrument-washing sink before high-level disinfection. Therefore, the minimum requirement is an instrument-washing sink in the same clinical area as the Trophon. Instrument-washing sinks are generally found in a soiled workroom and not a soiled holding room.

Manager of infection prevention and control: IPC (infection prevention and control) guidelines recommend use of a probe cover with probes that will require high-level disinfection. The probe still needs to be cleaned, but generally the cover prevents gross contamination of the probe that would require a soiled workroom to remove remaining bioburden. As well, other guidelines describe means for transporting probes when and if a soiled workroom is needed. In other words, there are options when a soiled holding room would work as long as staff have access to a soiled workroom somewhere in the same clinical space. Which type of room is chosen needs input from frontline staff or clinicians who are using the space and performing the procedures. In the ultrasound area, they might have a soiled holding room; however, there needs to be a soiled workroom readily accessible (e.g., in the imaging department) to support probe decontamination when it's necessary.

Authority having jurisdiction, state plan reviewer: Probe decontamination requires provision of a soiled workroom with a sink suitable for instrument-washing (e.g., utility sink), not just a soiled holding room. The Trophon unit produces water as a byproduct "that can be disposed of in a sink" per the manufacturer's website. The appropriate fixture for such disposal is an instrument-washing sink, either in an ultrasound probe processing room or in a soiled workroom. There should not be any temptation to use (and contaminate) a handwashing station. "When necessary" means probe disinfection is not necessary after every procedure, but it is required at times; therefore, the soiled workroom shall be provided.

Assistant director, design and construction: A soiled workroom with an instrument-washing sink is mandatory. It may not be necessary to use the instrument-washing sink for every case. Saying that, provision of a soiled workroom specifically for ultrasound is not necessarily required. It shall be provided, but it can be in the same clinical area. It may only be required if the probes are being processed at the point of use or in a specific room solely designated for ultrasound probes as stated in 2.1-3.5.8.19 (2). Even so, staff need access to a soiled workroom in the same clinical area. If the ultrasound room(s) in a facility are in the same clinical area as other modalities that require a soiled workroom and that room can be accessed by ultrasound staff, a soiled holding room may be provided, if necessary, operationally.

REQUEST

Guidelines *edition:* **2022 Hospital** Guidelines *reference:* **2.2-2.3.2.2 and 2.2-2.3.4.1**

2.2-2.3 Oncology Patient Care Unit

…

2.2-2.3.2.2 Protective environment (PE) rooms and AII/PE rooms

(1) Each oncology patient care unit shall have a minimum of one AII/PE room that meets the requirements of Section 2.2-2.2.4.5 (Combination AII/PE room).

(2) Additional requirements in Section 2.2-2.2.4.4 (PE room) shall be met for patient rooms in an oncology patient care unit that will be used for hematopoietic cell transplantation patients. The number of these rooms shall be determined by the services to be provided and an infection control risk assessment.

…

2.2-2.3.4 Special Oncology Patient Care Unit—Bone Marrow/Stem Cell Transplant Unit

2.2-2.3.4.1 General

(1) Application

(a) Patient rooms in allogeneic/autologous bone marrow/stem cell transplant units shall meet the requirements of Section 2.2-2.2.4.4 (PE room) as well as the requirements in this section.

(b) At least one patient room in these units shall meet the requirements of Section 2.2-2.2.4.5 (Combination AII/PE room).

(c) The requirements in this section shall apply where the infection control risk assessment (ICRA) specifies that both allograft transplant patients and bone marrow/stem cell transplant patients who are not allogeneic transplants will be served.

Background from requester: We are currently in the design phase of a project and a concern has come up regarding the requirement to provide a combination AII/PE room in a bone marrow/stem cell (BM/SC) transplant unit. This is a new children's hospital with a dedicated pediatric oncology inpatient floor. There are 48 patient rooms on the floor, all oncology. Of these 48 rooms, 16 are BM/SC transplant rooms that are separated from the remaining rooms by a set of doors to prevent through traffic and limit risk of infection for the BM/SC patients.

The health care organization has a proven record of protecting immunocompromised patients by not allowing infectious patients in areas where they could increase the risk of exposure for immunocompromised patients. In keeping with this practice, if/when an infectious BM/SC patient is

served, the operational plan is to treat that patient in a combination AII/PE room on the oncology floor but not in the BM/SC transplant unit itself.

Question 1: When an oncology patient care unit and a BM/SC transplant unit are colocated on the same floor, is an AII/PE room required for each unit?

Response: Yes. Where an oncology patient care unit and a BM/SC transplant unit are colocated on the same floor, an AII/PE room is required for each unit. These are separate units and Section 2.2-2.3.2.2 (1) (Protective environment rooms and AII/PE rooms) is clear in its requirement that *each unit* shall have a minimum of one AII/PE room.

Question 2: For a BM/SC transplant unit, is it permissible to locate the AII/PE room outside the BM/SC transplant unit to protect immunocompromised patients on the BM/SC transplant unit from the infectious patient who needs the AII/PE room?

Response: No. The requirements are clear that it is not permissible to locate the required AII/PE room outside of the BM/SC transplant unit. The intent of Section 2.2-2.3.4.1 (1)(b) is to accommodate a potential immunosuppressed patient who also has an airborne infectious disease. The AII/PE room must be located within the BM/SC transplant unit.

Further Comments

Authority having jurisdiction (AHJ), state plan reviewer: The AII/PE room in a special oncology patient care unit is intended to accommodate a potential immunosuppressed patient who also has an airborne infectious disease. These patients need isolation from staff and other patients in the unit and a protective environment in a combination (AII/PE) room in compliance with Section 2.2-2.2.4.5 (Combination airborne infection isolation/protective environment room). This room requires an anteroom with carefully controlled pressure relationships where the anteroom is positive relative to both the patient room and the corridor or is negative to both. The patient room is still required to be positive relative to the corridor.

I have reviewed projects that have treated the corridor/nurse station/support space in an immunosuppressed unit as a general anteroom for the PE patient rooms. Additional cross-corridor doors were added to provide an airlock and accommodate donning/doffing of PPE just to get into the unit. The common space in the unit was positive relative to adjacent spaces outside the unit, and the PE rooms were positive relative to the unit's common space. Thus, the space outside the unit was neutral (0), the common space in the unit was positive (+), and the PE rooms were more positive (++). The AII/PE room, in this case, would be more positive (++) relative to the common space, and the anteroom would either be negative to both the AII/PE room and the common space (0) or positive to both (+++). Consequently, there are practical infection prevention reasons to consider locating the AII/PE room in an adjacent unit beyond the cross-corridor doors as long as the unit is similar enough in the nursing care provided. This arrangement could be solved in the functional program and/or ICRA, but needs to be specifically addressed.

Design consultant and former AHJ: I agree the *Guidelines* language is quite clear: "Each oncology patient care unit shall have a minimum of one AII/PE room." Nowhere in the text does it discuss, let alone allow, the sharing of an AII/PE room.

The requester's concern regarding exposure of other immunosuppressed patients to potential infectious disease is worth considering on a case-by-case basis, something every AHJ has the authority to do, but I would not be inclined to modify the current language.

Manager of infection prevention and control: From an infection prevention perspective, I understand the concern and appreciate the need to, in case-by-case situations, address an alternate method of compliance. I concur that such an alternate method would need to be supported by patient/material flow and appropriate protocols in the functional program and ICRA, including staff training and care.

Clinician: I agree the *Guidelines* as written is clear that AII/PE rooms are required for each unit, whether specialty or general oncology. In the event of special considerations for the number and location of these rooms, a well-written functional program and an ICRA will be crucial for AHJs to have when evaluating planning and design considerations that do not meet the minimum requirements of these specific sections.

Architect, director of codes and standards: The *Guidelines* clearly states that an AII/PE room is required for each type of oncology patient care unit and that it is not permissible to locate the AII/PE room outside the special oncology patient care unit. To do so, an alternate means of compliance as allowed by sections 1.1-1.2.2.1 (Standards set forth in the *Guidelines*…) and 1.1-1.2.2.2 (Use of new or alternative concepts…) would need to be in place.

I agree with others that there could be a design solution or well-crafted ICRA, plus alternatives discussed with the AHJ, that could resolve special situations. It's impossible to write *Guidelines* language that covers every situation; that is why we include the language for alternate means in Section 1.1-1.2 (Minimum Standards for New Facilities and Major Renovations). Furthermore, the language has been consistent for the past two cycles, which tells me this specific situation is rare. We strive to provide minimum standards that encompass a majority of scenarios.

Senior principal architect: I would not support "sharing" of one AII/PE room between two colocated units, nor pushing the AII/PE room outside the special oncology patient care unit. That's the same as requesting to eliminate the room from the special oncology patient care unit, which is not permissible.

REQUEST

Guidelines edition: **2022 Hospital** *Paragraph reference:* **Table 2.2-1**

Question: Why wouldn't all procedure rooms have the same requirement for flooring and wall bases if it's a semi-restricted area? Shouldn't they align with Class 2 imaging rooms?

I have received numerous questions regarding semi-restricted area flooring for both Hospital and Outpatient facilities. The 2022 Hospital Table 2.2-1 (Exam/Treatment, Procedure, and Operating Room Classification) and the 2022 Outpatient Table 2.1-4 (Exam/Treatment, Procedure, and Operating Room Classification) indicate that procedure rooms are semi-restricted; however, only cystoscopy, urology, and endoscopy procedure rooms require the monolithic flooring with a 6-inch high integral base.

The corresponding tables for the classification of room types for imaging services indicate that Class 2 imaging rooms are also considered semi-restricted areas; however, the floor and wall assemblies are to be monolithic with integral coved wall base carried up the wall a minimum of six inches.

Response: Each member of the interpretation committee indicated that *procedure rooms, regardless of the type of procedure performed in the room, should have the same requirements as other semi-restricted*

rooms (e.g., Class 2 imaging room). However, this reflects a change in requirements over time rather than an error in the 2022 edition.

Further comments

Health care facility manager and engineer: In my view, the answer is yes. Monolithic, or seamless, floors with an integral 6-inch coved wall base are required in procedure rooms to ensure maximum hygiene, infection control, and ease of cleaning. This configuration provides a waterproof barrier that withstands intense wet cleaning, disinfectants, and bodily fluids.

Vice president, design and construction: The answer is yes, all procedure rooms should have the same flooring/base requirements. The procedures that a procedure room is designed for are likely to change over the life of the room. Requiring a monolithic floor and a 6-inch integral base makes sense for the flexibility of the room.

Professional engineer: Yes, all procedure rooms and ORs need to have a monolithic floor with a 6-inch integral coved wall base. This is a room that gets a higher level of cleanliness, like the ORs. The floors should be the same.

Manager of infection prevention and control: Yes. I understand that there will be cost implications. However, ensuring patient care within an environment built for safe, high-quality care remains the priority in this situation. Sometimes, not everything done in a procedure room is technically a "procedure." The difficulty lies in identifying the exceptions and recognizing that some activities taking place in the procedure room may be more suitable for the operating room. That creates a real risk of scope creep, where the level of care delivered in the space expands over time, possibly without infection prevention or health care leadership being fully aware.

Rather than trying to define exceptions upfront—or discovering after construction that the room should have had a monolithic floor with a 6-inch integral coved wall base because more invasive procedures are being performed—it's more prudent to make that the minimum standard from the start. Establishing the higher standard upfront helps avoid exceptions, redesign, and unintended scope creep later.

Architect and researcher: Changes in where and what types of procedures are happening make this difficult to define, and to err on the side of safety would be our minimum.

While I am not aware of any research that would substantiate this for ALL procedure rooms, there are studies in the imaging world about the increasing risk of health care-associated infections in these settings.

Ilyas, F., Burbridge, B., & Babyn, P. (2019). Health Care–Associated Infections and the Radiology Department. Journal of Medical Imaging and Radiation Sciences, 50(4), 596-606.e1. https://doi.org/10.1016/j.jmir.2019.07.011

Jimenez, Y. A., & Lewis, S. J. (2023). Infection prevention and control in the medical imaging environment: A scoping review. Insights into Imaging, 14, 121. https://doi.org/10.1186/s13244-023-01470-1

While there is nothing specific about flooring or monolithic cove bases, there could be a line drawn to make the connection with respect to the chain of transmission.

Additionally, this paper references FGI standards:

Silverstein, M., Fox, P. M., & Curtin, C. (2023). Thinking Outside the Operating Room: Guidance on Designing a Safe and Effective Minor Procedure Room. The Journal of Hand Surgery, 48(1), 77–81. https://doi.org/10.1016/j.jhsa.2022.10.005

Principal architect: I agree with providing a monolithic floor and integral base in procedure rooms. I understand the concerns about costs, but if we go back to the definitions and the available options in the 2022 Outpatient Guidelines:

1. If an exam room environment is appropriate in terms of environmental controls but additional space and/or specialty equipment are needed, then a specialty exam room can be provided per 2.1-3.2.2.2 (2)(c) (Exam Rooms: Single patient exam/observation room—Space requirements: Single-patient room for specialty clinical services).

2. If environmental controls beyond an exam room but not to the level of an OR are required, then a procedure room is appropriate, and the required monolithic floor and integral base go together with the enhanced clinical environment and environmental controls of that procedure room.

This is how I rationalized my perspective as I considered the cost implications.

Further comments from FGI:
There were two members of the committee who commented about the increased cost implications of revising this requirement, but they both agreed that this should be a minimum standard and not just a best practice. In the 2026 FGI Hospital *Code* and the 2026 FGI Outpatient *Code*, this revision was made during the proposal period by the HGRC and is the new minimum standard for the 2026 edition.