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5.15: MM PATIENT AND STAFF PROTECTION: FALLS, BARIATRICS, LOW VISION, ERGONOMICS

GENERAL:

In general, follow the guidelines below when specifying and designing facilities for Michigan Medicine (MM). Unless specifically indicated otherwise, these guidelines are not intended to restrict or replace professional judgment. Comply with all building and accessibility codes listed in 1.0 Codes and Regulatory Agencies. However, note that codes are minimums, but may not be best practice.

Architects, Engineers, Equipment Planners and Interior Designers shall take patient and staff safety into consideration throughout the design of facilities.

Many patients have low vision, limited mobility, and/or medical equipment issues. Staff areas should be designed with ergonomics in mind.

Note that Safety Management Services and Nursing have guidelines and staff training on Safe Patient Handling.

Note: The Minnesota Hospital Association (MHA) and its member hospitals recognized an important need to improve patient safety by reducing toileting-related falls. The organization commissioned Pope Architects and Michael Graves Architecture & Design (MGA&D) to conduct research and produce a guideline document that would recommend environmental solutions to contribute to minimizing patient falls. This "Creating a Safe Environment to Protect Toileting-related Falls" report summarizes the research, analysis and recommendations.

https://www.mnhospitals.org/Portals/0/Documents/ptsafety/falls/CreatingASafeEnvironmenttoPreventToiletingRelatedFallsReport.pdf

Integration of Safe Patient Handling and Movement program (SPHM) within MM Capital Projects

The typical stages of a capital project that includes construction or renovation of a clinical space providing patient care are summarized below. At each project stage, roles and responsibilities have been clarified for integrating SPHM into capital projects.

1. ***Project Request:***
   a. Request for a construction investigation is entered into PDS3, using the "Facilities Planning and Development" link on the Support Services LINK web page. https://uhintwebspr1.mcit.med.umich.edu/hos/link/
   b. Facilities Planning and Development (FPD) Design Manager is assigned and shall include Safety Management Services (SMS) in the initial project investigation kickoff meeting for clinical projects. This ensures SPHM is addressed in step one of the process.

2. ***Investigation Phase:***
   a. SPHM Assessment initiated by SMS with the Unit/Clinic Area Manager.
   b. SPHM Manager Planning checklist is completed by Unit/Clinic Area Manager with assistance from SMS, and signed off by SMS Representation and Unit/Clinic Area Manager.
   c. SPHM Manager Planning checklist identifies facility and equipment needs for scope and budgeting purposes, and is provided to FPD Design Manager for inclusion in project budget and documentation.

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3. Design Phase (after funding is obtained):

a. Upon project funding, the FPD Design Manager or AEC Project Manager will schedule a design kickoff meeting with the project team, including the Unit/Clinic Area Manager and SMS Representative. Any change in the original project funding request and final funding obtained will be brought forward at the design kickoff meeting, and problems solved with the Unit/Clinic Area Manager and FPD Design Manager to determine next steps.
b. The Design Manager will work with the Unit/Clinic Area Manager, Capital Equipment Planner, and SMS representative to integrate SPHM identified from the checklist into the design.
c. Design documents are developed and updated through the design process, and any funding changes are addressed.
d. FPD Design Manager to distribute 95% review drawings for final project team review. SMS representative and Unit/Clinic Area Manager shall review and provide comments on drawings to ensure that SPHM design requirements are met, prior to construction initiation.

4. Construction and Activation Phase

a. Project team shall problem solve any SPHM unexpected consequences as they arise.
b. Unit/Clinic Area Manager and FPD Design Manager shall agree upon any design/construction changes that impact SPHM.
c. Unit/Clinic Area Manager will confirm SPHM requirements in the project have been completed within the construction schedule, and will notify the FPD Design Manager of any concerns.

PATIENT PROTECTION GUIDELINES:

Colors and patterns should be selected to clearly differentiate between floors and walls. Floor and wall patterns with sharp contrast should be avoided; however a contrast between floor and wall, and between wall finish and light switch, is desirable.

Corridor handrails should be provided in in-patient areas and outpatient settings where dictated by program. Note that sloped floors less than the code minimum for ramps may require handrails and intermediate landings to make travel ergonomic.

Designated barrier-free toilet and bathing facilities must meet code, but all patient toilet and bathing facilities should be equipped with grab bars.

All patient toilets shall be provided with fold-down grab bars, installed on one or both sides of the toilet whenever feasible.

All patient showers should be equipped with owner furnished, freestanding shower seats.

All toilets should support a minimum of 1000 pounds, which requires they be floor mounted. Special bariatric toilets, capable of supporting even greater weights, should be considered where clinically appropriate. Toilet Seats shall be 17” to 19” above the finish floor, with 19” preferred.

Patient bathroom floors with showers must slope to the shower drains to optimize drainage. Flush trench drains should be provided at shower entrance and at door threshold location.

Provide patient emergency nurse call pull cords in toilet rooms and in bathing facilities within clinical areas that can be reached from the toilet or shower seat. Outpatient clinics should include these pull cords unless specifically not required by clinical and risk management review. Refer to MM door hardware design guidelines for emergency access requirements into patient toilet and bathing facilities.

The distance between the patient bed and the toilet facility should be minimized. Ideally a handrail should be installed between the bed and toilet facility. A nightlight should be provided to light the path. Do not install grab bars or towel bars on doors.

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Patient sleeping room night lights shall be key switched or wired “on” at all times. Patient sleeping room bathrooms shall have at least one motion-activated light fixture.

Slip resistant flooring and built in walk off mats should be specified. Loose walk off mats should not be provided.

All accessories and fixtures should be installed with in-wall blocking to secure the item to the wall. Exceptions would be small items that are not expected to bear weight, such as soap dispensers and hand sanitizers.

Seating choices in an area should accommodate bariatric patients, and include chair arms in many locations. Wheelchairs must be accommodated within the seating arrangement.

Additional clearances should be considered for oversized wheelchairs and transportation, and in bariatric service areas.

Glare should be minimized in materials, exterior windows, daylight control and in lighting selection. Within the sight path, maximum to minimum lighting levels should not exceed a factor of 10. Consider the effect of windows and finish materials.

Even small thresholds and building expansion joints can be problematic for patients and staff moving IV poles or other equipment, or using canes, crutches or walkers. Changes in floor elevation should be avoided; when unavoidable, care should be taken to create a smooth transition, especially between toilet room and shower floor.

Many patients at MM are in oversized wheelchairs or scooters, and spaces should be designed to accommodate them. Rooms accessed by patients should be provided with oversized doors per the door design guidelines, and consideration given to door hold open devices, automatic operators, and delayed closers.

To the greatest extent possible, all outpatient areas should be accessible by stretcher.

Staff and patient ergonomics, length of reach, and flexibility for individual ergonomics should be considered in the design, for example: reception desks, work stations, appliances and equipment locations, trash receptacles. Height adjustable treatment and transport surfaces should be included.

Safety Management Services has extensive information available on patient lift design and installation. For permanently installed lifts, consider:

- Structural design of the floor or roof deck above.
- Ceiling locations of sprinklers, smoke detectors, lighting and HVAC supply and returns, soffits, booms, telemetry and wireless repeaters, privacy curtain tracks, IV tracks and AV equipment.
- Wall location of cabinetry, AV and medical equipment in relation to the lift tracks and travel.
- An accessible location for the lift parking station with a dedicated electrical outlet, normal power, for charging.

In locations where mobile lifts might be used, working clearances and maneuvering space to operate the chosen devices, including:

- Turning radius
- Door and pathway width clearance
- Load/unload clearance at all transfer destinations.
- Smooth, level, low friction finished floor surface without significant threshold barriers or obstacles to allow free base movement during use.
- Retrieval clearance at high risk fall locations, to allow transfer of fallen patients from the floor.
- Compatibility of the furnishings with the base support of the lift.
- Storage area for each piece of equipment and accessories identified where it will be convenient and readily available.
- Electrical outlet for charging in storage location for all battery powered equipment.

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At all locations where lifts or other SPH (Safe Patient Handling) equipment are used, storage should be planned for clean equipment, soiled holding space for soiled equipment, space for a laundry hamper for soiled slings and fabric equipment, staging area for clean delivery and soiled pick up.
At off-site locations, consider an on-site laundry washer/dryer or drying rack.
Point of service cleaning of safe patient handling items, including space to allow fabric items to hang to dry after disinfection.

Facilities should be designed to accommodate the future installation of patient lifts.

Any glass doors and guardrails should be designed to clearly indicate glass is present; i.e. patterns or other materials included in the design.

No power, data, other cords or other trip hazards should run across walking paths on floors.