

Physical Environment Portal: Module 2, LS.02.01.20 Leadership

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Means of Egress

Egress: the action of going out of or leaving a place (noun); *synonyms*: departure, escape, retreat, exodus.

The Joint Commission uses the 2012 edition of the National Fire Protection Association (NFPA) Life Safety Code (LSC), also referred to as NFPA 101-2012. The edition is determined by the Centers for Medicare and Medicaid Services (CMS). Adoption of this code establishes requirements that must be met in the physical environment. The LSC establishes general requirements in the first ten chapters, and then provides specific requirements based on [specific occupancies](#). The Healthcare and Ambulatory Healthcare occupancies are represented by either New or Existing chapters.

This module is titled Means of Egress, which is defined in the Life Safety Code as “a continuous and unobstructed way of travel from any point in a building or a structure to the public way consisting of three separate and distinct parts: 1) the exit access; 2) the exit; and 3) the exit discharge.” [3.3.121] The requirement to keep the corridors “clear and unobstructed” is based on code compliance, actually tied to Federal law and regulations. Although the means of egress includes exit access, the exit and the exit discharge, this module will focus on the access to the exit (i.e. corridor) and exiting (door locking).

1. A. Leadership Orientation: Means of Egress Clear and Unobstructed (LS.02.01.20 EP 14)

Leadership must have a basic understanding of the means of egress. Keeping the corridors clear of obstructions is important for several reasons: (1) fire rescue, (2) employee health and safety, and (3) compliance with the Joint Commission and CMS.

Fire Rescue

The Life Safety Code evolved from work in 1913 by the Committee on Safety to Life. In 1927 the committee created the *Building Exits Code*. The committee was restructured in 1963, and its first publication under that new structure was the *Code for Safety to Life from Fire in Buildings in Buildings and Structures* in 1966. The Life Safety Code is coordinated with hundreds of other codes and

Standards. When some or all of the Code is adopted as regulations it can be enforced by authorities having jurisdiction. For example, both the Joint Commission and CMS have adopted the 2012 edition of the Life Safety Code. The Federal Register requires complete compliance with the Life Safety Code.

Compliance with the Life Safety Code is not an option. The code clearly requires the egress corridor to be clear and unobstructed. The Life Safety Code “establishes minimum criteria for the design of egress facilities so as to permit prompt escape of occupants from buildings, or where desirable, into safe areas within the building.” (NFPA 101-2012, 1.2.2) The *code* also addresses corridor width. For existing healthcare, the required width cannot be less than 48 inches. However the *code* also states that we are not to diminish this width below that required for new construction, which is 8 feet clear width. So what does this mean? If the original building was constructed in the early 1900’s the corridor width may have been built at 7 feet clear width, and still be acceptable construction as existing. A current corridor built originally 8 feet wide may not be reduced below the requirement for new construction, again being 8 feet clear width.

The reason for the 8 feet clear width is simply to accommodate patient movement in an emergency situation, such as a fire. Not having to wheel a patient around equipment in the corridor has proven to save lives.

Employee Wellness

Staff carrying equipment may accidentally bump into equipment improperly stored in the egress corridor, causing injury or dropping the items being carried. Staff injuries may reduce effective staffing levels, cause discomfort to staff during healing, and possible compensation claims. Dropping equipment may be loud and disturbing to patients in the area, or damage the items being carried.

Compliance

The Joint Commission and CMS, as authorities having jurisdiction who have adopted the National Fire Protection Association Life Safety Code, include enforcement is part of accreditation. CMS has adopted the NFPA codes by statute, which is why issues like compliance with the Life Safety Code is not an option but a requirement.

It should be noted that the Joint Commission allows crash carts to always be in the means of egress, as they are always in a stand-by mode. There is no requirement to have these plugged into receptacles that are also powered by the emergency generator, although this may be *best practice*. Isolation carts and Chemotherapy carts are also allowed in the means of egress while associated with a specific patient.

Survey Scoring: All survey findings in the Life Safety Chapter are scored at the CMS Conditions of Participation (COP) at §482.41 (A-0700). Non-compliance may lead to a condition level deficiency, depending on “manner and degree” (CMS phrase). Manner and degree consider how often non-compliance is occurring (i.e. trending) and the criticality of the non-compliance. Often findings in the Life Safety Chapter have corresponding findings in the Environment of Care or Infection Control chapters, which aggregate to the Condition Level Deficiency (CLD). The CLD requires a Medicare Deficiency Follow-up Survey within 45 calendar days of the final survey report being published. This follow up survey will focus on the survey issues, but may also address any other non-compliant conditions identified at this time.

Survey Finding: Surveyors often ask probing questions of staff during survey to establish if staff understand the role the means of egress (i.e. corridor) has in patient safety. If equipment is being stored for more than 30 minutes in the corridor it offers an opportunity for discussion allowing the surveyor to move compartmentation and movement into the survey interview.

2. A. Practical Application (LS.02.01.20 EP 14)

Healthcare means of egress must not have anything stored in them. If it looks cluttered, it probably is.

The Joint Commission realizes how difficult it is to work in an environment that has little storage space, and the storage space that is there is often remote from the needs of the staff. In some situations leadership has allowed storage space to be removed from building projects based on “value engineering” concepts. The result is non-compliance in keeping the means of egress clear and unobstructed. However this is a very serious breach. In a fire condition, if patients must be moved, it is difficult if there is equipment to navigate around. Staff will not have time to relocate equipment that is being stored in the means of egress, and rescue may be delayed.

When hospitals have leadership insisting means of egress are clear and unobstructed, they are, in fact, clear and unobstructed. One hospital did an Emergency Management exercise and discovered if the means of egress were not clear, rescue would be significantly compromised. Leadership insisted the means of egress be clear of all obstacles. Staff responded by reducing equipment in the units and storing equipment in nursing units or utility rooms. Two months later the building was in the path of an E-5 tornado that destroyed the building. Staff evacuated more than 180 patients (plus staff and visitors) from the 9 story building to safety in about 90 minutes, in the dark without electricity. When debriefed, many responded that they were so glad the means of egress were required to be clear, as the debris from the tornado made navigating the corridors difficult but not impossible. If the corridors were obstructed as before, rescue would have been significantly impacted.

Leadership must manage by walking around, seeing and setting an example of compliance with this Element of Performance (EP). Encouraging staff to properly store equipment will result in the means of egress being compliant and staff will find the work environment greatly improved. Storing equipment in dead end corridors is allowed by the Joint Commission. A dead end corridor is that section that has no value in egress. For example, in many nursing units at the end of the corridor is a large window that overlooks the parking lot. With your back to the window, facing into the unit walk toward the middle of the unit. It is likely that you can take two or three steps before encountering a door (probably the door entering the stair enclosure). These two or three steps have no value in egress, in fact if you are in that space you will likely need to turnaround to escape the unit (again, probably to enter the stairway). Because this space has no value in egress, it is referred to as a dead end. Storing equipment in this location will not compromise egress. There is a limit, however. The Life Safety Code defines a hazardous storage area as being 50square feet. The storage of equipment in the dead end corridor should not exceed the 50square feet limit (if it does you would need to create a hazardous storage area with rated walls, door with latch and automatic closure, see 18/19.3.2.1).

There may be some relief based on CMS Categorical Waivers. Under the Categorical Waivers provisions, wheeled equipment such as lifts (with certain provisions and restrictions) are allowed in the egress corridor provided that at least 5 feet clearance remains and the fire plan includes management of the lift in a fire condition. Other wheeled equipment would include crash carts, transport carts (including wheelchairs), and isolation carts. Fixed seating (with at least 6 feet clearance and other restrictions) is also allowed. (See Standard LS.02.01.20, EPs 13 and 14.) For more on these and other Categorical Waivers see [Perspectives, November 2013, Volume 33, Issue 11](#), also on the Facilities page of the Means of Egress module, under Resources in this portal.

Corridor clutter is not just a patient safety concern. The following was provided for this section by Jen Steinmetz from Northwestern Memorial HealthCare:

Corridor clutter can also have an impact on the health and safety of staff. When hallways get filled up with equipment and supplies, the risk of employee injuries also increases. Below are some common injuries that can occur due to hallway clutter:

- **Spills** – Obstructions can become the root cause of spills. An employee may spill his/her coffee after bumping into a piece of equipment or a bottle of disinfectant could spill on the floor because an employee bumped into a housekeeping cart.
- **Struck-by/Struck-against Injuries** – Struck by/struck against injuries are sustained as a result of contact made between one person and another person or object. Many support staff (EVS, Food Service, Materials Management) get injured while attempting to deliver or transport material/supplies to the patient care units. It's difficult to maneuver a pallet of supplies around tight-spaces.
- **Sprain/Strain Injuries** – This type of injury may occur to employees trying to transport a patient to a procedural area and strain their shoulder(s) trying to maneuver a cart around some equipment stored in the hallway.
- **Slips, Trip, & Falls** – Employees move fast in a healthcare setting. Hallway obstructions lead to an increased rate of employee's slipping, tripping, or falling while attempting to traverse through the department or hospital.

3. A. Evaluation of Compliance with LS.02.01.20 EP 14

The Joint Commission requires compliance with the Life Safety Code, as does CMS. Corridor clutter is not compliant. Whether to create a safe working environment for staff, keeping the means of egress clear for emergency movement, or just the general aesthetics a clear corridor presents, are reasons to strive for compliance. The only way to assess compliance is by observation. Using the following as a script to guide engaging with staff may be helpful.

EP 14: Discuss with clinical staff or other responsible staff for each area observed:

- For each item in the hallway that is not allowed:
 - a. What is this?
 - b. Why is it here?
 - c. How long has it been here?
 - d. How long would you expect it to remain here?
- For items in use:
 - a. In the event of a fire alarm who is responsible for moving this item?
 - b. Where is it supposed to be stored when not in use?
- Are clinical staff trained for clearing the hallways in this area in the event of a fire?
 - a. Is there a policy or competency that describes this safety process?
- If patients are located in the corridor on stretchers or beds:
 - a. Why are they there?
 - b. For how long?
 - c. Is this a surge situation?
 - d. What is the cause?

The above probing questions are intended to identify:

- Obvious clutter in hallways that are egress pathways (any that lead to exit signs or exits). This can include: carts, mobile computer workstations, equipment such as C arms, mounted alcohol-based hand wash dispensers, charting locations, etc.

- Are there obvious charging stations in the egress pathway or other obvious locations for equipment to be kept when not in use?
- If the area is a suite, less corridor width may be required. But if the area is not identified on the Life Safety Drawings as a suite it must be assumed that the area is not a suite.
- Are objects found in exit paths allowed? (i.e. crash carts, isolation carts and chemo carts are permitted with restrictions). If these are present are there patients in the related rooms with those diagnosis?
- If other carts or equipment are present are they reasonably in use? (Generally under 30 minutes.) Is there a pattern, rather than just one object in place for 32 minutes?
- Who is responsible for equipment in the corridor? Are they present or reasonably using the equipment?
- If allowed carts are present, who is responsible to move them and to where in the event of a fire?
- If clutter is an issue, is the organization aware? Are they addressing the issue? (NOTE: the organization cannot create a PFI to resolve the deficiency).
- Is clutter monitored and checked by the organization (Such as on the environmental rounds)?
- Is there a policy? If so are they following their policy?
- Is there related training?
- Are the issues addressed in the fire drill process?
- If patients are located or being held or treated in the egress pathways why are they there?
- Is this situation expected to continue?
- This may lead to discussions involving other members of the survey team.

NOTE: the above script suggestions were developed by a LSCS Richard Wiese, P.E., CHSP for this portal.

Door Locking

1. B. Leadership Orientation: Door Locking (LS.02.01.20 EP 1)

Healthcare facilities are designed to protect patients by creating protected areas and (since 1993) adding a fire suppression system. These protected areas, or compartments, create an area of refuge to reduce the need for patient movement in a fire or other threatening condition. Compartments include creating both fire and smoke barriers, installing fire and smoke doors, appropriate windows, and other features. In a later module we will explore the barriers that create this protected environment and fire suppression systems.

Fire and smoke doors in the means of egress must be hinged, have automatic or self-closing devices, must be made of substantial materials and meet the requirements of the Life Safety Code. Fire doors must latch, as they ensure the compartment is not compromised by the products of combustion (fire) by the way they are made. Fire doors receive a fire resistance rating based on tests by a reputable testing agency (i.e. FM or UL). These doors are tested to determine how long before a fire can breach the door. For example, a 90 minute door will resist fire from reaching the other side for up to 90 minutes. Smoke doors are designed to resist the passage of smoke, and are not required to latch.

Survey Finding: A survey finding at LS.02.01.20 EP 1 is related to obstructed egress by improper locking. The Life Safety Code Surveyor (LSCS) is actively looking to see if staff, including clinical, support and administrative, understand compartmentation and the importance of the means of egress. Door access and operation are included, including if the doors are locked or not. For those doors encountered that are locked, the surveyor is likely to ask if a key or other specialized knowledge is required to open the door. For example, in a locked behavioral health unit all staff need to carry the keys to egress from the unit. A surveyor may ask staff to unlock a door to see if the key is with that person. A response that the charge nurse or unit secretary has it is not acceptable. Once the key is produced, the surveyor may ask staff to unlock the door to see if the door functions properly, and if staff have been trained appropriately in the barrier integrity (why the door is locked) and how to unlock to leave in an emergency situation.

Another area of surveyor activity is locked egress doors with the lock being a keyed dead bolt. Noncompliance is depends on staff not carrying a key, as the keyed dead bolt requires a “special tool or knowledge” to unlock. This condition is often found on Emergency Department doors to restrict access in the evening hours.

2. B. Practical Application: Door Locking (LS.02.01.20 EP 1)

The Elements of Performance states “Doors in a means of egress are not equipped with a latch or lock that requires the use of a tool or key from the egress side. (see NFPA 101-2000, 18/19.2.2.2.4).” The Rationale also states “Egress doors should not be locked in a way that restricts passage to safety. Means of egress include corridors, stairways, and doors that allow individuals to leave a building or to move between specific spaces in a building. They allow individuals to escape from fire and smoke and, therefore, are an integral part of a fire protection strategy.”

Likely survey issues are based on staff not understanding the requirements for a locked unit. Simply put, staff must have a key with them at all times to unlock doors in an emergency situation. Just as corridors must be clear and unobstructed, when encountering a door it must open. If the door is locked, staff must be available to open [unlock] the door.

A condition called “tail-hooking” occurs when a door is locked, an authorized staff goes through the locked door, and an un-authorized person tail hooks into the space, behind the first person. Staff should be trained to challenge the person trying to enter with them. Organization policy should guide staff in this situation.

Most locking configurations installed during original construction are likely to be compliant with the Life Safety Code. However it is not acceptable to mix door features, either the locking configuration aligns with the Life Safety Code or it does not. The most common non-compliance is doors that are key locked and require all staff to carry a key, and all staff do not. Other than staff not having keys to unlock doors observations include non-compliant door locking features.

Delayed egress locks. Delayed egress locks are locks that delay the time to get to the other side of an egress door. For example, in a Geriatric Unit where the goal is to prevent wandering or leaving the unit by patients, a delay egress configuration may be desirable. The patient may not understand what the audible signal and 15 second delay is for and become disinterested and leave the door area. (NOTE: the code allows for an increase to 30 second delay with approval from local authority having jurisdiction.)

CODE INFORMATION: A properly installed delayed egress door will be in a building with an approved automatic fire detection system or automatic sprinkler system; with the doors automatically unlocking if the automatic sprinkler system activates or activation of any heat detector or of not more than two smoke detectors. On the door adjacent to the release device there shall be a sign that states

PUSH UNTIL ALARM SOUNDS

DOOR CAN BE OPENED IN 15 SECONDS

Healthcare occupancies are only allowed one Delayed Egress device in any egress path (NFPA 101-2000, 18/19.2.2.2.4 Exception 2)

Access-Controlled Egress Doors. These doors are locked to keep unauthorized individuals from entering the space. On the egress side, the door unlocks when activated by a sensor on the egress side. The Access-Controlled Egress Doors are allowed with certain installation and operation requirements. The sensor provided on the egress side and arranged to detect a person approaching the doors, causing the door to unlock in the direction of egress (also, loss of power to the access-controlled egress door lock will default to unlocked). There shall also be a manual release located 40 – 48 inches above the floor and within 5 feet of the secured doors. This manual release shall be readily accessible and clearly identified by a sign that reads: **PUSH TO EXIT.**

CODE INFORMATION: activation of the building fire-protective signaling system or the automatic sprinkler system or fire detection system shall automatically unlock the doors in the direction of egress, and remain unlocked until the fire-protective signaling system has been reset.

Dead Bolts. In some instances doors are locked, not because of the clinical needs of the patients but for security reasons, such as the sliding doors into the Emergency Department from outside. The Life Safety Code requires all doors in the means of egress to hinge, but when a hospital installs a dead bolt on a sliding door with the break-away feature, the bolting action does not allow the door to break-away and operate as a hinged door. For this reason thumb turn dead bolts or keyed dead bolts are not allowed in egress doors.

Special locking provision. The Life Safety Code limits acceptable locking to those patients where clinical needs require locking, either for the protection of the patient or staff. CMS allows for the use of the 2012 Life Safety Code (18/19.2.2.2.2 – 18/19.2.2.2.6), which expands the acceptable patient locking from clinical needs of the patient to the needs of the patient requiring specialized security measures, patients that pose a security threat, or patients that require specialized protective measures.

3. B. Evaluation of Compliance with LS.02.01.20 EP 1

The Joint Commission requires compliance with the Life Safety Code, as does CMS. Door locking configurations and staff knowledge must be compliant. Egress doors should not be locked in a way that restricts passage to safety. The only way to assess compliance is by observation. Using the following as a script to guide engaging with staff may be helpful.

EP 1: Discuss with clinical staff or other responsible staff for locked doors in areas observed:

- Ask how the door is supposed to work or be operated in the event of a fire.
- If staff is supposed to carry a key ask the clinical person to demonstrate unlocking with the key.
- Ask the clinical person if the door will relock after persons exit.

- Ask how the staff in the area are trained and retrained for the operation of the door.
 - a. Is there a written competency for this security process?
 - b. Is there documentation of egress locking issues?
- Ask if the staff feel the process in place is adequate to meet the needs of the department.

The above probing questions are intended to identify:

- If clinical staff knowledge is adequate and accurate.
- If staff are required to have a key or specialized knowledge, do they?
- If a key is required, does it and the lock work?
- Have staff been properly trained?

NOTE: the above script suggestions were developed by a LSCS Richard Wiese, P.E., CHSP for this portal.

4. Additional Information for LS.02.01.20 EP 1 & 22, Door Locking

Door locking options are provided in the NFPA Life Safety Code (101-2012) section 18/19.2.2.2 Doors. In this section we find that:

- a. Locks shall not be permitted on patient sleeping room doors;
- b. Doors not located in in a required means of egress shall be permitted to be subject to locking;
- c. Doors within a required means of egress shall not be equipped with at latch or lock that requires the use of a tool or key from the egress side.

Fortunately the Life Safety Code includes *Exception* language, which allows exceptions to the code requirement. Here are the requirements with the exception language:

- a. Locks shall not be permitted on patient sleeping room doors.
 - When patient room doors are locked for patient privacy from the corridor side, but the patient can still leave the room (preventing entry into the room), staff must still have the ability to enter the room as needed; therefore, staff carry the keys at all times.
 - When patient room doors are locked from both in and outside the room based on the clinical needs of the patients and preventing the patient from leaving the room or unauthorized entry into the room, staff must carry the key at all times.
- b. Doors not located in in a required means of egress shall be permitted to be subject to locking.
 - No exception language.
- c. Doors within a required means of egress shall not be equipped with at latch or lock that requires the use of a tool or key from the egress side.
 - When patient room doors are locked from both in and outside the room based on the clinical needs of the patients and preventing the patient from leaving the room or unauthorized entry into the room, staff must carry the key at all times.
 - Delayed egress locks may be allowed, provided there is only one per any egress path.
 - Access-controlled egress doors shall be permitted.