The Joint Commission

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EC News

ENVIRONMENT OF CARE® | LIFE SAFETY | SUSTAINABLE HEALTHCARE



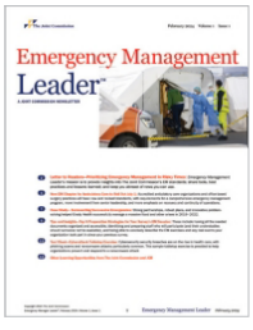
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Top-Cited Higher-Hazard EPs in the Physical Environment

In 2023, the leading findings pertained to assessing the environmental risk factors for suicide and managing ventilation variables in critical care areas

As it does every year, *Joint Commission Perspectives*® published the rankings for the most frequently cited higher-risk accreditation requirements for the previous year in its April 2024 issue. Much as in prior years, physical environment observations counted among the leading findings for each accreditation program in 2023.* (*See* Figure 1 on page 3 for the data for hospitals.)

Scored by surveyors as moderate or high risk based on likelihood to cause harm and the severity and scope of the potential impact, the top-cited elements of performance (EPs) in the physical environment were from the "National Patient Safety Goals" (NPSG) and "Environment of Care" (EC) chapters of the *Comprehensive Accreditation Manuals* (or their E-dition® counterparts). These EPs included the following (this list does not include notes; see the subsequent sections of this article for details):

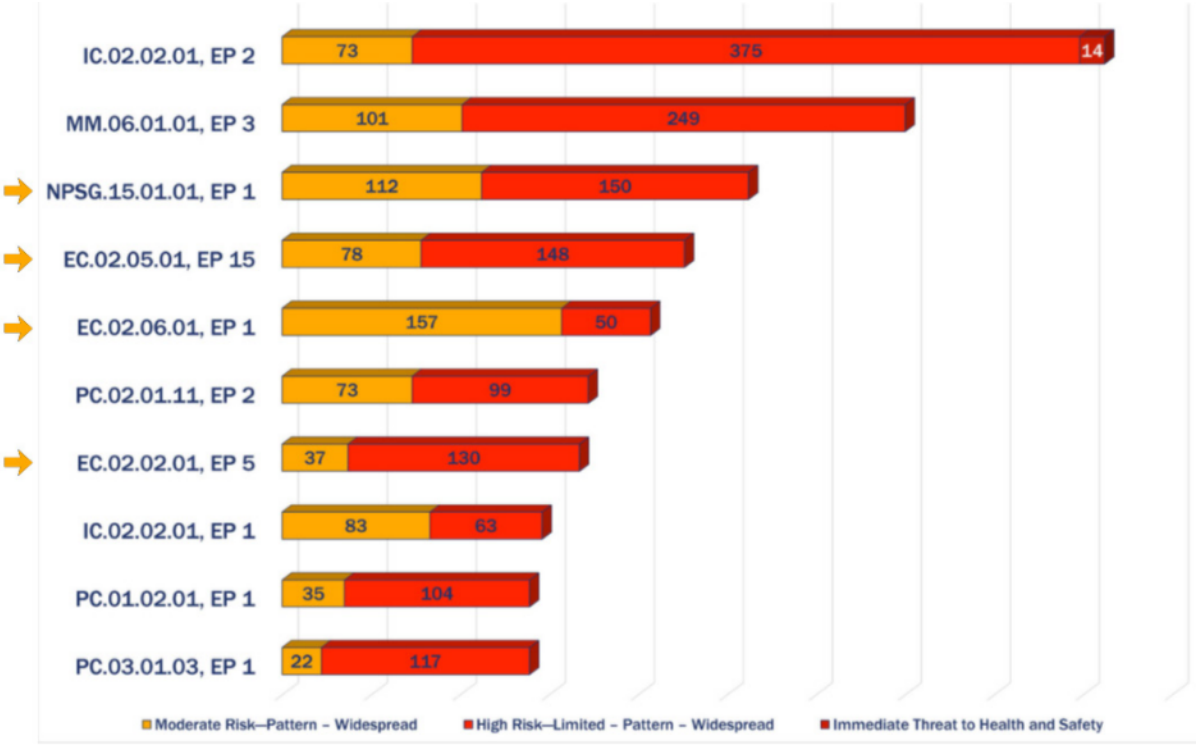
- **NPSG.15.01.01, EP 1:** The [organization] conducts an environmental risk assessment that identifies features in the physical environment that could be used to attempt suicide; the [organization] takes necessary action to minimize the risk(s) (for example, removal of anchor points, door hinges, and hooks that can be used for hanging).†
- **EC.02.05.01, EP 15:** In critical care areas designed to control airborne contaminants (such as biological agents, gases, fumes, dust), the ventilation system provides appropriate pressure relationships, air-exchange rates, filtration efficiencies, temperature, and humidity. For new and existing health care facilities, or altered, renovated, or modernized portions of existing systems or individual components (constructed or plans approved on or after July 5, 2016), heating, cooling, and ventilation are in accordance with NFPA 99-2012, which includes 2008 ASHRAE 170, or state design requirements if more stringent.
- **EC.02.02.01, EP 5:** The [organization] minimizes risks associated with selecting, handling, storing, transporting, using, and disposing of hazardous chemicals.
- **EC.02.06.01, EP 1:** Interior spaces meet the needs of the patient population and are safe and suitable to the care, treatment, and services provided.

*The rankings for the assisted living community (ALC) program were not included in *Joint Commission Perspectives*®. To learn more about ALC physical environment findings, see "Top Physical Environment Challenges for Assisted Living Communities" in the March 2024 issue of *EC News*.

†This National Patient Safety Goal and element of performance (EP) apply only to the hospital, critical access hospital, and behavioral health care and human services programs. Be sure to check the exact wording of the EP for the program setting because the qualifications and notes differ for the different programs.

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Figure 1. Top-Cited Higher-Hazard Requirements for Hospitals in 2023 (1,330 surveys conducted)



Four of the top 10–cited higher-hazard requirements for hospitals were physical environment elements of performance (EPs). The colors in the bar graph reflect the placement of findings on the *Survey Analysis for Evaluating Risk*® (*SAFER*®) Matrix, with orange indicating moderate-risk, bright red indicating high-risk, and dark red indicating Immediate Threat to Health or Safety observations. Low-risk (yellow) findings are not included on this graph.

Reducing the environmental risk for suicide

Suicide continues to be a leading *sentinel event* (a patient safety incident resulting in death or severe harm) for The Joint Commission. Effective January 1, 2024, The Joint Commission's Sentinel Event Policy includes a revised definition of when suicide is considered a sentinel event. The new definition has expanded the types of settings and the time period after discharge for suicide to be considered a sentinel event.

Given that suicide risk can be variable and unpredictable, keeping the healthcare environment safe is key to caring for individuals identified as being at risk for suicide. This is why hospitals and behavioral healthcare and human services (BHC) organizations must conduct environmental risk assessments for physical environment features and objects that could be used to attempt suicide. NPSG.15.01.01, EP 1 ranked as the second most frequently cited higher-risk EP for noncompliance in BHC settings and the third-leading higher-risk EP cited for the hospital accreditation program (HAP). The EP also applies to critical access hospitals (CAHs).

Accredited BHC, CAH, and HAP organizations must conduct environmental risk assessments, and The Joint Commission recommends that the following settings be ligature resistant (eliminating anchor points that could be used for hanging):

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psychiatric hospitals, psychiatric units of general hospitals (including CAHs), and inpatient BHC settings that lock doors to restrict the exiting of individuals served.

Nonpsychiatric hospital settings (such as emergency departments and intensive care units), inpatient BHC settings that are unlocked, and noninpatient BHC settings don't have to be ligature resistant; however, they must still mitigate the risk of suicide for any patients identified as being at risk for suicide. These mitigation measures include one-to-one monitoring for patients determined to be of high risk in a non-ligature-resistant setting until the individual can be transferred to a higher level of care; removal of objects that pose a risk for self-harm if they can be removed without adversely affecting the patient or client's care; assessing objects brought in by visitors for self-harming potential; and use of safe transportation procedures when moving patients, residents, or clients within the healthcare facility.

Recent deficiencies cited by Joint Commission surveyors include the following, among others:

- The organization could not produce an environmental risk assessment prior to the time of the building tour (high-risk finding).
- Louvered vents were identified in all patient rooms. The vents were listed on the environmental risk assessment; however, no mitigation had occurred (high-risk finding).
- Chairs with "loopable arms" that could be used as ligature points were present in all patient rooms (high-risk finding).
- During the unit tour, it was noted that the door to the mechanical room was unlocked. Per the organization's environmental risk assessment, all corridor doors (including the mechanical room door) are to be locked at all times and accessed only when staff are present (high-risk finding).

The Joint Commission provides information on environmental risk assessments and suicide prevention measures through its Suicide Prevention Portal. Various physical environment assessment tools can be accessed here.

Managing ventilation parameters

EC.02.05.01, EP 15 ranked third among higher-hazard requirements cited for CAHs and fourth among those cited for hospitals. In all critical care areas, effective management of ventilation variables is crucial to preventing the spread of infection.

The Joint Commission requires healthcare organizations to follow the 2012 edition of the National Fire Protection Association (NFPA) *Health Care Facilities Code* (NFPA 99-2012) or state design requirements, if more stringent. NFPA 99-2012 references the 2008 edition of ANSI/ASHRAE/ASHE Standard 170 *Ventilation of Health Care Facilities* (known as ASHRAE 170-2008). In this standard, the most important tables are "Design Parameters" (Table 7-1) and "Minimum Filter Efficiencies" (Table 6-1). For multiple types of healthcare spaces, Table 7-1 provides requirements for pressure relationships to adjacent rooms,

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minimum air exchange rates and whether room air must be vented outside, and relative humidity and temperature ranges. The table also includes numerous qualifying notes.

What are Joint Commission surveyors scoring under EP 15? Here is a sampling of recent observations:

- Bronchoscopy was not performed in a negative pressure environment (moderate-risk finding).
- The decontamination room was in a positive air pressure relationship to the adjacent clean rooms (high-risk finding).
- The required number of air exchanges in the operating room (OR) was not met (high-risk finding).
- The OR temperatures were found to be outside the allowable limits, with no corrective action taken (moderate-risk finding).
- The organization did not monitor temperature and humidity in a centralized sterile supply room, where large volumes of sterile supplies are kept (high-risk finding).
- The organization adopted the categorical waiver for relative humidity levels below 30% but had not conducted the required risk assessment for equipment and supplies to ensure safety and efficacy (moderate-risk finding).

Rooms that are considered critical, such as those where invasive procedures are performed and where sterile items are stored, must be in constant compliance when being used for their intended purpose. Therefore, according to a frequently asked question (FAQ) on temperature and humidity monitoring on The Joint Commission's website, a reliable strategy must be implemented to ensure continuous compliance, such as use of daily readings, real-time indicating devices in the space, and alarm mechanisms tied to a building automation system.

"All noncompliant conditions are to be documented, with corrective actions described," the FAQ emphasizes. "If the room is not in use and is placed in a noncompliant mode (such as for energy conservation), then the room must be validated to be in compliance before a procedure begins."

Handling and disposing of hazardous chemicals

Many risks are associated with selecting, handling, storing, transporting, using, and disposing of hazardous chemicals. Thus, it is not surprising that four accreditation programs saw EC.02.02.01, EP 5 among the most-cited higher-risk requirements: CAH, HAP, ambulatory care (AHC), and nursing care center (NCC).

In 2023, Joint Commission surveyors issued citations for the following deficiencies:

- No eyewash station was accessible within 10 seconds of corrosive chemicals being poured (high-risk finding).

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- The eyewash stations were being checked monthly rather than weekly (moderate-risk finding).
- Chemicals were stored in unsecured containers, without tops (moderate-risk finding).
- Personal protective equipment (PPE) was not used in the handling of hazardous chemicals (high-risk finding).
- The organization did not have a spill kit available in areas where formalin was used (moderate-risk finding).

Per Occupational Safety and Health Administration (OSHA) Standard 29 CFR 1910.151(c), eyewash stations and emergency showers are required in locations where workers handle injurious corrosive or caustic chemicals (any chemicals having a pH of less than 2.0 or greater than 11.5). Common corrosive chemicals used in healthcare include but are not limited to glutaraldehyde, formaldehyde, bleach, and sodium hydroxide (caustic soda). OSHA refers employers to ANSI Z358.1-2014 for details.



As noted in a Joint Commission emergency flushing device FAQ, additional eyewash station requirements include but are not limited to the following:

- The eyewash station must be assembled, installed, and maintained in accordance with manufacturer instructions.
- The device must be in an area with a highly visible sign indicating the presence of an eyewash station (and drench shower, if applicable).
- The area around the eyewash station must be well lit.
- The actuating valve, once activated, must remain open without requiring further use of the operator's hands (known as single-action operation).

Refer to the FAQ for further details on what The Joint Commission and OSHA require.

Providing safe, clean interior spaces

EC.02.06.01, EP 1 was fifth among the higher-risk most-cited requirements for hospitals. This requirement is used to score safety deficiencies that are not covered by other, more detailed EPs.

Surveyors have scored organizations for the following violations under this EP:

- Stained ceiling tiles were observed in a sterile environment and in immunocompromised patient care areas (high-risk finding).

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- Syringes and needles were unsecured in a psychiatric area (moderate-risk finding).
- Broken floor tiles in a patient care area created a potential tripping hazard (moderate-risk finding).
- The same sink was used for washing instruments and for handwashing as only one sink was available in the decontamination area, with no alternative process in place (moderate-risk finding).
- Broken or cracked floor and wall tiles were observed in a psychiatric area (high-risk finding).
- The emergency pull cord in the patient-room bathroom was wrapped around the grab bar, so it could not be activated by someone pulling from below (moderate-risk finding).

Improving compliance now and in the future

If a surveyor cited your organization under any of the EPs described in this article or if you've detected deficiencies in your own mock surveys, it's time to act. Although it is not a requirement, The Joint Commission Physical Environment Department recommends that healthcare organizations conduct regular environment of care rounds to look for violations. It is also helpful to name chapter champions to ensure compliance with the EC, NPSG, and "Life Safety" (LS) chapters. If you have questions, look for answers on the Standards FAQs page or submit your own questions.

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Creating Environment of Care Management Plans

These are high-level executive summaries, not detailed policies and procedures

Environment of Care (EC) Standard EC.01.01.01 requires a Joint Commission–accredited healthcare organization (HCO) to have a written management plan for each of the six functional areas of the healthcare physical environment: safety, security, hazardous materials and waste, fire safety, medical equipment, and utility systems. These management plans can be separate documents or can be combined into one or more documents.

EC management plans serve a dual purpose:

- They provide a framework for your organization's approach to the environment of care.
- They briefly explain how that approach complies with Joint Commission EC standards.

At a recent Joint Commission Resources educational event, "Environment of Care and Exploring the Life Safety Chapter in Ambulatory Care Settings,"* Kenneth J. "Beau" Hébert Jr., MAOM, CHSP, emphasized that EC management plans are high-level business plans, not detailed descriptions of policies or procedures. "The management plan is an executive summary that directs leaders where to find specific policies and processes," said Hébert, then a physical environment specialist in The Joint Commission's Standards Interpretation Group, who is now a Joint Commission *Life Safety Code*®† surveyor. For example, a written management plan for hazardous materials and waste should refer readers to separate policy and procedure documents for details on responding to hazardous chemical spills or disposing of hazardous chemicals.

EC management plans are useful to HCOs for the following reasons:

- The plans provide leaders with a high-level view of physical environment activities.
- They help organizations identify and manage risks.
- They help guide performance improvement efforts.
- They serve as a reference during surveys. (EC management plans are among the required documents surveyors ask to see.)
- They serve as orientation documents for new physical environment staff.

*Although this educational event was intended for ambulatory care organizations, the information in this article is applicable to all accreditation programs.

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- They help guide ongoing education and training programs pertaining to the physical environment.

> **Don't buy management plans off the shelf somewhere and put them in your binders and say, 'These are our management plans.'**
>
> **— Kenneth J. "Beau" Hébert Jr., MAOM, CHSP**



Hébert shared some insights and caveats about what should and should not be included in EC management plans. "We recommend that you don't cite Joint Commission standards and elements of performance (EPs) by number in your management plans," he stated. "The reason for this is that over the years, our standard numbers change, and some standards and EPs are reworded. So, use your own plain language so people can read the plans and understand what they are reading."

Management plans need to be tailored to the HCO and consistent with the organization's priorities, Hébert said. "Don't buy management plans off the shelf somewhere and put them into your binders and say, 'These are our management plans.' They need to be customized to your organization."

EC plan elements

As a best practice, an EC management plan should include the following elements:

- **Objectives:** Broad-based statements that discuss the purpose of the particular EC plan and what your organization intends to accomplish in this EC area in the coming year.
- **Scope:** A description of all your organization's sites covered by the plan. (The plan may also include hours of operation as well as services offered.)
- **Responsibilities:** The roles and duties of particular positions in the EC area addressed by the plan. "Don't include specific people's names," Hébert warned. "Just put in the position. That way when people change, you don't have to redo your management plan."
- **Emergency response:** A summary of how your organization responds to particular emergency situations in each EC area, with a reference to your emergency operations plan for more details.
- **Inspection, testing, and maintenance (ITM):** A description of your organization's approach to ITM activities per the respective standards.
- **Internal references or cross-references:** References to policies and procedures for specific details.

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- **Supplemental information:** References to critical related information such as municipal codes.
- **Risk assessment:** An explanation of how risk assessments are used in the EC area. “Who does risk assessments? Where are they being done? What are they for?” Those are the questions that should be answered in the management plan, Hébert said. For example, the EC plan for hazardous materials and waste should note the risk assessment process for determining where eyewash stations are needed.
- **Staff development:** An explanation of how staff (including contract staff) are oriented and trained.
- **Data collection and evaluation:** A description of the organization’s processes for collecting, continually monitoring, internally reporting, and investigating the following (per Standard EC.04.01.01):
  - Problems and incidents related to risks addressed in each EC management plan
  - Injuries to patients or others within the organization’s facilities
  - Occupational illnesses and staff injuries
  - Incidents of damage to the organization’s property or the property of others

  As an example of a data collection process that would be addressed in a safety management plan, Hébert talked about the winter fall hazards that were a problem on a healthcare campus where he once worked. “We had a lot of slips, trips, and falls outside on the parking lot,” he said, noting that the facility was on a hill in a snow-prone locale. Rather than just count the fall injuries, Hébert decided to map them to investigate exactly where people fell. “We were able to use the information from the map to see where we needed to focus our snow and ice removal,” he said.
- **Performance monitoring:** A description of how your organization measures the performance of the plan in reducing risk and keeping patients, staff, and visitors safe.
- **Annual review:** A description of how the plan’s required annual evaluation will be conducted, per EC.04.01.01, EP 15.

In addition, each EC management plan has elements specific to each area of focus. For example, a safety management plan might include a section on handling product recalls.

As Hébert stressed, creating and evaluating EC management plans must be a multidisciplinary, collaborative process, spearheaded by the individual(s) in charge of the physical environment and EC standards compliance at your organization.

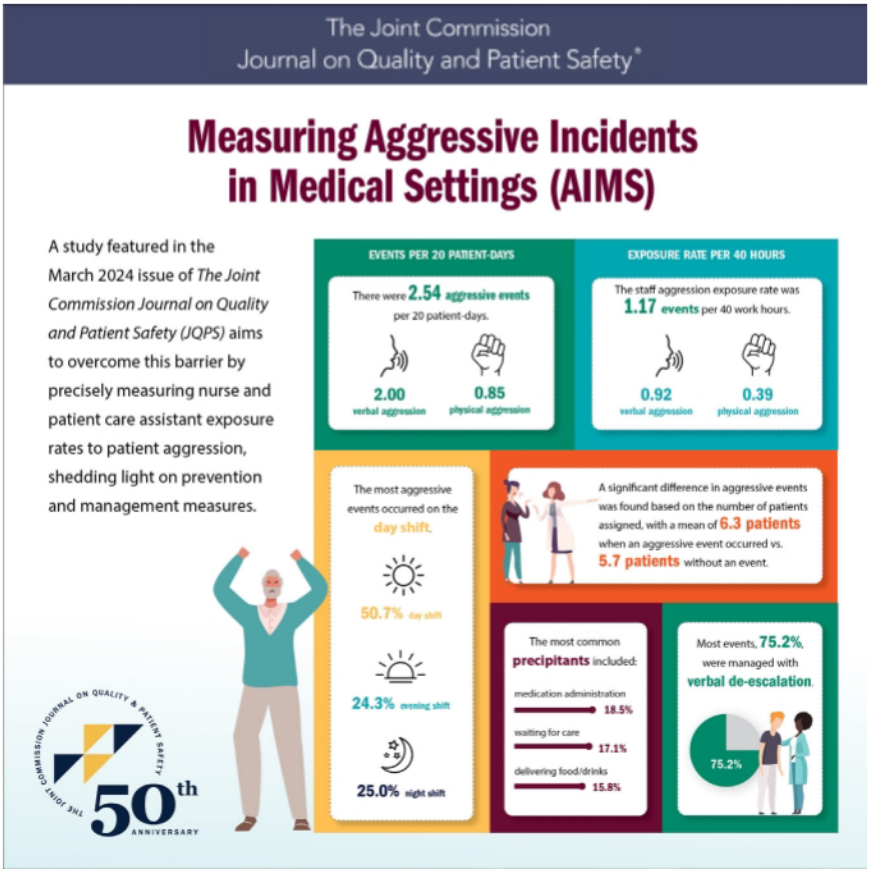
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Aggressive Incidents in Medical Settings Highlighted in JQPS Study

An article in *The Joint Commission Journal on Quality and Patient Safety* (*JQPS*) analyzes the nature of workplace violence in healthcare from the perspective of patient care staff exposure to incidents

Workplace violence in healthcare organizations (HCOs) is typically measured by "proxy measures" such as restraint, incident, and injury totals, notes an article titled "The Aggressive Incidents in Medical Settings (AIMS) Study: Advancing Measurement to Promote Prevention of Workplace Violence," published in the March 2024 issue of *The Joint Commission Journal on Quality and Patient Safety* (*JQPS*). The AIMS study argues that more precise measurement of rates of nurse and nursing assistant exposure to patient aggression in hospitals provides valuable knowledge that can be leveraged to help prevent workplace violence and successfully intervene when it occurs.

This multisite prospective cohort study looked at incidents of patient and visitor verbal and physical aggression toward patient care staff in five inpatient medical units in the northeastern United States. The results are summarized in the infographic below.



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Toolbox

APPLICABLE PROGRAMS: AHC, CAH, HAP, OBS

Improving Medical Laser Safety

Healthcare organizations that employ laser devices and systems in medical procedures can use the provided checklist to help develop, strengthen, or evaluate their laser safety programs

The use of medical laser devices in operating rooms, surgical suites, and other healthcare settings poses many potential hazards to both patients and staff—from ocular injuries to surgical fires to respiratory problems due to laser-generated airborne contaminants. The Joint Commission addresses laser-related risks in the physical environment in the following Environment of Care (EC) standards and elements of performance (EPs)*:

- **EC.02.02.01, EP 7:** The [organization] minimizes risks associated with selecting and using hazardous energy sources.
- **EC.02.02.01 EP 9:** The [organization] minimizes risks associated with selecting, handling, storing, transporting, using, and disposing of hazardous gases and vapors.

  Note: *Hazardous gases and vapors include, but are not limited to, ethylene oxide and nitrous oxide gases; vapors generated by glutaraldehyde; cauterizing equipment, such as lasers; waste anesthetic gas disposal (WAGD); and laboratory rooftop exhaust. (For full text, refer to NFPA 99-2012: 9.3.8; 9.3.9.)*

- **EC.02.03.01, EP 11:** Periodic evaluations, as determined by the [organization], are made of potential fire hazards that could be encountered during surgical procedures. Written fire prevention and response procedures, including safety precautions related to the use of flammable germicides or antiseptics, are established.
- **EC.02.03.01, EP 12:** When flammable germicides or antiseptics are used during surgeries utilizing electrosurgery, cautery, or lasers, the following are required:
  - Nonflammable packaging
  - Unit-dose applicators
  - Preoperative "time-out" prior to the initiation of any surgical procedure to verify the following:
    - Application site is dry prior to draping and use of surgical equipment.

*Notes and parenthetical references from Joint Commission standards and elements of performance (EPs) are not included with the EPs listed here unless they specifically mention laser devices. Be sure to check the *Comprehensive Accreditation Manual* (or its E-dition® counterpart) for your program setting for the exact wording of the requirements.

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— Pooling of solution has not occurred or has been corrected.

— Solution-soaked materials have been removed from the operating room prior to draping and use of surgical devices.

- **EC.02.03.03, EP 7:** The [organization] conducts annual fire exit drills for operating rooms/surgical suites
- **EC.02.04.01, EP 3:** The [organization] identifies high-risk medical equipment on the inventory for which there is a risk of serious injury or death to a patient or staff member should the equipment fail.
- **EC.02.04.01, EP 4:** The [organization] identifies the activities and associated frequencies, in writing, for maintaining, inspecting, and testing all medical equipment on the inventory.
- **EC.02.04.01, EP 5:** *For [organizations] that use Joint Commission accreditation for deemed status purposes*: The [organization's] activities and frequencies for inspecting, testing, and maintaining the following items must be in accordance with manufacturers' recommendations:
  - Equipment subject to federal or state law or Medicare Conditions of Participation in which inspecting, testing, and maintaining must be in accordance with the manufacturers' recommendations, or otherwise establishes more stringent maintenance requirements
  - Medical laser devices
  - Imaging and radiologic equipment (whether used for diagnostic or therapeutic purposes)
  - New medical equipment with insufficient maintenance history to support the use of alternative maintenance strategies.
- **EC.02.04.01, EP 11:** The [organization] monitors and reports all incidents in which medical equipment is suspected in or attributed to the death, serious injury, or serious illness of any individual, as required by the Safe Medical Devices Act of 1990.

Both The Joint Commission and the Occupational Safety and Health Administration (OSHA) require the use of appropriate personal protective equipment (PPE) wherever medical lasers are used. The Joint Commission, however, does not provide the specifics needed to set up a robust laser safety program.

Healthcare organizations (HCOs) must become familiar with the related requirements and recommendations of not only OSHA but also the National Fire Protection Association (NFPA) *Health Care Facilities Code* (NFPA 99-2012); the American National Standard Institute (ANSI) and Laser Institute of America's standard *Safe Use of Lasers in Health Care* (ANSI Z136.3-2018); and state laws and regulations—as well as laser device manufacturer instructions for use and for inspection, testing, and maintenance.

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HCOs can also consult guidance from the Association of periOperative Registered Nurses (AORN), the National Institute for Occupational Safety and Health (NIOSH), ECRI Institute, and applicable medical specialty organizations in developing policies, protocols, and procedures related to the safe use of medical lasers.

The "Healthcare Laser Safety Program Development Checklist," provided on the next seven pages and available in a customizable format here, is intended to provide a starting point for the complex task of establishing, improving, or assessing a laser safety program. It is a high-level checklist that does not address all the controls and precautions that must be implemented when lasers are used in medical procedures.

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Healthcare Laser Safety Program Development Checklist

The Joint Commission cites organizations for laser safety deficiencies under Environment of Care (EC) Standard EC.02.02.01, Element of Performance (EP) 7: The [organization] minimizes risks associated with selecting and using hazardous energy sources. (Notes for this EP are not included.) In addition, EP 9 of this standard—which pertains to minimizing risks associated with selecting, handling, storing, transporting, using, and disposing of hazardous gases and vapors—specifically mentions vapors generated by lasers in a note.

Organizations that use lasers for surgery must also perform surgical fire risk assessments and observe specific measures related to the use of flammable germicides or antiseptics in accordance with EC.02.03.01, EPs 11 and 12. In addition, organizations must conduct an extra fire drill per year for surgical suites/operating rooms, including spaces where laser surgery is performed, per EC.02.03.03, EP 7.

What's more, several Joint Commission requirements pertaining to medical equipment risks are relevant to medical laser safety. EC.02.04.01, EPs 3–5 pertain to identifying high-risk medical equipment on the inventory and following manufacturer instructions for inspection, testing, and maintenance activities. EP 11 of this standard requires the monitoring and reporting of all incidents in which medical equipment is suspected in or attributed to the death, serious injury, or serious illness of any individual, as required by the Safe Medical Devices Act of 1990.

Healthcare laser safety programs need to incorporate safety measures to protect patients and staff from potential radiant laser injuries, laser-related surgical fires, and laser-generated airborne contaminants. Most of the precautions that should be implemented are not spelled out in Joint Commission standards, however. This checklist, the use of which is not required by The Joint Commission, will help you assess and strengthen your organization's laser safety policies, protocols, and procedures. Many of the items in this checklist reflect industry consensus standards or best practices.

Answers to all questions ideally should be **Y** *for* **Yes** *(unless marked* **NA** *for* **Not Applicable***). Use the* **Comments** *section to indicate any required follow-up action(s) identified for an* **N** *for* **No** *response.*

ORGANIZATION: _____ **DEPARTMENT/UNIT:** _____

DATE OF REVIEW: _____ **REVIEWER(S):** _____

QUESTIONS	Y	N	NA	COMMENTS
Does your organization assess potential risks related to the use of hazardous energy, including non-iodizing radiation equipment such as lasers, per Joint Commission Environment of Care (EC) Standard EC.02.02.01, Element of Performance (EP) 7?				
Does your organization minimize the risks associated with the vapors, smoke, and particulate debris (known as *plume*) generated during laser procedures, in accordance with EC.02.02.01, EP 9?				
Does your organization identify medical laser devices and systems as high-risk equipment on the inventory, per EC.02.04.01, EP 3?				
Does your organization identify in writing its activities and associated frequencies for performing inspection, testing, and maintenance (ITM) of medical laser devices and systems, per EC.02.04.01, EP 4?				

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QUESTIONS	Y	N	NA	COMMENTS
Are the ITM activities and frequencies in accordance with the laser device manufacturer's instructions, per EC.02.04.01, EP 5?				
Does your organization monitor and report any incidents in which a medical laser device or system is suspected in or attributed to the death, serious injury, or serious illness of any individual, as required by the Safe Medical Devices Act of 1990, per EC.02.04.01, EP 11?				
Is your organization aware of the laser safety–related standards on the website of the Occupational Safety and Health Administration (OSHA)? *(Note that while OSHA has particular requirements related to personal protective equipment [PPE], it mainly references the American National Standards Institute [ANSI] Z136 series of laser safety standards, which are consensus documents, not federal requirements.)*				
Does your organization provide eye and face protection for staff (and patients) who could be exposed to "potentially injurious light radiation," per Subpart I, Personal Protective Equipment—29 CFR 1910.133(a)(1)—of OSHA's general industry standards?				
Is your organization aware that OSHA provides additional applicable guidance in 29 CFR 1926.102(b)(2), which states that "employers whose occupation or assignment requires exposure to laser beams shall be furnished suitable laser safety goggles which will protect for the specific wavelength of the laser and be of optical density (OD) adequate for the energy involved"?				
Is your organization familiar with the guidance in ANSI Z136.3-2018, *Safe Use of Lasers in Health Care*, which is published by the Laser Institute of America? *(This is one of the laser safety standards referenced by OSHA and a key resource that healthcare organizations [HCOs] can use to comply with The Joint Commission's requirements, as the standard is nationally recognized as the benchmark for the safe use of lasers in all medical applications.)*				
Is your organization familiar with any laws or regulations pertaining to the use of lasers in healthcare settings in your state? *(Many states have adopted ANSI Z136.3-2018 as a state statute, and certain state licensing boards have adopted the standard to define scopes of practice. HCOs should also be aware of and comply with state-specific requirements such as having to register a medical laser device or a healthcare laser practitioner prior to laser use.)*				

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QUESTIONS	Y	N	NA	COMMENTS
Are you aware that per US Food and Drug Administration (FDA) medical device regulations, laser manufacturers are required to classify all medical laser systems that can potentially cause damage to the eyes and skin into one of four categories, from Class 1 (no hazard) to Class 4 (serious hazard)?				
Are you aware that a Class 3B laser is hazardous for direct and reflected beam exposure to the eyes but is normally not considered a diffuse reflection or fire hazard?				
Are you aware that a Class 4 laser can burn the skin and/or cause temporary or permanent eye damage as a result of direct, reflected, diffuse, or indirect beam viewing?				
Are you aware that ANSI Z136.3-2018 requires a laser safety program wherever Class 3B and Class 4 lasers are used?				
Does your organization follow manufacturer instructions for use and for inspection, testing, and maintenance for all Class 3B and Class 4 laser devices?				
Does your organization follow all applicable standards and recommendations related to using laser devices and equipment that are published in the 2012 edition of the National Fire Protection Association (NFPA) *Health Care Facilities Code* (NFPA 99-2012)?				
Does your organization follow manufacturer instructions for inspection, testing, and maintenance for all Class 3B and Class 4 laser devices?				
Are you aware that any laser safety program must include robust engineering controls (such as local exhaust ventilation and plume evacuators) and administrative controls (such as designating a laser safety officer and a laser safety specialist, developing policies and procedures pertaining to laser safety, and implementing a robust laser safety training program)?				
Does your organization review its laser safety program annually?				
Does your organization have a laser safety committee or a laser safety subcommittee that is part of the facility safety committee?				
Are you aware that the Association of periOperative Registered Nurses (AORN) provides medical laser safety guidelines, courses, training videos, and a certification program for perioperative nurses? *(See the* AORN Journal *article "Guideline Quick View: Laser Safety" for tips and links to other AORN laser safety references.)*				

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QUESTIONS	Y	N	NA	COMMENTS
Does your organization conduct a gap analysis that involves a side-by-side comparison of laser safety laws, federal and state regulations, applicable codes and standards, manufacturer instructions, consensus guidelines, and best practice recommendations to develop policies and procedures that ensure compliance with the most stringent requirements?				
LASER SAFETY PROGRAM PARTICULARS				
Does your organization designate a laser safety officer (LSO) and, if deemed necessary, a deputy laser safety officer (DLSO)?				
Are the LSO and DLSO (if applicable) responsible for the following in your organization? ☐ Overall program oversight ☐ Training ☐ Recordkeeping ☐ Conducting a hazard evaluation for each laser device or system ☐ Classification of potential laser hazards ☐ Hazard response ☐ Stopping use of a laser system or device if controls are inadequate ☐ Development or approval of policies and standard operating procedures ☐ Making sure that appropriate PPE is worn ☐ Making sure that appropriate laser warning signage is posted, as required				
If lasers are used in multiple sites in a facility, does the LSO designate one or more laser safety specialists (LSSs) to help enforce laser safety protocols in each location?				
Do the policies and procedures developed by the LSO and the laser safety committee address the following? ☐ Beam versus non-beam hazards ☐ Designated laser eyewear for patients and staff ☐ Establishment of a laser treatment control area (laser surgery or procedure room) ☐ Fire safety ☐ Shared-airway procedures ☐ Electrical safety ☐ Laser-generated air contaminants and plume control ☐ Fiber care ☐ Window barriers ☐ Standby functions ☐ Laser signage ☐ Key control ☐ Third-party laser use ☐ Laser device service and maintenance				

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QUESTIONS	Y	N	NA	COMMENTS
Has your organization established criteria for credentialing all laser users, operators, and staff scheduled to be in the designated laser room? *(This is an administrative control that should involve the medical staff office, the laser safety committee, surgical management, and the LSO. Credentialing should be based on national or state regulations and professional guidelines for practice.)*				
Do members of the laser team feel empowered to document areas and incidents of noncompliance and potential hazards? *(Such reports need to be reviewed by the laser safety committee for analysis and remediation. Comfort in reporting noncompliance is a key part of having a healthcare safety culture.)*				
At least annually, does your LSO conduct laser device and laser equipment audits to determine the status of the following? ☐ Laser devices ☐ Laser accessories ☐ Associated equipment ☐ PPE ☐ Safety control products				
Does your LSO leverage such audits as an opportunity to assess the laser team's knowledge and team members' compliance with standard operating procedures and to correct deficiencies?				
Are the results of audits shared among the laser team, administration, and laser safety committee—with remediation actions, root cause analyses, or other quality assurance mechanisms identified?				
LASER INJURIES				
Is your organization aware that the greatest hazard from radiant laser energy is ocular exposure? *(The unprotected eye is very vulnerable to infrared cornea-damaging lasers [1400 nm to 1 mm] and retinal hazardous lasers [400 nm to 1400 nm]. In addition, inadvertent ocular exposure has been documented to cause photocoagulation of the iris dilation muscles, resulting in a misshapen iris, or "keyhole effect.")*				
Did you know that intense absorption in the eye's anterior chamber (where the iris resides) can also result in the following problems? ☐ Uveitis (intense inflammation) ☐ Decrease in aqueous production ☐ Light sensitivity ☐ The possibility of posterior synechiae, where the lens can partially adhere to the iris				

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QUESTIONS	Y	N	NA	COMMENTS
Are you aware that posterior chamber ocular injuries can also occur, with wavelengths that can be transmitted to the retina, which can result in the following? ☐ Macular holes ☐ Vitreous hemorrhage ☐ Foveal and macular burns				
If a laser injury occurs in your organization, are you aware that a medical exam of the injured person must be performed within 48 hours of the incident, as required by ANSI Z136.3-2018? *(Suspected ocular injuries from lasers in the retinal hazard region [400 nm to 1400 nm] must be examined by an ophthalmologist. State and local laws and regulations may have specific reporting requirements.)*				
Are you aware that per ANSI Z136.3-2018, eye-protection devices specified by the manufacturer and/or selected by the LSO need to be administratively required of all personnel within an established nominal hazard zone (NHZ)? *(The NHZ is determined during the laser hazard evaluation and is usually the surgery or procedure room.)*				
Are you aware that laser protective eyewear should be labeled with the optical density and laser wavelength to provide the proper eyewear filter attenuation for the appropriate laser device?				
Are you aware that a patient's eye protection demands the utmost LSO assessment, with approved selection including spectacles, goggles, periorbital goggles, or wet cloth towels over the ocular area?				
Are you aware that occlusive FDA-tested and -approved metal eye shields should be applied to patients for face and neck procedures?				
Are you aware that metal corneoscleral shields should be used for laser procedures performed on the eyelids or peripheral ocular adnexa?				
SURGICAL FIRE PREVENTION				
Does your organization conduct surgical fire risk assessments in accordance with EC.02.03.01, EP 11? *(Written fire prevention and response procedures, including safety precautions related to the use of flammable germicides or antiseptics, must be established.)*				

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QUESTIONS	Y	N	NA	COMMENTS
Does your organization comply with EC.02.03.01, EP 12, which requires that when flammable germicides or antiseptics are used during surgeries using lasers, electrosurgery, or cautery, the following are required? ☐ Nonflammable packaging ☐ Unit-dose applicators ☐ Preoperative "time-out" prior to the initiation of any surgical procedure to verify the following: • Application site is dry prior to draping and use of surgical equipment. • Pooling of solution has not occurred or has been corrected. • Solution-soaked materials have been removed from the operating room prior to draping and use of surgical devices.				
Does your organization conduct an extra annual fire drill per year (beyond the one fire drill per shift per quarter) for its surgical/procedure rooms, per EC.02.03.03, EP 7?				
Is your organization familiar with The Joint Commission's latest *Sentinel Event Alert* on surgical fires, titled Updated Surgical Fire Prevention for the 21st Century?				
Are you aware that laser perforation of an endotracheal tube during a shared-airway surgery can create a life-threatening event for a patient?				
Are you aware that ANSI Z136.3-2018 specifies that only an FDA-approved laser-resistant tube with special design protection to avoid an airway fire may be used?				
Are you aware that ANSI Z136.3-2018 specifies that surgeons use the lowest possible laser power setting to reduce the risk of fire?				
LASER-GENERATED AIRBORNE CONTAMINANTS				
Are you aware that laser-generated airborne contaminants produced during surgical procedures are a result of the vaporization or disruption of tissue at the cellular level? *(ANSI Z136.3-2018 states that "analysis of the plume produced has shown the presence of gaseous toxic compounds, bio-aerosols, cellular material, and viruses." Plumes contain aerosolized blood, blood by-products, and pathogens.)*				
Are you aware that in 1996, the National Institute for Occupational Safety and Health issued a hazard alert to all hospitals, recommending that smoke from lasers and electrosurgical units be evacuated and filtered?				

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Other Learning Opportunities from The Joint Commission and Joint Commission Resources

In-Person or Live Webcasts

- Emergency Management Standards Base Camp Pre-Conference (in-person only), Orlando, Florida, June 18, 2024
- Emergency Management Conference (in-person only), Orlando, Florida, June 19–20, 2024 (Cybersecurity and continuity of operations planning are two major conference topics.)
- Environment of Care Base Camp, August 20–21, 2024
- Exploring the Life Safety Chapter, August 22–23, 2024
- Hospital Executive Briefing, Oakbrook Terrace, Illinois, September 10, 2024
- Hospital CMS Update, Oakbrook Terrace, Illinois, September 11, 2024
- Behavioral Health Care and Human Services Conference (in-person only), Rosemont, Illinois, October 24–25, 2024
- Ambulatory Care Conference (in-person only), Rosemont, Illinois, November 7–8, 2024
- Environment of Care Base Camp, November 19–20, 2024
- Exploring the Life Safety Chapter, November 21–22, 2024

Webinars

2024 Environment of Care/Life Safety Webinar Series

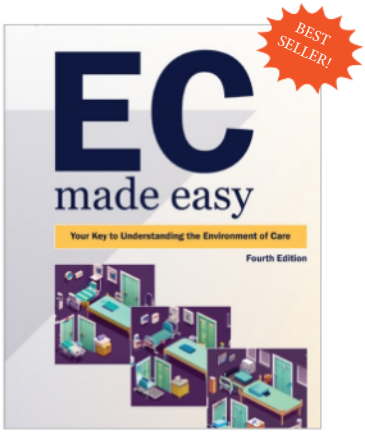
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Emergency Management Leader™



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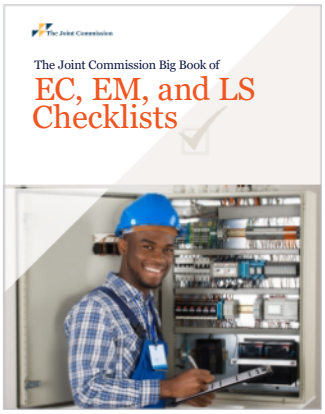


EC Made Easy, Fourth Edition

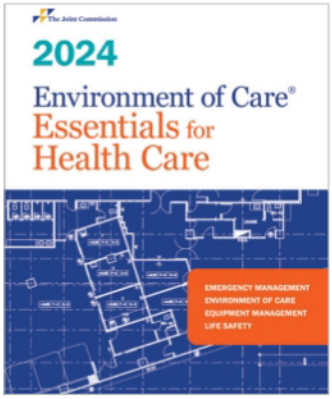
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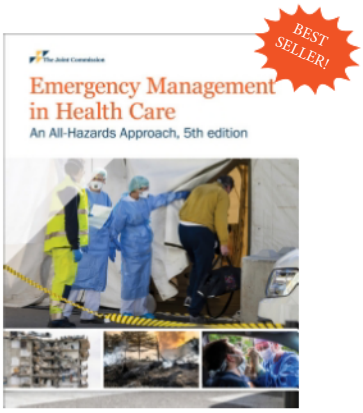
Infection Prevention and Control Issues in the Environment of Care, Fifth Edition



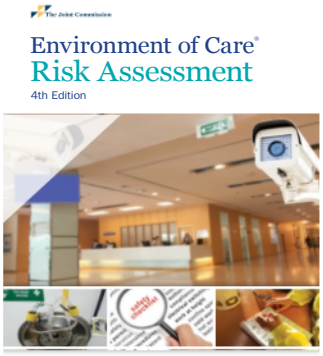
The Joint Commission Big Book of EC, EM, and LS Checklists



2024 Environment of Care® Essentials for Health Care



Emergency Management in Health Care: An All-Hazards Approach, Fifth Edition



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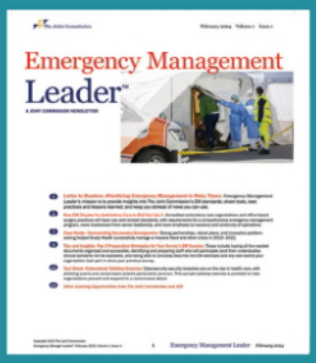
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