

DEPARTMENT OF THE ARMY
HEADQUARTERS, UNITED STATES ARMY MEDICAL COMMAND
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MEDCOM Regulation
No. 40-48

31 January 2014

Medical Services
**FIRES ASSOCIATED WITH THE PERFORMANCE
OF SURGICAL PROCEDURES**

Supplementation of this regulation and establishment of forms other than MEDCOM forms are prohibited without prior approval from HQ MEDCOM, ATTN: MCHO-CP-A.

- 1. History.** This issue publishes a revision of this regulation.
- 2. Purpose.** The purpose of this regulation is to provide policy and recommendations that will help ensure minimal risk of fires associated with the performance of surgical procedures in any healthcare setting to include, but not limited to, the following: operating room (OR), office-based, ambulatory surgery, and intensive care unit type.
- 3. Applicability.** This regulation applies to all U.S. Army Medical Command (MEDCOM) personnel involved in the performance of surgical procedures. This includes, but is not limited to, surgeons (to include oral surgeons and dermatologic surgeons), anesthesia providers, operating and surgical nurses and technicians (to include Phase II training students), sterile processing staff, biomedical equipment repair specialists, and logistics personnel responsible for the purchase of medical supplies. It also includes residents and fellows in all anesthesia and surgical specialties (to include oral surgery and certified registered nurse anesthetist trainees) as well as residents in specialties that call for rotations in an OR, ambulatory surgical, or surgical office-based setting. It is recommended that this policy be periodically discussed in professional staff meetings for the general interest of all assigned providers.
- 4. References.** References are listed in appendix A.
- 5. Explanation of abbreviations.** Abbreviations used in this regulation are explained in the glossary.

*This regulation supersedes MEDCOM Regulation 40-48, 20 August 2003.

6. Background

a. According to a broad range of medical literature, there are an estimated 23 million inpatient surgical procedures and 27 million outpatient surgical procedures performed in the United States each year. Based upon data collected by the Food and Drug Administration (FDA) and by the Emergency Care Research Institute (ECRI) (an independent nonprofit health services research agency), an estimated 550-650 surgical fires occur each year, resulting in 20-30 serious injuries. Deaths remain at 1-2 per year. Fatal fires usually occur in the patient's airway.

b. According to a 2012 FDA Safety Communication: Preventing Surgical Fires/FDA MEDWATCH, most surgical fires occur in oxygen-enriched environments, when the concentration of oxygen is greater than in ordinary room air. When supplemental oxygen is delivered to the patient, an oxygen-enriched environment can be created. An open oxygen delivery system, such as nasal cannula or mask, presents a greater risk of fire than a closed delivery system, such as a laryngeal mask. In an oxygen-enriched environment, materials that may not normally burn in room air can ignite and burn.

c. Whenever all elements of the fire triangle are present (fuel source, ignition source, and oxidizer), there is an increased risk of fire. This risk is especially heightened during surgeries involving the head and neck because of the proximity of these elements. If any one element of the fire triangle is carefully controlled or mitigated, even to a minimal degree, the risk of fire and patient harm can be greatly reduced.

d. ECRI's analysis of case reports reveals that the most common ignition sources are (70%) electrosurgical equipment and (10%) lasers. The most common fire locations are: (41%) on the head, neck, or upper chest; (26%) elsewhere ON the patient; (21%) in the airway; and (8%) elsewhere IN the patient. An oxygen-enriched atmosphere (OEA), containing more than 23 percent oxygen, was a contributing factor in 74 percent of all cases.

e. Appendix B presents a case example and comments.

f. Appendix C provides a sentinel event alert issue. This alert is especially provided for personnel in remote locations with no other access to the alert.

7. Policy. Personnel will employ the precautions explained in this paragraph, as a minimum, in the performance of surgical procedures in any healthcare setting. A fire risk assessment at the beginning of each procedure is recommended to reduce the risk of surgical fires. The highest risk procedures involve the activation of an ignition source near the site where supplemental oxygen is being directed to the head, neck, or upper chest surgery (FDA MEDWATCH, 2012).

a. Heat and ignition sources.

(1) Consider alternatives to using an ignition source for surgery of the head, neck, and upper chest if high concentrations of supplemental oxygen (greater than 30%) are being delivered. If an ignition source must be used, it is safer to do so after allowing time for the oxygen concentration to decrease. It may take several minutes for a reduction of oxygen concentration in the area even after stopping the gas or lowering its concentration. Surgical drapes and other fuel sources can ignite easily and burn in an oxygen-enriched environment, even if the products are described as flame-resistant.

(2) Heat input from a variety of sources increases the oxidation rate of a fuel-oxygen mixture until combustion occurs. Common heat sources found in a surgical setting include (but are not limited to) overhead lights; electrosurgical units (ESUs) and electrocautery units (ECUs); heated probes, drills, and burs; and fiberoptic light sources and cables. If collocated with fuels, these sources produce temperatures high enough to ignite.

(3) Surgeons must exercise caution in selecting the source for cautery. The manufacturer's recommendations for use of the cautery/ESU should always be reviewed and taken into consideration in conjunction with other patient- or procedure-specific issues such as the need for oxygen and so forth.

(a) Activate the unit **ONLY** when the active tip is in view (especially if viewing it through a microscope).

(b) Deactivate the unit **BEFORE** the tip leaves the surgical site.

(c) Place electrosurgical electrodes in a holster or off the patient and drapes when not in active use. Place lasers in standby when not in active use.

(d) If long, insulated electrosurgical electrode probes are required, use only commercially available insulated probes and confirm the integrity of the insulated surfaces prior to use. Do **NOT** use red rubber catheter or other materials to sheathe probes.

(4) ESUs should not be used to cut tracheal rings and enter the airway. Using scissors or a scalpel instead will avoid the risk of fire.

(5) Be aware that fiber optic light sources can start fires. Complete all cable connections before activating the source. Place source in standby when disconnecting cables.

b. Fuels.

(1) A fuel is anything that can burn, including almost anything and everything that comes into contact with patients as well as substances in/on the patients themselves. Many are easily identified as flammable but others are not generally thought of as flammable.

(2) Fuels commonly encountered in the surgical setting include, but are not limited to, those summarized in table 1, below.

In/On Patient	Hair (face, scalp, body) * GI tract gases (usually methane)
Prepping Agents	Degreasers (ether, acetone) * Aerosol adhesives * Alcohol (also in suture packets) * Tinctures (Hibitane [chlorhexidine digluconate], Merthilate [thimerosal], DuraPrep [idophor]), *Chloraprep (alcohol)
Linens	Drapes (woven, nonwoven, adherent) * Gowns (reusable, disposable) * Masks * Hoods and caps * Shoe covers * Instrument & equipment drapes & covers * Egg-crate mattresses * Mattresses and pillows * Blankets
Dressings	Gauze * Sponges * Adhesive tape (cloth, plastic, paper) * Stockinettes * Collodion (mixture of pyroxylin, ether, and alcohol)
Ointments	Petrolatum (petroleum jelly) * Tincture of Benzoin (74% to 80% alcohol) * Aerosols (e.g., Aeroplast) * Paraffin * White wax
Equipment/Supplies	Anesthesia components (breathing circuits, masks, airways, tracheal tubes, suction catheters, pledgets) * Flexible endoscopes * Coverings of fiberoptic cables and wires (e.g., ESU leads, ECG leads) * Gloves * Blood pressure & tourniquet cuffs * Stethoscope tubing * Disposable packaging materials (paper, plastic, cardboard) * Smoke evacuator hoses
Gases	Oxygen * Carbon Dioxide * Nitrous Oxide (fuel exacerbator) * Others

Table 1. Fuels Commonly Encountered in a Surgical Setting

(3) Avoid the use of flammable skin prep solutions, such as flammable, alcohol-based preps. If they must be used, they should be used with extreme caution. Drapes should not be applied until all flammable preps have fully dried; the area under the drapes should be well vented. Some prepping agents and ointments are extremely volatile and flammable. Care should be taken to ensure that such agents/ointments (liquid alcohol from a prep) do not pool under the patient and generate vapors beneath the drapes for an extended period of time. Remove alcohol-soaked materials from the prep area. Allow adequate drying time, as prescribed in the labeling, for the specific product. If the product is used on hairy areas or in skin folds, extend the drying time. Ensure the skin is dry before draping the patient and beginning surgery. Opened bottles or basins containing volatile solutions (such as alcohol from suture packs and acetone degreasers) should be closed or removed from the sterile area as soon as possible after use.

(4) Under the right circumstances, some surgical ointments (such as petroleum-based ointments) can burn. Globes of ointment are not easy to ignite because their mass absorbs considerable heat before vaporizing. Thin layers, however, have a low mass per area and need less heat to cause vaporization; thus, they ignite more easily.

(5) Water-based lubricants, such as K-Y Jelly, are mostly water and will not burn; heat simply vaporizes the water in the lubricant, cooling the area. Thus, these lubricants should be used to coat hair to make it fire resistant.

(6) Surgeons are cautioned regarding the need to move surgical drapes as far away from the surgical site as clinically feasible. Open draping should be considered when possible to eliminate the potential for an OEA.

(7) Surgeons should recognize that debris from the operative field could adhere to the cautery device and become a bridging material that may inadvertently bring the heat source into contact with a fuel such as a surgical drape to cause an unexpected ignition. This material is known as a surface fiber flame propagation (SFFP) agent.

(8) Consideration should be given to using an incise drape, if possible, to isolate facial incisions from the oxygen source and to decrease air channels from under the drapes to the surgical site.

(9) If an uncuffed tracheal tube is used during oropharyngeal surgery, gauze or sponges should be soaked in saline to minimize leakage of oxygen into the oropharynx. These items should be kept wet throughout the surgical procedure. Additionally, sponges, gauze, or pledgets (and their strings) should be moistened so that they will resist igniting.

(10) If a cuffed endotracheal tube is used for oropharyngeal surgery, water should be substituted for air to inflate the cuff. The water has the advantage of acting as a heat sink if cautery is used near the cuff. Also, the cuff will prevent the leakage of oxygen into the oropharynx much better than sponges in the supraglottic area especially if high peak pressures are required for patients such as those with chronic obstructive pulmonary disease.

(11) In selecting drape vendors, supply personnel are cautioned to proactively consider lint production data from drape sources to minimize the potential for SFFP. Fire resistancy and fire retardation data should be considered in the purchase of all supplies that could be used in a surgical setting.

c. Oxidizers.

(1) Most fuels burn only in the gaseous state and ignite only when sufficient vapors have mixed with oxygen. Heat produces these vapors by evaporating liquids or vaporizing solids. Whenever and wherever the oxygen concentration is above 23 percent, an OEA exists.

(2) The oxygen supply system is the most disastrous fire hazard in the healthcare environment, even though the least likely to occur. While these systems must meet certain design, inspection, and usage requirements, fires still occur, chiefly because oxygen supply components have been repaired or modified in violation of governing codes.

(3) The surgical setting has multiple sources of oxygen to include those which are provided by anesthesia. Anesthesia often requires delivering oxygen-enriched mixtures above the 21 percent oxygen of room air to ensure proper oxygenation of patients.

(a) Evaluate if supplemental oxygen is needed for each patient. Any increase in oxygen concentration in the surgical field increases the chance of fire. The medical necessity in providing supplemental oxygen should be based upon the pathophysiologic condition of the patient and/or the use of hypnotic/narcotic medications.

(b) If the patient's physical condition does require supplemental oxygen, then supplemental oxygen is recommended. If supplemental oxygen is necessary, particularly for surgery in the head, neck, or upper chest area—

1. Deliver the minimum concentration of oxygen needed to maintain adequate oxygen saturation for the patient; and

2. Use a closed oxygen delivery system such as an endotracheal tube or laryngeal mask whenever possible, especially if high concentrations of supplemental oxygen (greater than 30%) are being delivered.

(c) If the patient's respiratory drive is blunted from the use of hypnotics/ narcotics, then oxygen should be used (at a flow rate that will maintain the saturation of $O_2 > 93$ percent).

(d) In situations where hypnotics/narcotics are not used in healthy, awake patients, then supplemental oxygen should be available but not employed if electrocautery will be used.

(4) The interventions to control oxidizers all attempt to decrease the potential for creation of an oxygen enriched environment.

(a) When draping the patient, configure the surgical drapes to allow sufficient venting of oxygen delivered to the patient via mask or nasal prongs. Oxygen delivered in this manner is also referred to as open oxygen delivery.

(b) If supplemental oxygen is required and the patient cannot be intubated, titrate oxygen to the lowest percentage necessary to support the patient's physiological needs.

(c) If the oxygen is being administered via mask or nasal prongs, then use a separate administration system to deliver 5 L (liter) to 10 L/min of room air under the surgical drape. This will help flush out the excess oxygen.

(d) When greater than 30 percent oxygen is required, the patient should, if possible, be intubated using a cuffed endotracheal tube. The cuff helps restrict the flow of the oxygen into the throat or into the surgical field.

(e) The supplemental oxygen or nitrous oxide should be stopped for one minute before using electrosurgery, electrocautery, or laser for head, neck, or upper chest procedures. This will also help to decrease the oxygen concentration in the air under the drapes. This is a measure which can only be accomplished if the patient can tolerate it safely.

(f) Use of an adhesive incise drape limits the oxidizers by keeping the oxygen away from the surgical site. For the drape to be effective, it must be sealed with no leaks.

(5) Any mixture of oxygen and nitrous oxide should be considered an OEA within the context of surgical fires. Heat from sources found in the surgical setting or a fire liberates oxygen from nitrous oxide, allowing it to support combustion.

d. General. Encourage communication among members of the surgical team. Ensure the anesthesia professional delivering the gases is communicating with the surgeon controlling the ignition source and the clinician applying the skin preparation agent. Plan how to manage a surgical fire. For example, understand how to extinguish a fire burning on a patient, develop evacuation procedures, conduct fire drills, and keep saline handy to put out a fire. It is strongly recommended that procedures to ensure appropriate response by all members of the surgical team to fires associated with surgical procedures be developed, implemented, tested, trained, and then reevaluated as part of the organization's Performance Improvement Program.

Appendix A References

Section I

Required Publications

This section contains no entries.

Section II

Related Publications

The following references provide additional information to the user of this regulation.

Fire Safety Toolkit

Association of Perioperative Registered Nurses

(Available at <https://www.aorn.org>.)

Perioperative Standards and Recommended Practices

(Available at

https://www.aorn.org/Books_and_Publications/Perioperative_Standards_and_Recommended_Practices/Perioperative_Standards_and_Recommended_Practices.aspx.)

Do oxygen-enriched atmospheres exist beneath surgical drapes and contribute to fire hazard potential in the operating room?

American Association of Nurse Anesthetists Journal, Vol 68, p 153, 2000, Barnes, A.M., and Frantz, R.A.

(Available at www.ncbi.nlm.nih.gov/pubmed/10876463.)

Comfort and safety in eye surgery under local anesthesia

Department of Anaesthesia, King Khaled Eye Specialist Hospital, Riyadh, Saudi Arabia.

Anaesth Intensive Care, Vol 26(2), pp 173-177, April 1998, Bosman, Y.K., Krige, S.J., Edge, K.R., Newstead, J., and Du Toit, P.W.

(Available at www.ncbi.nlm.nih.gov/pubmed/9564396.)

ECRI Institute

Health Devices. Vol 38(10), pp. 314-332, 2009.

<https://www.ecri.org>

FDA Safety Communication: Preventing Surgical Fires, 2012.

United States Food and Drug Administration

(Available at

<http://www.fda.gov/MedicalDevices/Safety/AlertsandNotices/ucm275189.htm>.)

Potential dangers of oxygen supplementation during facial surgery

Plast Reconstr Surg, Vol 95, p 978, 1995, Greco, R.J, Gonzalez, R., Johnson, P., Scolieri, M., Rekhopf, P.G., and Heckler, F.

(Available at www.ncbi.nlm.nih.gov/pubmed/7732145.)

Minimizing fire risk during eye surgery

Clin Nurs Res 11: p 387, 2002, Ho, S.Y., and French, P.
(Available at www.ncbi.nlm.nih.gov/pubmed/12413112 .)

Sentinel Event Alert, Issue 29, 24 June 2003.

The Joint Commission

(Available at

http://www.jointcommission.org/sentinel_event_alert_issue_29_preventing_surgical_fire/s/.)

NFPA: Health Care Facilities Code

National Fire Protection Association 99; chapter 7, Electrical Equipment

(Available at www.nfpa.org/aboutthecodes/AboutTheCodes.asp?DocNum=99.)

Safety in the use of compressed air versus oxygen for the ophthalmic patient

American Association of Nurse Anesthetists Journal, Vol 70: p 41, 2002, Rodgers, L.A., and Kulwicki, A.

(Available at www.ncbi.nlm.nih.gov/pubmed/11887543.)

New equipment to prevent carbon dioxide rebreathing during eye surgery under retrobulbar anesthesia

BR J Ophthalmol, Vol 83: p 1131, 1999, Schlager, A., and, Staud, H.

(Available at www.ncbi.nlm.nih.gov/pubmed/10502572 .)

Note: For further reading on this subject, refer to ECRI at <http://www.mdsr.ecri.org/>. Enter "fires" into the "search terms" line.

Section III

Prescribed Forms

This section contains no entries.

Section IV

Referenced Forms

This section contains no entries.

Appendix B Case Example

B-1. Case

A medical treatment facility experienced a serious fire in the OR. The case involved a middle-aged patient who was admitted for a planned same-day facial surgery of the lower eyelid. The patient was draped with clear plastic drapes around the surgical site and flame retardant paper drapes layered over the plastic drapes. The anesthesia provider was flowing supplemental oxygen to the patient at 3L/minute via nasal cannula under the drapes. The surgeon proceeded with removal of skin following pre-induction markings. During the course of the procedure, the surgeon used a high-temperature, hot-wire cautery device to control the bleeding points.

It was at this point that there was an ignition, with a sudden flash of flames occurring around the nasal aspect of the left side of the face. The staff responded instantly, simultaneously discontinuing oxygen flow while removing the drapes, which were the fuel for the fire. Although the fire was extinguished and appropriate clinical interventions immediately followed, the patient did experience predominately first- and second-degree burns about the face with some third-degree spotting also noted. Post-incident, the patient has progressed under the care of several involved consultant specialists.

B-2. Comments

Heat and ignition source. In the incident described above, the surgeon's choice of the 2200-degree hot-wire cautery was consistent with the manufacturer's recommendation. However, the instantaneous maximum intensity of the heat source demands special care in use, especially in proximity to flammable substances and supplemental oxygen, a known fire accelerant.

Oxidizer. In the incident cited, an OEA was created beneath the surgical drapes that accelerated the fire once ignition occurred. This caused the team to question why supplemental oxygen was used in a patient who had been assessed as American Society of Anesthesiologists physical status classification I and for whom no medical necessity for oxygen was evident. In discussions with anesthesia providers, it was concluded that it was a customary cautionary practice to have oxygen flowing to maintain the patient's saturation level as close to 100 percent as possible. In so doing in this incident, oxygen was unable to dissipate from the folds of the drapes and remained in proximity to the heat source and fuel.

Fuel source. All surgical personnel should be apprised of the lack of substantial protection afforded by the fire retardancy of most surgical drapes. This is exacerbated by the existence of an OEA, which dramatically increases the combustion potential between a cautery device and the drapes.

Appendix C
Sentinel Event Alert Issue #29
24 June 2003

http://www.jointcommission.org/sentinel_event_alert_issue_29_preventing_surgical_fires/

Preventing surgical fires

In the fire triangle--heat, fuel, and oxygen--each element must be present for a fire to start. And, though the incidents are significantly under reported, too often all three elements come together in a hospital's surgical suite, yielding disastrous consequences. Though they are considered rare occurrences in the health care environment, surgical* fires are certainly one of the most frightening and devastating experiences for everyone involved. While exact numbers are not available, of the more than 23 million inpatient surgeries and 27 million outpatient surgeries^{1,2} performed each year, estimates--based on data from the FDA and ECRI, an independent nonprofit health services research agency--indicate that there are approximately 100 surgical fires each year, resulting in up to 20 serious injuries, and one or two patient deaths annually³.

Root causes identified

To date, two cases of OR fires have been reported to The Joint Commission (TJC) for review under the Sentinel Event Policy, each resulting in serious injury to the patients. In nearly all cases studied by the FDA, ECRI, and TJC, the cause of the fire can be attributed to activities relating to a side of the fire triangle. ECRI's recent analysis of case reports reveals that the most common ignition sources are electrosurgical equipment (70%) and lasers (10%); and the most common fire locations are: (41%) on the head, neck or upper chest; (26%) elsewhere ON the patient; (21%) in the airway; and (8%) elsewhere IN the patient. An oxygen-enriched atmosphere was a contributing factor in 74% of all cases³.

A host of flammable materials are found in the surgical suite, from the wide range of alcohol-based prepping agents and linens such as drapes, towels, gowns, hoods, and masks to the multiple types of dressings, ointments, and equipment and supplies used during surgery. Common ignition sources found in the OR are electrosurgical or electrocautery units (ESUs, ECUs), fiberoptic light sources and cables, and lasers. In addition, ESUs, lasers, and high-speed drills can produce incandescent sparks that can fly off the target tissue and ignite some fuels, especially in oxygen-enriched atmospheres.

Risk reduction strategies

"The basic elements of a fire are always present during surgery and a misstep in procedure or a momentary lapse of caution can quickly result in a catastrophe," says Mark Bruley, vice president, Accident and Forensic Investigation, ECRI. "Slow reaction or the use of improper fire-fighting techniques and tools can lead to damage, destruction, or death." Bruley notes that virtually all surgical fires are preventable and that their impact can be lessened through an understanding of fire and how to fight it.

"Each member of the surgical team--the surgeon, the anesthesiologist, and the nurses--controls a specific side of the triangle and by properly managing their technique and part of the equation, surgical fires can be avoided," says Bruley.

ECRI offers a free poster entitled *Only You Can Prevent Surgical Fires* that summarizes preventive recommendations based on the organization's more than 25 years of research and publication on surgical fires. The poster is available at www.mdsr.ecri.org. These recommendations include—

1. Staff should question the need for 100 percent O₂ for open delivery during facial surgery and as a general policy, use air or FiO₂ at ≤30 percent for open delivery (consistent with patient needs).
2. Do not drape the patient until all flammable preps have fully dried.
3. During oropharyngeal surgery: Soak gauze or sponges used with uncuffed tracheal tubes to minimize leakage of O₂ into the oropharynx, and keep them wet; and moisten sponges, gauze and pledgets (and their strings) so that they will resist igniting.
4. When performing electrosurgery, electrocautery, or laser surgery: Place electrosurgical electrodes in a holster or another location off the patient when not in active use; and place lasers in STANDBY when not in active use.

Also, ECRI recommends that staff should participate in special drills and training on the use of fire-fighting equipment; proper methods for rescue and escape; the identification and location of medical gas, ventilation, and electrical systems and controls, as well as when, where, and how to shut off these systems; and use of the hospital's alarm system and system for contacting the local fire department.

The Joint Commission recommendations

TJC recommends that health care organizations help prevent surgical* fires by:

1. Informing staff members, including surgeons and anesthesiologists, about the importance of controlling heat sources by following laser and ESU safety practices; managing fuels by allowing sufficient time for patient prep; and establishing guidelines for minimizing oxygen concentration under the drapes.
2. Developing, implementing, and testing procedures to ensure appropriate response by all members of the surgical team to fires in the OR*.
3. Organizations are strongly encouraged to report any instances of surgical fires as a means of raising awareness and ultimately preventing the occurrence of fires in the future. Reports can be made to TJC, ECRI, the FDA, and state agencies, among other organizations.

Resources

ECRI offers a clinical website called "Medical Device Safety Reports" where published articles and educational posters on surgical fires are available free of charge; go to

<http://www.mdsr.ecri.org/> and enter "fires" into the "Search Terms" line.

Bibliography

¹ Hall MJ, Owings MF. 2000 National Hospital Discharge Survey. Advance data from vital and health statistics; No 329. Hyattsville, Maryland: National Center for Health Statistics. 2002.

² Hall MJ, Lawrence L. Ambulatory surgery in the United States, 1996. Advance data from vital and health statistics; no. 300. Hyattsville, Maryland: National Center for Health Statistics, 1998.

³ ECRI. A clinician's guide to surgical fires: how they occur, how to prevent them, how to put them out [guidance article]. *Health Devices* 2003; 32(1):5-24. To purchase a copy, contact ECRI at (610) 825-6000.

*The terms surgical and operating room include all invasive procedures and the locations where they are performed.

Glossary
Section I
Abbreviations

ECRI
Emergency Care Research Institute

ECU
electrocautery units

ESU
electrosurgical units

FDA
Food and Drug Administration

L
liter

MEDCOM
United States Army Medical Command

OEA
oxygen-enriched atmosphere

OR
operating room

SFFP
surface fiber flame propagation

TJC
The Joint Commission

Section II
Terms

This section contains no entries.

The proponent of this publication is the Clinical Performance Assurance Directorate. Users are invited to send comments and suggested improvements on DA Form 2028 (Recommended Changes to Publications and Blank Forms) to Commander, U.S. Army Medical Command, ATTN: MCHO-CP-A, 2748 Worth Road, JBSA Fort Sam Houston, TX 78234-6000.

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