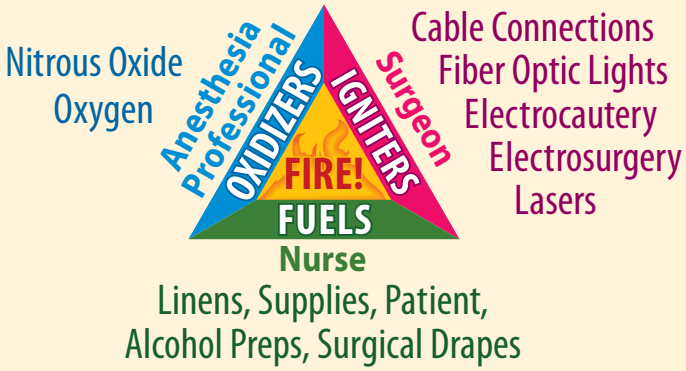
Don't Fuel the Fire

HUNDREDS OF FIRES occur in U.S. operating rooms each year, caused by activating ignition sources in alcohol vapor- or oxygen-enriched environments.

1. ***Ask*** **if flammable materials, oxidizers and potential fire ignition sources will be used for the procedure.**
2. ***Learn*** **how to safely use these items together.**
3. ***Know*** **what actions to take if a fire does occur.**

The 'fire triangle' shows the three elements needed to start a fire (oxygen + fuel + ignition source) and who is responsible for managing them.

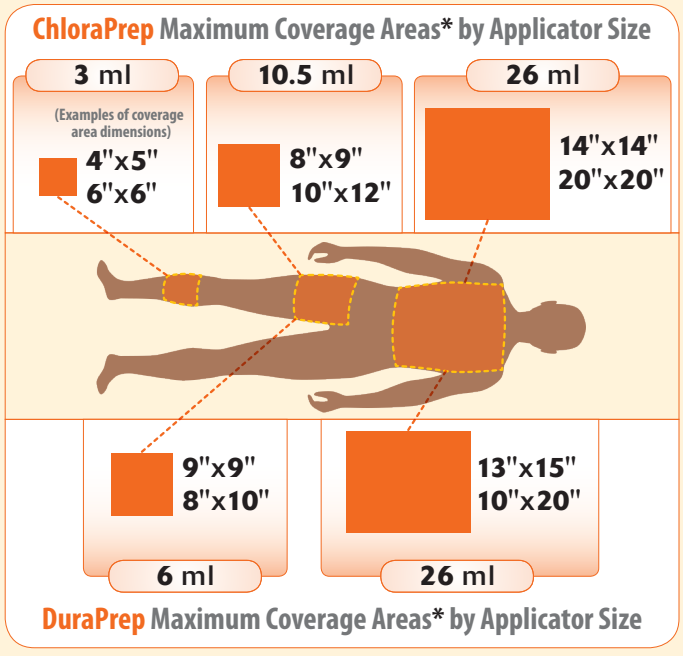
- **Learn to recognize early signs of fire.**
- **Have CO_2 fire extinguishers and saline or water solution available.**
- **Participate in OR team fire drills.**



Wait for Preps to Evaporate and O_2 to Dissipate

Properly apply alcohol-based prepping solutions and let them dry. ChloraPrep® and DuraPrep® are both nearly 75% isopropyl alcohol which is highly flammable. **Wait at least three minutes** for alcohol to ***evaporate*** from hairless skin and **up to one hour** from hair before using ignition devices. Apply drapes only after preps have ***dried.*** Don't use too big an applicator for too small an area *(see diagram)*. **Don't let alcohol pool** in skin creases. Remove alcohol-soaked materials.

Wait for oxygen to dissipate from under drapes, ***and flush*** with room air ***or scavenge*** away before using ignition devices. Use as **diluted** a concentration of oxygen as possible. Stop supplemental oxygen **at least one minute** before using igniton devices. Inform the surgeon before increasing oxygen concentration.



*** Coverage areas are approximate — *don't use too much.***

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Produced by the Center for Research & Innovation in Systems Safety

For a high-quality 22" x 28" print-ready file of this poster suitable for mounting in procedural areas, as well as other fire safety resources including the OR Fire Prevention Algorithm, visit: www.apsf.org/resources/fire-safety/

OR Fire Prevention Algorithm

Start Here

Is patient at risk for surgical fire?

Procedures involving the head, neck and upper chest (above T5) *and* use of an ignition source in proximity to an oxidizer.

NO → **Proceed, but frequently reassess for changes in fire risk.**

Nurses and surgeons avoid pooling of alcohol-based skin preparations and allow adequate drying time. Prior to initial use of electrocautery, communication occurs between surgeon and anesthesia professional.

YES

Does patient require oxygen supplementation?

NO → **Use room air sedation.**

YES

Is >30% oxygen concentration required to maintain oxygen saturation?

NO → **Use delivery device such as a blender or common gas outlet to maintain oxygen below 30%.**

YES

Secure airway with endotracheal tube or supraglottic device.

Although securing the airway is preferred, for cases where using an airway device is undesirable or not feasible, oxygen accumulation may be minimized by air insufflation over the face and open draping to provide wide exposure of the surgical site to the atmosphere.

Provided as an educational resource by the

Anesthesia Patient Safety Foundation

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The following organizations have indicated their support for APSF's efforts to increase awareness of the potential for surgical fires in at-risk patients: American Society of Anesthesiologists, American Association of Nurse Anesthetists, American Academy of Anesthesiologist Assistants, American College of Surgeons, American Society of Anesthesia Technologists and Technicians, American Society of PeriAnesthesia Nurses, Association of periOperative Registered Nurses, ECRI Institute, Food and Drug Administration Safe Use Initiative, National Patient Safety Foundation, The Joint Commission