

Only You Can Prevent Surgical Fires

Surgical Team Communication is Essential

The applicability of these recommendations must be considered individually for each patient.

At the start of surgery:

- Enriched O₂ and N₂O atmospheres can **vastly increase flammability** of drapes, plastics, and hair. Be aware of possible O₂ enrichment under the drapes near the surgical site and in the fenestration, especially during head/neck surgery.
- Do not drape the patient until all flammable preps have fully dried.
- Fiberoptic light sources **can** start fires: Complete all cable connections before activating the source. Place the source in **standby** mode when disconnecting cables.
- Moisten sponges to make them ignition resistant in oropharyngeal and pulmonary surgery.

For surgery with open delivery of supplemental O₂:

- Question the need for 100% O₂ for open delivery during head/neck surgery.
- As a general policy, use air or ≤30% O₂ for open delivery to the face.
- Arrange drapes to minimize O₂ buildup underneath.
- Keep fenestration towel edges as far from the incision as possible.
- Use an incise drape to isolate head and neck incisions from O₂ and alcohol vapors.
- Coat head hair and facial hair (e.g., eyebrows, beard, moustache) within the fenestration with water-soluble surgical lubricating jelly to make it nonflammable.
- For coagulation, use bipolar, not monopolar electrosurgery.

During oropharyngeal surgery:

- Scavenge deep within the oropharynx with separate suction to catch leaking O₂ and N₂O.
- Soak gauze or sponges used with uncuffed tracheal tubes to minimize gas leakage into the oropharynx, and keep them wet.

When performing electrosurgery, electrocautery, or laser surgery:

- Stop supplemental O₂ (if O₂ concentration is >30%) at least one minute before and during use of the unit, if possible.
- Activate the unit **only** when the active tip is in view (especially if looking through a microscope or endoscope).
- Deactivate the unit **before** the tip leaves the surgical site.
- Place electrosurgical electrodes in a holster or another location off the patient when not in active use (i.e., when not needed within the next few moments).
- Place lasers in **standby** mode when not in active use.
- Do not place rubber catheter sleeves over electrosurgical electrodes.

Reference: 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 Jan; 32(1):5-24.

For more information, or to purchase full-color, glossy posters (11½" x 17½") of "Only You Can Prevent Surgical Fires," contact ECRI by telephone at +1 (610) 825-6000, by fax at +1 (610) 834-1275, or by e-mail at info@ecri.org.



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