

# 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 Each Surgery:

- ▶ Enriched O<sub>2</sub> and N<sub>2</sub>O atmospheres can vastly increase flammability of drapes, plastics, and hair. Be aware of possible O<sub>2</sub> enrichment under the drapes near the surgical site and in the fenestration, especially during head/face/neck/upper-chest surgery.
- ▶ Do not apply drapes until all flammable preps have fully dried; soak up spilled or pooled agent.
- ▶ 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.

### During Head, Face, Neck, and Upper-Chest Surgery:

- ▶ Use only air for open delivery to the face if the patient can maintain a safe blood O<sub>2</sub> saturation without supplemental O<sub>2</sub>.
- ▶ If the patient cannot maintain a safe blood O<sub>2</sub> saturation without extra O<sub>2</sub>, secure the airway with a laryngeal mask airway or tracheal tube.

Exceptions: Where patient verbal responses may be required during surgery (e.g., carotid artery surgery, neurosurgery, pacemaker insertion) and where open O<sub>2</sub> delivery is required to keep the patient safe:

- At all times, deliver the minimum O<sub>2</sub> concentration necessary for adequate oxygenation.
- Begin with a 30% delivered O<sub>2</sub> concentration and increase as necessary.
- For unavoidable open O<sub>2</sub> delivery above 30%, deliver 5 to 10 L/min of air under drapes to wash out excess O<sub>2</sub>.
- Stop supplemental O<sub>2</sub> at least one minute before and during use of electrosurgery, electrocautery, or laser, if possible. Surgical team communication is essential for this recommendation.
- Use an adherent incise drape, if possible, to help isolate the incision from possible O<sub>2</sub>-enriched atmospheres beneath the drapes.
- Keep fenestration towel edges as far from the incision as possible.
- Arrange drapes to minimize O<sub>2</sub> buildup underneath.
- 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 electrosurgery, not monopolar electrosurgery.

### During Oropharyngeal Surgery (e.g., tonsillectomy):

- ▶ Scavenge deep within the oropharynx with a metal suction cannula to catch leaking O<sub>2</sub> and N<sub>2</sub>O.
- ▶ Moisten gauze or sponges and keep them moist, including those used with uncuffed tracheal tubes.

### During Tracheostomy:

- ▶ Do not use electrosurgery to cut into the trachea.

### During Bronchoscopic Surgery:

- ▶ If the patient requires supplemental O<sub>2</sub>, keep the delivered O<sub>2</sub> below 30%. Use inhalation/exhalation gas monitoring (e.g., with an O<sub>2</sub> analyzer) to confirm the proper concentration.

### When Using Electrosurgery, Electrocautery, or Laser:

- ▶ The surgeon should be made aware of open O<sub>2</sub> use. Surgical team discussion about preventive measures before use of electrosurgery, electrocautery, and laser is indicated.
- ▶ 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.



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Developed in collaboration with the  
Anesthesia Patient Safety Foundation.

