



SURGICAL SMOKE

FREQUENTLY ASKED QUESTIONS

The Solution: Evacuation of Surgical Smoke

1. How are surgical teams supposed to handle surgical smoke?

Surgical smoke can be safely and effectively evacuated by using the operating room suction systems already installed in every operating room, or by using a local smoke evacuator that is attached to the electrocautery pencil to capture the smoke at the source.

When using a room suction system, a health care worker suctions the smoke being generated by the surgeon's device. Users must simply install appropriate filters and ensure that the line is cleared and filters are disposed of properly.

Captured surgical smoke is disposed of as hazardous waste.

2. Doesn't the hospital HVAC system get rid of surgical smoke?

No. General room ventilation at recommended air exchange levels is not enough to capture the contaminants in smoke plume or to protect health care workers from harmful exposure. Surgical smoke must be captured at its source in order to protect health care workers and patients from its harms.

3. Do masks protect workers from surgical smoke?

No. Surgical masks do not provide respiratory protection to health care workers. A surgical mask is a loose-fitting face mask intended to prevent the release of potential contaminants from the wearer into his or her immediate environment; it does not protect the wearer from inhaling the tiny micro-particles in surgical smoke. Surgical team members can wear special fit-tested surgical N95 respirators as a second line of defense against surgical smoke, but N95 masks are not designed to be worn longer than 30 minutes, and some individuals cannot wear N95 masks based on the shape of their face or a beard.

4. Does smoke evacuation create loud noise in the OR?

Operating rooms are noisy environments – noise is generated by staff and equipment (not to mention background music). The older generation of smoke evacuators were noisy, but the newer smoke evacuators are very quiet. In fact, some of the new models are so quiet it's hard to tell when they are on. The decibel level of the new models falls in the 50s which is a similar level to an electric toothbrush. As a comparison, staff conversations in the OR can generate decibel levels in the high 70s.

SURGICAL SMOKE

5. Will the evacuation equipment obstruct the surgeon's view of the surgical site?

Multiple types of smoke evacuation technologies are available to address any line of sight concerns held by a surgeon. If an evacuator pencil is not preferred for any certain technique, suction tubing may be placed directly adjacent to the incision site, out of the surgeon's view, to evacuate the smoke.

6. Is there a medical reason why a surgeon might not want to evacuate in certain procedures?

There *may* be a very rare circumstance where the incision site is too small to accommodate the electrosurgical pencil with evacuation tubing, and the evacuation tubing obstructs the surgeon's visual field of the incision site. If an evacuator pencil is not preferred for any certain technique, suction tubing may be placed directly adjacent to the incision site, out of the surgeon's view, to evacuate the smoke.

7. Are there construction costs to facilities?

Surgical smoke evacuation does not involve construction costs or changes to a facility's HVAC system or general room ventilation. General room ventilation at recommended air exchange levels is not enough to capture the contaminants in smoke plume or to protect health care workers from harmful exposure. Surgical smoke must be captured at its source in order to protect health care workers and patients from its harms.

8. How much does it cost to implement a smoke-free program?

All operating rooms already are equipped with suction equipment that can be used to evacuate surgical smoke, and costs for filters are minimal. As to electrosurgical pencils, cost differences between traditional pencils and those with evacuators attached can be as little as a few dollars per pencil.

In contrast, perioperative nurses report twice as many respiratory illnesses as the general population. Most hospitals shoulder the health care costs for their employees. Annual per capita employer expenditures for employees with asthma are approximately 2.5 times those for employees without asthma. For adults, asthma is the fourth leading cause of work absenteeism. When nurses miss work due to illness, hospitals are forced to pay costly overtime to cover shifts. Improving the health prospects of all surgical nurses in a state will actually save facilities money over time.

9. How does a facility go smoke-free?

Surgical services departments have had great success in going smoke-free by first inviting all companies to present their devices to allow surgeons and their teams an opportunity to see and test the latest technologies. Some facilities have even gone smoke-free by simply throwing away the pencils without evacuators attached. It usually takes six months to a year for a facility to work with its surgical team and suppliers to implement a smoke-free program that works for all teams and specialty procedures performed facility-wide.

10. What does the bill require?

AORN's model smoke evacuation legislation simply has hospitals and ASCs adopt a policy requiring the evacuation of surgical smoke for planned surgical procedures likely to generate surgical smoke. The bills allow maximum flexibility for surgical teams and facilities to select and use the equipment of their choice. Facilities will be able to use different technologies as new

SURGICAL SMOKE

technologies become available, as long as they are evacuating or eliminating surgical smoke as it is generated.

11. If hospitals are already evacuating, why do we need a law?

Many facilities do evacuate during some procedures, but few facilities evacuate consistently during all procedures which generate surgical smoke. Nurses have little control over whether they are assigned to a smoking or non-smoking operating room. Whether or not smoke is evacuated during surgery tends to be based on one team member's decision to use or not use an evacuator.

Restaurant staff and flight attendants are now safe from cigarette smoke. Offices are smoke-free as are most public spaces. Nurses and surgical team members deserve the same protection.