



Attention: Healthcare Employers with Employees

Each year, thousands of healthcare workers in the state of Washington, including surgeons, nurses, anesthesiologists, and surgical technologists, are exposed to hazardous smoke generated during surgical procedures that use a laser or electro-surgical device.

Surgical smoke contains a variety of combustion byproducts that can cause eye and respiratory system irritation. Surgical smoke may also contain other potentially hazardous materials such as benzene, hydrogen cyanide, formaldehyde, dead and live cellular material (including blood fragments), and viruses.



When necessary, exposure to surgical smoke can be controlled through use of effective local exhaust ventilation systems, commonly referred to as “smoke evacuation systems”, available from a number of vendors. Use may also improve the overall quality of the operating field.

The following resources can help you create better awareness and develop controls to address this potential hazard:

- [Laser/Electrosurgery Plume](#) topic page (from OSHA)
- [Control of Smoke From Laser/Electric Surgical Procedures](#) (from NIOSH)
- [American National Standard for Safe Use of Lasers in Health Care Facilities, ANSI Z136.1-2014](#)
- [Association of periOperative Registered Nurses \(AORN\) Position Statement on Surgical Smoke and Bio-Aerosols](#). See also: The Hazards of Surgical Smoke, AORN Journal, April 2008, 87 (4).

You can find relevant DOSH rules at the following links:

- [Chemical Safety Basics](#) page
- [Airborne Contaminants](#) rule
- [Respiratory Protection](#) information

Please share this bulletin with others in your industry and safety network. For more information, contact:

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*This bulletin was developed by L&I's Division of Occupational Safety and Health (DOSH) to alert employers, labor groups, and employees to potential hazards associated with work activities. **This is not a rule and creates no new legal obligations.** The information provided includes suggested guidance on how to avoid workplace hazards and describes relevant mandatory safety and health rules. DOSH recommends you also check the related rules for additional requirements.*

#10HB2011