**Add new Section 51XX to read:**

**§ 51XX. Occupational Exposure to Plume in Health Care**

**(a) Scope and Application**. This section applies to occupational exposure to plume in general acute care hospitals and ambulatory surgical centers.

(1) Exposures to plume in other health care settings and exposures to similar smoke, particulates, vapors, and gases in other settings are covered under Title 8, Group 16—Control of Hazardous Substances, and other applicable substance-specific standards.

(2) This section does not preclude the application of sections 3203, 5141, 5143, 5144, 5155, 5193, 5199 or other title 8 safety orders to occupational exposure to plume.

**(b) Definitions.**

(1) “Administrative control” means a method to limit exposure to a hazard by adjustment of work procedures, practices, or schedules.

(2) “[Ambulatory surgical center or ASC](https://cadir.sharepoint.com/sites/DIRRSandMedicalUnits/Shared%20Documents/General/5.%20R%26S%20Health%20Unit/Rulemaking/09.%20Surgical%20Plume/Draft%20Regulatory%20Language/older%20discussion%20drafts%202018/Discussion%20draft%20for%20Surgical%20Plume%20rev%208-1-19.docx?web=1)” means any surgical clinic as defined in the California Health and Safety Code Section 1204, subdivision (b)(1), any ambulatory surgical center that is certified to participate in the Medicare program under Title XVIII (42 U.S.C. SEC. 1395 et seq.) of the federal Social Security Act, or any surgical clinic accredited by an accrediting agency as approved by the Licensing Division of the Medical Board of California pursuant to Health and Safety Code Sections 1248.15 and 1248.4 to use anesthesia, except local anesthesia or peripheral nerve blocks, or both, in compliance with the community standard of practice, in doses that, when administered have the probability of placing a patient at risk for loss of the patient's life-preserving protective reflexes.

(3) “Authorized employee representative” for purposes of this section only, means an organization that has a collective bargaining relationship with an employer or an organization acknowledged by a public agency as representing its employees.

(4) “Designated employee representative” for purposes of this section only, means any individual or organization to whom an employee gives written authorization to exercise their right to access records required by this section.

(5) “Electrocautery device” means a device that is electrically heated to cut, ablate, or coagulate human tissue.

(6) “Electrosurgical device” means a device that uses a radio frequency electric current that passes through human tissue to cut, ablate, or coagulate.

(7) “Energy-based device” means a device that uses energy to ablate, cauterize, or mechanically manipulate human tissue, including lasers, electrosurgical generators, broadband light sources, ultrasonic instruments, plasma generators, bone saws, and drills.

(8) “Gas phase filter” (e.g., activated carbon filter) means a filter that effectively removes gaseous air contaminants, which are too small to be filtered by particulate filters, through adsorption, absorption, or other chemical reaction.

(9) “General acute care hospital” means a hospital licensed by the California Department of Public Health as such meeting the definition provided in Health and Safety Code Section 1250(a) or California Code of Regulations, Title 22, Section 70005, and all services within the hospital’s license.

(10) High efficiency particulate air (HEPA) filter means a filter that is at least 99.97% efficient in removing monodisperse particles of 0.3 micrometers in diameter.

(11) “Plume” means airborne contaminants generated from the use of energy-based devices, electrosurgical devices, electrocautery devices, or mechanical tools during surgical, diagnostic, or therapeutic procedures.

(12) “Plume evacuation system (PES)” means smoke evacuators, laser plume evacuators, plume scavengers, and local exhaust ventilators that, when used in concert with other engineering controls and equipment, and to the extent technologically feasible, capture and remove plume at the site of origin and before plume can make contact with the eyes or contact with the respiratory tract.

(13) “Site-of-origin” means the location where tissue is being altered, worked on, or destroyed by a medical device or devices.

(14) “Ultra-low particulate air (ULPA) filter” means a filter that removes particles as small as 0.12 micrometers with a filtration efficiency of not less than 99.999%.

**(c) Written Exposure Control Plan.**

(1) Employers shall establish, implement, and maintain a written exposure control plan that provides clear instructions for the effective use of plume evacuation systems to minimize employee exposure to plume and that contains all the elements in subsection (c)(2).

(2) The plan shall contain all of the following elements:

* 1. The name(s) or title(s) of the person(s) responsible for implementing the plan.
	2. A list of all job classifications that have occupational exposure to plume.
	3. Effective procedures for identifying and evaluating occupational exposure to plume in accordance with Section 3203(a)(4).
	4. Effective procedures to control employee exposure to plume. The procedures shall contain clear instructions for whenever energy-based devices, electrosurgical devices, electrocautery devices, or mechanical tools are in use.
	5. Effective procedures for reviewing, at least annually, the effectiveness of the plan.
	6. Effective procedures for obtaining the active involvement of employees and authorized employee representatives in all elements of the exposure control plan including, but not limited to:
		1. Identifying and evaluating exposures to plume;
		2. Controlling exposures to plume including administrative controls, and selection and use of plume evacuation systems;
		3. Selection and use of personal protective equipment;
		4. Selection and use of respirators;
		5. Reviewing and updating the plan; and
		6. Training.
1. The exposure control plan shall be reviewed, evaluated, and updated:
	1. At least annually,
	2. When new processes, procedures, and equipment are introduced to the workplace, and
	3. Whenever a new or previously unrecognized hazard is identified.

**(d) Control Measures.**

(1) Engineering Controls.

(A) Plume Evacuation Systems. Exposure to plume shall be prevented by plume evacuation systems to the greatest extent feasible. Plume evacuation systems shall:

1. Be in operation continually whenever plume is generated.

2. Be located as close as possible to the site-of-origin.

3. Exhaust in accordance with section 5143 and by one or a combination of the following:

i. Directly outdoors at least 25 feet from any doors, window, air intakes, other openings in buildings, or places where persons are may be present; and/or

ii. Indoors through an ULPA filter and gas phase filter.

4. Be used, constructed, installed, inspected, tested, and maintained in accordance with section 5143 and in accordance with the manufacturer’s instructions.

(B) General Ventilation. The minimum total air exchange rate for the room or area where surgical plume is generated shall be at least 20 air changes per hour and shall be used in addition to plume evacuation systems and other local exhaust ventilation systems. The room air shall be exhausted directly to the outdoors or returned to the air circulation system through a HEPA filter.

(2) Administrative controls shall be used to minimize employee exposure to plume to the greatest extent feasible.

(3) Respirators that provide protection against particulates and organic vapors shall be used in accordance with section 5144 when the engineering controls and administrative controls do not prevent plume from contacting the respiratory tract of employees.

NOTE: Surgical masks are not respirators pursuant to section 5144.

(4) The employer shall provide and ensure employees use appropriate eye protection where plume may contact the eyes of an employee.

**(e) Training**. The employer shall provide effective training to all employees who have occupational exposure to plume, including new employees and to exposed employees’ supervisors. The initial training shall be provided when the written procedures are first established and annually thereafter. Training shall include at least the following elements as applicable to the employee’s assignment:

1. General education on the contents of plume;
2. The circumstances in which plume is generated;
3. Procedures, diagnostics, and techniques used at the worksite that generate plume;
4. The safety and health hazards associated with exposure to plume;
5. The appropriate use of the plume evacuation systems utilized by the employer, including the employer’s written exposure control plan and procedures required by subsection (c);
6. The employer’s procedures to ensure proper use, inspection, and maintenance of engineering controls and personal protective equipment, as applicable;
7. Administrative controls to minimize exposure to plume, as applicable;
8. An opportunity for interactive questions and answers with a person knowledgeable about occupational exposure to plume and the specific equipment utilized to scavenge plume; and;
9. The contents of this section.
10. **Recordkeeping. The employer shall make available for examination and provide copies of records required by this subsection to employees, authorized employee representatives, designated employee representatives, and representatives of the Division upon request.**

(1) The written exposure control plan required by subsection (c) shall be available at the worksite at all times.

(2) Training records. These records shall be maintained for at least three years.

(A) Training records shall include the following information:

1. The date(s) of the training session(s);

2. The contents or a summary of the training session(s);

3. The names and qualifications of people conducting the training or who are designated to respond to interactive questions; and

4. The names and job titles of all persons attending the training sessions.

(3) Plume evacuation systems.

(A) The employer shall maintain records that the plume evacuation system conforms to the minimum requirements in section (d)(1)(A) and which demonstrate that it is installed, operated, and maintained in accordance with the manufacturer’s instructions. These records shall be retained for at least 5 years.

(B) Records of testing of plume evacuation systems shall be maintained in accordance with section 5143. Records of the testing shall be retained for at least 5 years.

**Appendix A (Non-Mandatory)**

The following are examples of professional occupational safety guidelines for the protection of health care workers exposed to plume:

2022 AORN Guideline for Surgical Smoke Safety.

CSA Z305.1313, (reaffirmed 2020) *Plume scavenging in surgical, diagnostic, therapeutic, and aesthetic settings.*

CSA Z7001:24 National Standard of Canada. *Safe use of energy-based medical and surgical devices in health care.*

ISO 16571: Second edition 2024-03, *Systems for evacuation of plume generated by medical devices*.

NIOSH Control of Smoke from Laser/Electric Surgical Procedures, DHHS (NIOSH) Publication No. 96-128

Note: Authority cited: Sections 142.3 and 144.6, Labor Code. Reference: Section 142.3, 144.6 and 6308, Labor Code.