# FLORIDA HOUSE OF REPRESENTATIVES BILL ANALYSIS

This bill analysis was prepared by nonpartisan committee staff and does not constitute an official statement of legislative intent.					
BILL #: <u>HB 103</u>	COMPANION BILL: None				
TITLE: Protection from Surgical Smoke	LINKED BILLS: None				
SPONSOR(S): Woodson	RELATED BILLS: <u>SB 152</u> (Davis)				
Committee References					
<u>Health Care Facilities &amp; Systems</u> 17 Y, 0 N	Health & Human Services				

## SUMMARY

### Effect of the Bill:

The bill requires hospitals and ambulatory surgical centers (ASCs) to adopt and implement policies by January 1, 2026, that require the use of a smoke evacuation system during any surgical procedure that is likely to generate surgical smoke. The smoke evacuation systems must effectively capture, filter, and eliminate surgical smoke at the site of origin before the smoke makes contact with the eyes or respiratory tract of occupants in the room.

### Fiscal or Economic Impact:

The bill will have a negative fiscal impact on hospitals and ASCs which do not currently use surgical smoke evacuation systems.

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## **ANALYSIS**

## **EFFECT OF THE BILL:**

<u>Surgical smoke</u> is the gaseous by-product produced when tissue is dissected or cauterized by heat generating devices. It has been proven to exhibit potential risks for surgeons, nurses, anesthesiologists, and technicians in the operating room due to long-term exposure. Surgical smoke evacuators are systems or instruments that reduce the amount of surgical smoke in the operating room.

Surgical smoke evacuators can be used to reduce the amount of surgical smoke in the operating room.

The bill requires hospitals and ambulatory surgical centers to adopt and implement policies by January 1, 2026, that require the use of a <u>smoke evacuation system</u> during any surgical procedure that is likely to generate surgical smoke. The smoke evacuation systems must effectively capture, filter, and eliminate surgical smoke at the site of origin before the smoke makes contact with the eyes or respiratory tract of occupants in the room. (Section <u>1</u>).

The effective date of the bill is July 1, 2025. (Section <u>2</u>).

## FISCAL OR ECONOMIC IMPACT:

### PRIVATE SECTOR:

The bill will have a negative fiscal impact on hospitals and ASCs which do not currently use surgical smoke evacuation systems during procedures that generate surgical smoke. Such hospitals and ASCs could incur initial costs of up to \$2,000 per operating room for a surgical smoke evacuator, and recurring costs of \$19 per surgery, per operating room, associated with disposable parts. The number of hospitals and ASCs that do not currently use surgical smoke evacuators is unknown.

# **RELEVANT INFORMATION**

### **SUBJECT OVERVIEW:**

#### Surgical Smoke

Surgical smoke is the gaseous by-product produced when tissue is dissected or cauterized by heat generating devices such as lasers, electrosurgical units, ultrasonic devices, and high-speed burrs, drills and saws.<sup>1</sup> During a surgical procedure, the heat generated from one of these devices causes the target cell membranes to rupture, and subsequently generates and releases a plume of smoke into the operating room.<sup>2</sup> Surgical smoke contains chemicals, blood and tissue particles, bacteria, and viruses, and has been proven to exhibit potential risks for surgeons, nurses, anesthesiologists, and technicians in the operating room due to long term exposure.<sup>3</sup>

Potential known health effects from the exposure to surgical smoke include eye, nose, and throat irritation; headache; cough; nasal congestion; and asthma and asthma-like symptoms, but little is known about the health effects from chronic exposure to surgical smoke.<sup>4</sup> Other risks include the transmission of viruses through surgical smoke; for example, transmission of Human Papillomavirus (HPV) through surgical smoke from lasers has been documented,<sup>5</sup> and some researchers have suggested that surgical smoke may act as a vector for cancerous cells that may be inhaled.<sup>6</sup>

#### **Smoke Evacuation Systems**

Smoke evacuators are devices which contain a suction unit (i.e. a vacuum), filter, hose, and inlet nozzle. They are designed, as recommended by the Center for Disease Control, to capture air from where the nozzle is targeted and filter the air through a HEPA filter.<sup>7</sup> These systems may be stationary, with permanent construction requirements, or handheld portable systems with disposable filters, hand pieces, and hoses. The more common portable systems cost \$1,200 to \$2,000<sup>8</sup> per unit, with recurring costs associated with disposable parts of roughly \$19 per surgery.<sup>9</sup>

The number of Florida hospitals and ASCs that are already using surgical smoke evacuators in their operating rooms is unknown. However, according to a recent survey of registered nurses in Florida, 77 percent of respondents indicated that their facility had surgical smoke evacuation equipment, but only 17 percent of those facilities actually use the equipment.<sup>10</sup>

### Surgical Smoke Regulation

<sup>4</sup> Steege AL, Boiano JM, Sweeney MH. NIOSH health and safety practices survey of healthcare workers: training and awareness of employer safety procedures, American Journal of Industrial Medicine (February 18, 2014) available at <a href="https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4504242/">https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4504242/</a> (last visited February 12, 2025).

- <sup>6</sup> United States Department of Labor, Occupational Safety and Health Administration, *Surgical Suite >> Smoke Plume*, available at <u>https://www.osha.gov/etools/hospitals/surgical-suite/smoke-plume</u>, (last visited February 12, 2025). <sup>7</sup> Centers for Disease Control, *Control of Smoke from Laser/Electrical Surgical Procedures*, available at
- https://www.cdc.gov/niosh/docs/hazardcontrol/hc11.html (last visited February 12, 2025).
- <sup>8</sup> Dryer, A, Spread the Word About Surgical Smoke Safety-My Evacuation Story Could Guide Efforts to Clear the OR Air in Your Facility, Outpatient Surgery Magazine (September 27, 2019) available at <u>https://www.aorn.org/outpatient-surgery/article/2019-October-spread-the-word-about-surgical-smoke-</u>

<sup>&</sup>lt;sup>1</sup> Liu Y, Song Y, Hu X, Yan L, Zhu X. Awareness of surgical smoke hazards and enhancement of surgical smoke prevention among the gynecologists. Journal of Cancer (June 2, 2019) available at <u>https://www.jcancer.org/v10p2788.htm</u> (last visited February 12, 2025). <sup>2</sup> *Id.* 

<sup>&</sup>lt;sup>3</sup> Id.

<sup>&</sup>lt;sup>5</sup> Id.

safety#:~:text=It's%20really%20not%20expensive%20if,%242%2C000%2C%20for%20about%20125%20ORs. (last visited February 18, 2025).

<sup>&</sup>lt;sup>9</sup> See Relias Media, OR Teams Often Exposed to Toxic Chemicals in Surgical Smoke, Mar. 1, 2021, available at

https://www.reliasmedia.com/articles/147530-or-teams-often-exposed-to-toxic-chemicals-in-surgical-

smoke#:~:text=The%20estimated%20cost%20of%20using,for%20the%20standard%20electrosurgical%20pencil. (last visited February 12, 2025).

<sup>&</sup>lt;sup>10</sup> Association of Perioperative Registered Nurses, Survey of Florida Members on Concerns About Surgical Smoke and the Availability and Use of Surgical Smoke Evacuation Equipment (February 21, 2025), on file with the Health Care Facilities & Systems Subcommittee.

Hospitals and ambulatory surgical centers (ASCs) must comply with the 2021 National Fire Protection Association (NFPA) 101 Life Safety Code.<sup>11</sup> The 2021 version does not require the use of surgical smoke evacuation systems, but the 2024 version does. However, in Florida, the 2021 version will be enforceable until 2027, when the State Fire Marshal adopts the 2024 version.<sup>12</sup> The 2024 version requires facilities to capture surgical smoke using either a dedicated exhaust system (may share an established system for waste gas removal), a connection and return or exhaust duct after air cleaning through high efficiency particulate air (HEPA) and gas phase filtration, or a point of use smoke evacuator for air cleaning and return to the space. As a result, Florida will have no regulatory requirement to use surgical smoke evacuation systems in hospitals and ASCs until 2027.

The Occupational Safety and Health Administration (OSHA) recognizes potential risk factors and remedial measures, but it has not adopted regulations on protection from surgical smoke. OSHA's recognized controls and work practices for surgical smoke include:<sup>13</sup>

- Using portable local smoke evacuators and room suction systems with in-line filters.
- Keeping the smoke evacuator or room suction hose nozzle inlet within two inches of the surgical site to effectively capture airborne contaminants.
- Having a smoke evacuator available for every operating room where plume is generated.
- Evacuating all smoke, no matter how much is generated.
- Keeping the smoke evacuator "ON" (activated) at all times when airborne particles are produced during all surgical or other procedures.
- Considering all tubing, filters, and absorbers as infectious waste and dispose of them appropriately.
- Using new tubing before each procedure and replace the smoke evacuator filter as recommended by the manufacturer.
- Inspecting smoke evacuator systems regularly to ensure proper functioning.

Additionally, the Joint Commission, an accrediting organization for hospitals and ASCs, recommends the following actions to protect patients and staff from the dangers of surgical smoke:

- Implement standard procedures for the removal of surgical smoke and plume through the use of engineering controls, such as smoke evacuators and high filtration masks.
- Use specific insufflators for patients undergoing laparoscopic procedures.
- During laser procedures, use standard precautions to prevent exposure to the aerosolized blood, blood by-products and pathogens contained in surgical smoke plumes.
- Establish, review, and make available policies and procedures for surgical smoke safety and control.
- Provide surgical team members with initial and ongoing education and competency verification on surgical smoke safety, including the organization's policies and procedures.
- Conduct periodic training exercises to assess surgical smoke precautions and consistent evacuation for the surgical suite or procedural area."<sup>14</sup>

As of February 2025, 18 states have adopted legislation to require the use of surgical smoke evacuation systems in certain health care facilities. Of those 18 states, 13 states require surgical smoke evacuation systems to be used in hospitals and ASCs for procedures that generate surgical smoke, and 5 states require them to be used in all health care facilities for procedures that produce surgical smoke.<sup>15</sup>

<sup>&</sup>lt;sup>11</sup> Rule 69A-3.012, F.A.C., and <u>s. 633.206(1)(b), F.S.</u>

<sup>&</sup>lt;sup>12</sup> S. <u>633.202(1), F.S.</u>, requires the State Fire Marshal to adopt a new version of the fire prevention code every third year. The 2021 version became effective December 31, 2024, so the 2024 version will not become effective until December 31, 2027.

 <sup>&</sup>lt;sup>14</sup> The Joint Commission, *Quick Safety Issue 56: Alleviating the Dangers of Surgical Smoke*, available at <a href="https://www.jointcommission.org/resources/news-and-multimedia/newsletters/newsletters/quick-safety-issue-56/quic

#### **RECENT LEGISLATION:**

YEAR	BILL #	HOUSE SPONSOR(S)	SENATE SPONSOR	OTHER INFORMATION
2024	<u>HB 63</u>	Woodson	Garcia	Died in Senate Fiscal Policy

BILL HISTORY								
COMMITTEE REFERENCE	ACTION	DATE	STAFF DIRECTOR/ POLICY CHIEF	ANALYSIS PREPARED BY				
<u>Health Care Facilities &amp; Systems</u> <u>Subcommittee</u>	17 Y, 0 N	2/20/2025	Calamas	Guzzo				
<u>Health &amp; Human Services</u> <u>Committee</u>								

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