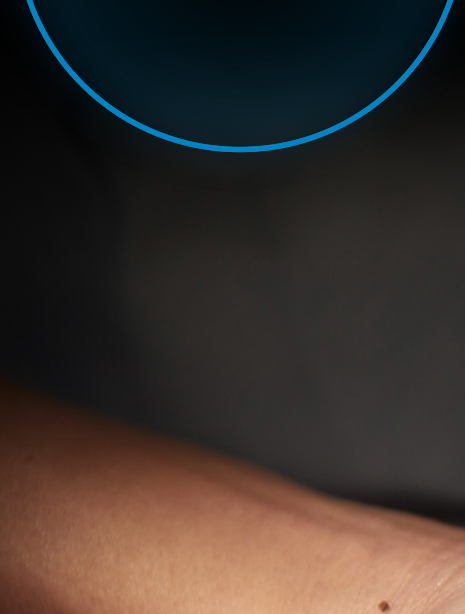


EVERY BREATH MATTERS

THE REALITY



90%

of surgical procedures generate smoke ¹

1 GRAM OF ESU ABLATED TISSUE IS EQUIVALENT TO SMOKING

6 CIGARETTES ²

THE PROBLEM

150 CHEMICALS

found in surgical smoke including: ³

HEALTH IMPACT KEY

- Lung Damage
- Brain Damage
- May Cause Cancer
- Flammable
- Heart Damage
- Kidney Damage
- Reproductive Complications

BENZENE



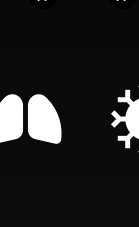
HYDROGEN CYANIDE



TOLUENE



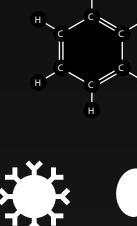
FORMALDEHYDE



1,3-BUTADIENE



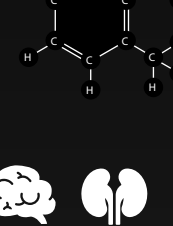
ETHYLBENZENE



CARBON MONOXIDE



XYLENE



SMOKING BANNED ON U.S. FLIGHTS



FEBRUARY 25, 1990

Health protections are in place today to protect the public from harmful cigarette smoke — why are we not protecting O.R. staff from surgical smoke?

MORE THAN

70%

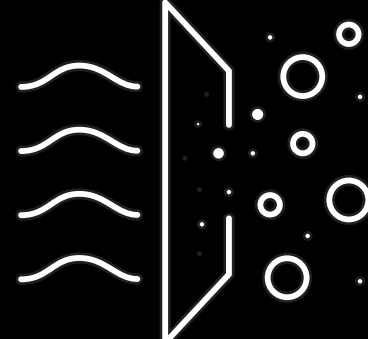
of smoke particles are smaller than 0.3 microns (μm) which is considered "LUNG DAMAGING DUST" ⁵

77%

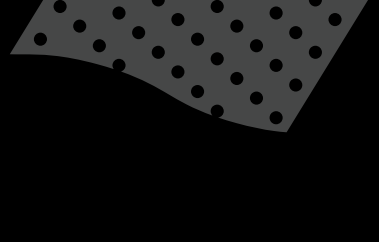
of surgical smoke particles ARE NOT filtered out by standard surgical masks ⁴

ULPA FILTER IS MORE EFFICIENT THAN HEPA

ULPA filter removes particles as small as 0.1 micron for an efficiency of **99.9999%**. ⁶



A HEPA filter only removes particles as small as 0.3 micron. **Most viruses are smaller than 0.3 micron.** ⁶



USE WITH AN ACTIVATED CARBON FILTER

Use a smoke evacuator system that contains an ULPA filter with an activated carbon filter when surgical smoke is anticipated.

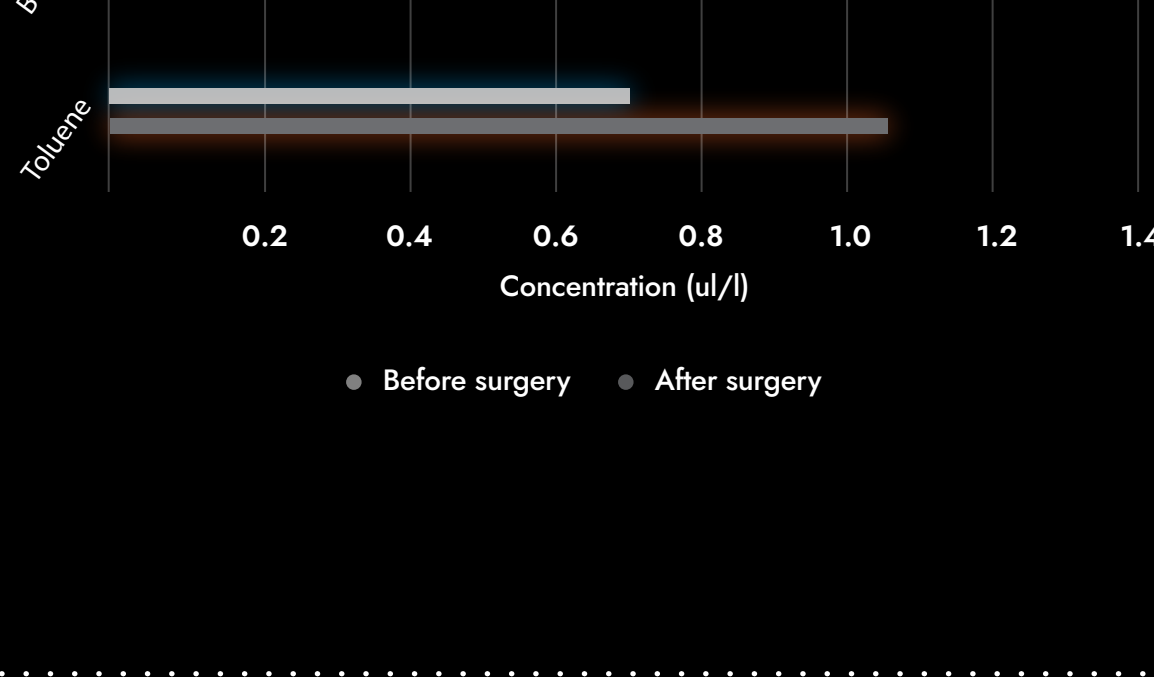
When using a medical-surgical vacuum system, place an in-line ULPA filter with an activated carbon filter between the suction wall connection and the suction cannister.

73%

of O.R. nurses report symptoms from surgical smoke exposure:

- FATIGUE
- HEADACHES
- SHORTNESS OF BREATH (SOB)
- INCREASED COUGHING
- NOSE BLEEDS, NASAL CONGESTION
- SINUS PROBLEMS/INFECTIONS
- NASAL OR VOCAL CORD POLYP(S)
- BRONCHITIS
- LEUKEMIA ⁷

Patients' Absorption of Benzene and Toluene from Surgical Smoke

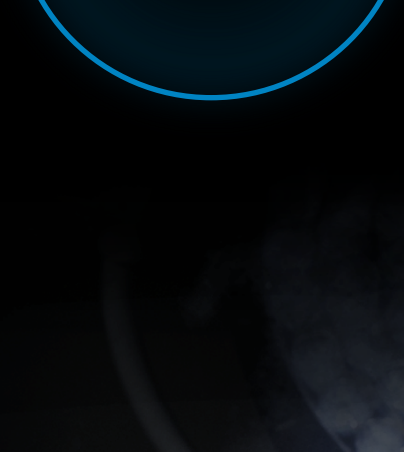
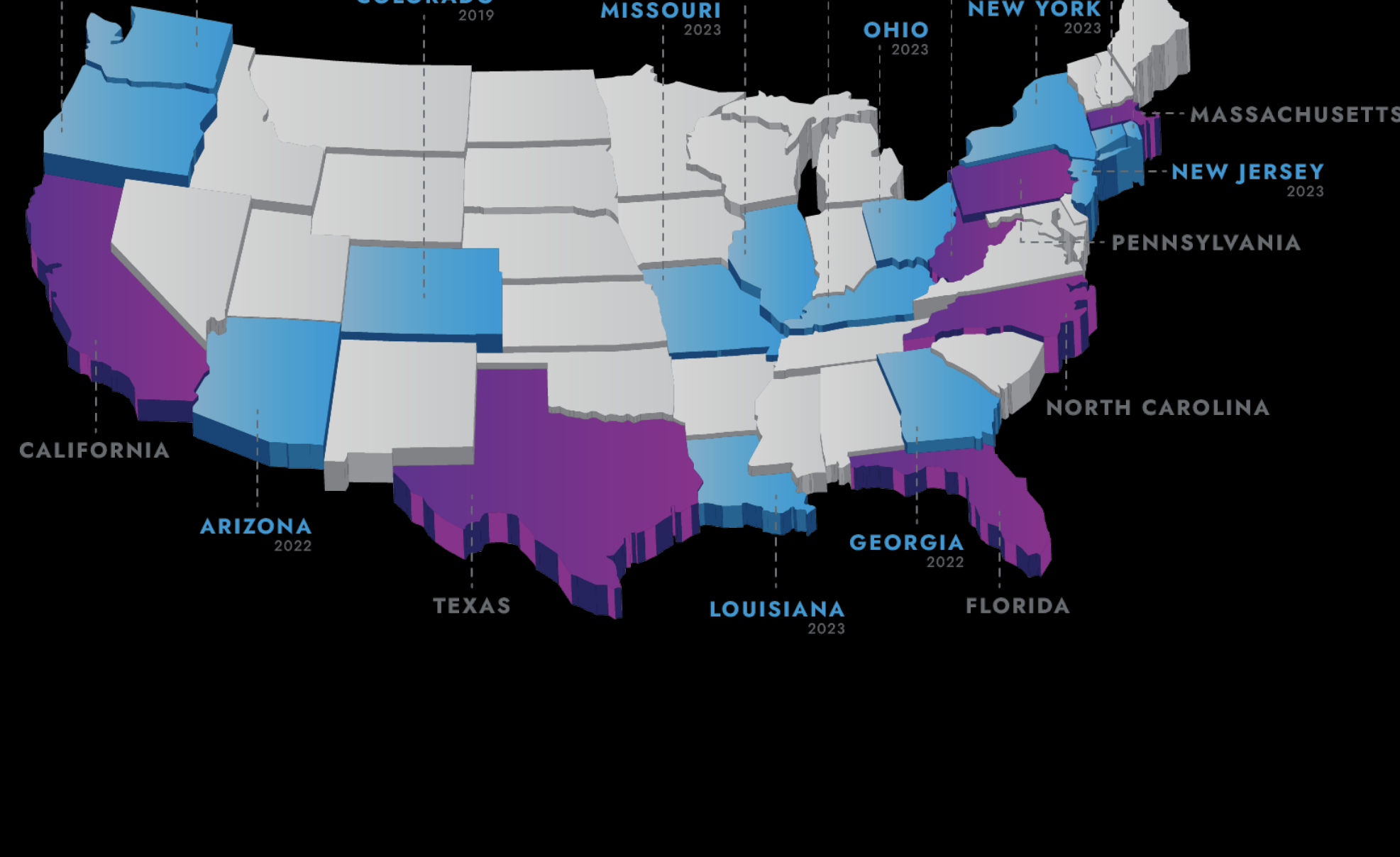


THE MOVEMENT

14 STATES

have mandated smoke evacuation legislation and many more are voting on the issue.

- Legislated smoke evacuation
- Voting to adopt smoke evacuation

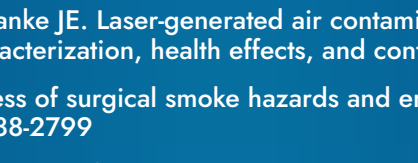


88%

decrease in exposure of particles with the use of smoke evacuators ⁸

The choice is in your hands.

Visit everybreathmatters.com to go smoke-free.



1. Steege AL, Boiano JM, Sweeney MH. Secondhand smoke in the operating room? Precautionary practices lacking for surgical smoke. Am J Ind Med. 2016;59(11):1020-103.

2. Hill, D.S. et al. Surgical Smoke: A health hazard in the operating theatre. A study to quantify exposure and a survey of smoke extractor systems in UK plastic surgery units. Journal of Plastic, Reconstructive, and Aesthetic Surgery 2012. doi:10.1016/j.bjps.2012.02.012

3. Pierce JS, Lacey SE, Lippert JF, Lopez R, Franke JE. Laser-generated air contaminants from medical laser applications: a state-of-the-science review of exposure characterization, health effects, and control. J Occup Environ Hyg. 2011;8(7):447-466

4. Liu Y, Song Y, Hu X, Yan L, Zhu X. Awareness of surgical smoke hazards and enhancement of surgical smoke prevention among the gynecologists. J Center 2019; 10(12):2788-2799

5. Tsang, HS., Liu, SP., Uang, SN. et al. Cancer risk of incremental exposure to polycyclic aromatic hydrocarbons in electrocautery smoke for mastectomy personnel. World J Surg Onc 12, 31 (2014). <https://doi.org/10.1186/147777819-12-31>

6. Ingole, L. Thinking of Buying...A Surgical Smoke Evacuation System. Outpatient Surgery Magazine, Dec. 2005. <https://www.waons.org/outpatient-surgery/articles/outpatient-surgery-magazine/2005/december/thinking-of-buying-surgical-smoke-evacuation-system>

7. Association of Occupational Exposure to Inhaled Agents in Operating Rooms With Incidence of Chronic Obstructive Pulmonary Disease Among US Female Nurses WubinXie, DrPH; OrianneDumas, PhD; RaphaelleVarraso, PhD; KrislynnM. Boggs, MPH; CarlosA. CamargoJr, MD, DrPH; AndrewC. Stokes, PhD

8. Karjalainen M, Kontunen A, Saari S, Rönkkö T, Leikkala J, Roine A, Oksala N. The characterization of surgical smoke from various tissues and its implications for occupational safety. PLoS One. 2018 Apr 12;13(4):e0195274. doi: 10.1371/journal.pone.0195274. PMID: 29649244; PMCID: PMC5896939.