

# Smoke Evacuation: A Multidisciplinary Approach to OR Readiness

Elizabeth Rassier, MSN, RN, Jessica Larson, BSN, RN, Anton Snyder, MS, MSN, RN

Division of Surgical Services, Mayo Clinic - Rochester, MN

## BACKGROUND

Despite growing awareness of surgical smoke hazards<sup>1</sup>, adoption of smoke-evacuation practices remains limited, hindered by challenges such as equipment availability, workflow disruption, and staff compliance.

In May 2024, Minnesota legislation mandated the implementation of surgical smoke-evacuation systems by January 1, 2025. This requirement provided an opportunity to standardize best practices, reduce occupational exposure, and reinforce a culture of safety within the perioperative environment.

The state legislation aligned with national patient and staff safety initiatives, including the AORN Go Clear™ Program<sup>2</sup>.

AORN Go Clear™ supports perioperative teams with the resources needed to achieve smoke-free operating rooms & promote excellence in surgical care.

## PREPARATION & PLANNING

### ASSESSMENT

- Reviewed existing equipment & supply availability
- Identified new and incremental needs of supplies and equipment

### SURGICAL PACK & CAUTERY CROSSWALK

- Reviewed all surgical specialty packs and the cautery supply
- Removed cautery supply in surgical specialty packs to facilitate compliance and reduce waste
- Collaborated with supply chain operations to identify product needs for the organization

### PRODUCT USAGE OPPORTUNITY

- Created and placed “smoke evacuation carts” across the surgical suite
- Smoke evacuation carts provided hands-on access to smokeless cautery pens and smoke evacuation systems—giving teams the opportunity to test, compare, and choose the best solutions
- Developed a digital product evaluation form

### COMMUNICATION STRATEGIES

- In September 2024 - presentation given to all roles in surgical services highlighting smoke evacuation legislation & action plan
- Weekly surgical leadership touchpoints to facilitate questions, concerns, and provide support
- Provided allied health staff updates via daily huddles, email, and communication boards

### EDUCATION

- Intentional rounding from RN Resource Specialists in each surgical specialty
- Product fairs & drop-in sessions with vendors
- Continued communication for nursing leadership and allied health staff
- Designed a smoke evacuation device resource and placed within each surgical specialty

### PREFERENCE CARDS

- Updated equipment section to reflect need of smoke evacuation device
- Replaced cautery pencils with plume pens or open tubing per surgeon preference
- Replaced laparoscopic and robotic insufflation tubing with smoke filtering tubing options

## OUTCOMES

- Post-implementation, all providers had smoke evacuation supplies and devices available for their surgical cases.
- Preferences varied for smoke evacuation devices within each surgical specialty and each surgeon.

## ASSESSING PRACTICE ADOPTION

- Randomized audits were completed to observe for compliance of the policy.
- Direct feedback, problem solving, and supply availability was then provided to noncompliant teams.

## IMPLICATIONS FOR PERIOPERATIVE NURSING

The implementation of mandatory surgical smoke evacuation practices reinforces the critical leadership role of perioperative nurses in creating and sustaining safe surgical environments. Nurses served as key drivers of readiness by assessing equipment needs, educating teams, gathering real-time feedback, and supporting surgeons through workflow changes. This initiative highlights the expanding responsibility of perioperative nurses in legislative compliance, multidisciplinary coordination, and ongoing advocacy to protect staff and patient safety.

## CHALLENGES

Awareness of State Legislation

Clinical Practice Accountability

Limited Product Knowledge

Sustaining Continuous Engagement

Team Readiness for Advancement

## REFERENCES

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