

Product

SmoVac, an advanced tongue blade featuring a built-in suction port, effectively controls aerosols generated during surgery.

Indication

Adenotonsillectomy

Value Propositions

- ▶ Assistance-free external suction holding
- ▶ All-in-one, tongue blade + suction port
- ▶ 2X prototype variations, disposable or reusable
- ▶ Uncompromised visualization of operative field guaranteed
- ▶ 40X lower aerosol levels compared to assisted suction

Market

- ▶ Adenotonsillectomy products
- ▶ CAGR 7%

Intellectual Property

US Provisional Patent: 63/403,261

Contact

Doreen Molk
Doreen.molk@cuanschutz.edu

Ref# CU5949H

303-724-0220
cuanschutz.edu/cu-innovations

Aerosol Control in Adenotonsillectomy Surgery

Adenotonsillectomy, a common surgical procedure performed on over 500,000 patients annually, faces a critical problem. Surgical aerosols produced by electrocautery used during surgery risk OR personnel to exposures of both toxic ultrafine particles and infectious vectors like SARS-CoV-2. Unfortunately, existing mitigation methods and personal protective equipment (PPE) are costly, inadequate in effectively controlling these aerosols, or a combination of both. There is an urgent need for an effective solution to address the aerosol-related risks and ensure the safety of both patients and medical staff.

SmoVac

This innovative modified tongue blade incorporates a suction port within the oral cavity, effectively reducing the escape of surgically generated aerosols from the patient. By using SmoVac, Operating Room personnel exposure to aerosols and the associated risk of SARS-CoV-2 transmission are significantly diminished. This groundbreaking device guarantees safety, adaptability, and affordability.

Advantages:

- **Versatility & Cost-effectiveness:** two variations to ensure optimal aerosol mitigation without compromising surgeon visualization (1) Reusable stainless suction port permanently attach to the blade or (2) Disposable port for existing equipment.
- **Superior Performance:** comparative studies have shown SmoVac's superiority in capturing aerosols compared to conventional external suction methods (Fig.).

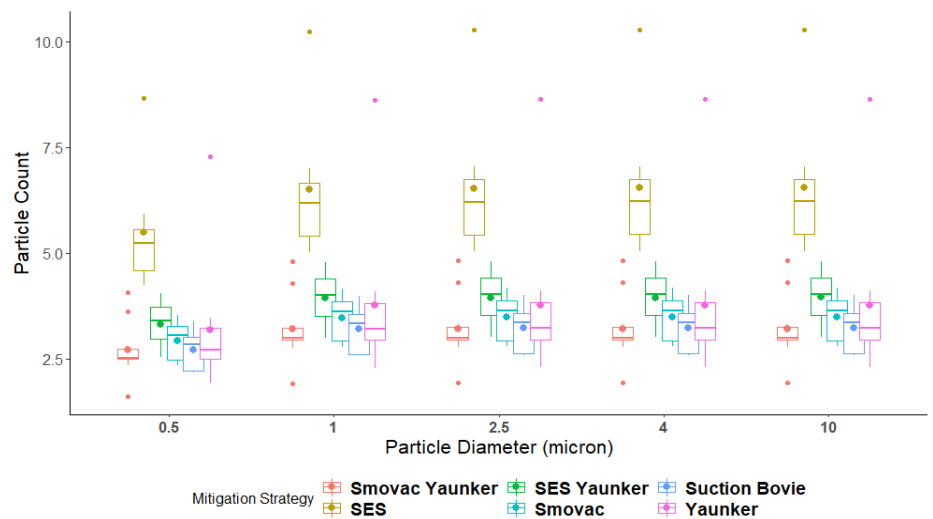


Figure. SmoVac efficacy. Particle levels between mitigation strategies are measured as particle count per particle diameter. The boxplot displays the median particle counts of all simulations, with three lines indicating the first quartile (Q1), the median, and the third quartile (Q3), respectively. A symbol represents the mean value. Dots outside the range of the lines are considered outliers.