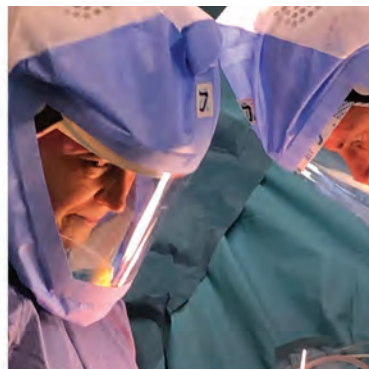




**Surgeon's Protection,**  
**Patient's Safety,**  
**Clinic's Savings...**





# Surgical Protection System

Studies show that OR personnel are the primary source of microbial contamination in most of the cases. One of the solutions to reduce the bacterial load is to use a helmet with a sterile hood. \*

Surgical staff is secured from blood splashes or aerosols which may result in infection. Patient and the operative field are protected from contamination with the help of the hood which is sterile.

AresAir Surgical Helmet has been designed as a unique product with respect to material and manufacturing processes to provide an **economical, modular, durable** and at the same time a very **comfortable** solution.

AresAir Helmet is the base structure that enables the protective hood to be put on during surgery while providing comfort with the help of the fans that create the flow of air.

The angle of the air flow allows the surgeon to receive the air flow without any discomfort to the eyes. The control button on top enables the user to adjust the fan speed with five options.

The helmet works with ultimate efficiency up to 8-9 hours when connected to a Li-Ion power source which has minimum 10,000 mAH, 2 amp.

To avoid additional transport cost and paperwork the power source is suggested to be purchased from your local market or you can even use the one you have for your phone or tablet.





**silent**

**durable**

**customized**

**lightweight**

**economical**



The color and design of the helmet's mainframe can be customized. The hospital's brand name & logo, surgeon's name, photos, hobbies, colors of user's favorite sports team...

The visor provides a smooth, crystal clear and superior wide range of view of the surgical site.

AresAir Hood is a disposable EO sterile product with a three-year shelf life. It is packed within a TYVEK Pouch that consists of an additional sterile indicator.

The product is supplied as 5 units within a sealed pouch for extra safety and protection.





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#### \*Clinical Evidence:

##### Surgeon Personal Protection: An Underappreciated Benefit of Positive-pressure Exhaust Suits

*Justin L. Makovicka, MD, Joshua S. Bingham, MD, Karan A. Patel, MD, Simon W. Young, FRACS, Christopher P. Beauchamp, MD, and Mark J. Spangehl, MD*

#### Background:

Positive-pressure exhaust suits cost more than standard surgical gowns, and recent evidence suggests that they do not decrease infection risk. As a result, some hospitals and surgeons have abandoned positive-pressure exhaust suits in favor of less expensive alternatives.

We propose that in addition to their original purpose of decreasing infection rates, positive-pressure exhaust suits may also improve personal protection for the surgeon and assistants, perhaps justifying their added costs."

#### Method:

Three surgical gowning systems were tested:

- 1)surgical gown, face mask, surgical skull cap, protective eyewear;
- 2)surgical gown, face mask, surgical protective hood, protective eyewear;
- 3)positive-pressure exhaust suit.

For each procedure, a cadaver knee was injected intra articularly and intra osseously with a 5- $\mu$ m fluorescent powder mixed with water (1 g/10 mL).

After gowning in the standard sterile fashion, the primary surgeon and two assistants performed two TKAs with each gowning system for a total of six TKAs. After each procedure, three independent observers graded skin exposure of each surgical participant under ultraviolet light using a standardized scale from 0 (no exposure) to 4 (gross exposure). Statistical analysis was performed using Friedman's and Nemenyi tests. The interrater reliability for the independent observers was also calculated.

#### Results:

The positive-pressure exhaust suits had less surgeon and assistant exposure compared with other systems ( $p < 0.001$ ).

The median overall exposure grade for each gowning system was 4 for System 1 (range, 3–4), 2.5 for System 2 (range, 2–3), and 0 for System 3 (range, 0–0). In pairwise comparisons between gowning systems, the positive-pressure exhaust suits had less exposure than gowning System 1 (difference of medians: 4,  $p < 0.001$ ) and gowning System 2 (difference of medians: 2.5,  $p = 0.038$ ).

There was no difference found in exposure between Systems 1 and 2 (difference of medians: 1.5,  $p = 0.330$ ).

When gowning Systems 1 and 2 were removed, particulate matter was found in places that were covered such as the surgeon's beard, lips, inside the nostrils, behind the protective eyewear around the surgeon's eye, and in both eyebrows and eyelashes.

#### Conclusion:

The positive-pressure exhaust suits provided greater personal protection with each procedure than the other two gowning systems. With conventional gowns, particulate matter was found in the surgeon's eyelashes, under the face mask around the mouth, and inside the nostrils. Despite recent evidence that certain types of positive-pressure exhaust suits may not decrease infection, there is a clear benefit of surgeon protection from potentially infectious and harmful patient substances. Despite their added costs, hospitals and surgeons should weigh this protective benefit when considering the use of positive-pressure exhaust suits.

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