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## Surgical gowning technique: Are we contaminated before we cut?

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**Objectives:** The purpose of this study is to assess possible breaches of sterility during the initial gowning step.

**Design:** Observational study. 27 gowning events were monitored for contamination during a simulated two-person gowning process in which a surgical technician assists a surgeon in the gowning process at the beginning of a surgical procedure. The lower portion of the technician's gown was coated resin power prior to the gowning process to simulate contamination.

**Setting:** Single-institution level 1 trauma center.

**Participants:** Three physicians and three tenured surgical technicians.

**Intervention:** Observed contaminated areas represented by ultraviolet (UV) resin powder under UV light on the gown of the surgeon after the two-person gowning step.

**Main Outcome Measurement(s):** Number and surface area of contamination events.

**Results:** There was a 66.67% rate of contamination of the surgeon's gown sleeves while being gowned by a surgical technician. The overall median contamination for the short surgeon was 1.3 cm<sup>2</sup>. For the medium height surgeon, the overall median contamination was 1.4 cm<sup>2</sup>. The tall surgeon had an overall median contamination of 2.9 cm<sup>2</sup>. Of the short, medium, and tall surgeons, the number of contamination events were six, five, and seven, respectively. The study suggested the surgeon's height was a significant source of variation ( $p=0.046$ ).