

Association of periOperative Registered Nurses Clarifies Position on Surgical Attire



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The Association of periOperative Registered Nurses (AORN) would like to thank Elmously and colleagues¹ for the recent research they conducted that was published in the *Journal of the American College of Surgeons*. The results of this study add to the body of evidence related to the effectiveness of surgical attire worn during operative and other invasive procedures as one of the mechanisms that may assist in preventing surgical site infections (SSIs). Further research in this area is definitely warranted.

Regrettably, the authors have misrepresented the AORN recommendation throughout the article. The authors state, “The guidelines ban the traditional surgeon skull cap, mandate the use of a bouffant cap...”¹ This is unequivocally incorrect. The current guideline does not mention skull caps nor is there any mention of bouffant caps; AORN has neither urged the elimination of traditional surgical caps nor mandated the use of bouffant caps. AORN does not specify the type or style of head covering that should be worn. Recommendation III of the guideline states, “A clean surgical head cover or hood that confines all hair and completely covers the ears, scalp skin, sideburns, and nape of the neck should be worn.”²

The authors further state that “...the main criticism [of the guidelines] being that, although well intentioned, there is little evidence to support them, and they were promulgated without collaboration with the surgical community especially in light of multiple studies showing no relationship between headgear and SSIs.”¹

This statement is incorrect. The AORN guidelines are based on a comprehensive, systematic review of research and nonresearch evidence; the individual references are appraised and scored, and the recommendations are rated according to the strength and quality of the evidence supporting each recommendation. The guidelines are authored by AORN perioperative practice specialists and in collaboration with liaisons representing the American Association of Nurse Anesthetists, the American College of Surgeons, the American Society of Anesthesiologists, the

Association for Professionals in Infection Control and Epidemiology, the International Association of Healthcare Central Service Materiel Management, and the Society for Healthcare Epidemiology of America.

The recommendations in the Guideline for Surgical Attire include a benefits-balanced-with-harms assessment to determine the risk/benefit of recommendations to patients. The recommendations are not based on a proven causal effect of a relationship between headgear and SSIs, but a benefit to patients because hair and skin can harbor bacteria that can be dispersed into the environment, and the purpose of covering them is to reduce the patient’s exposure to potentially pathogenic microorganisms from the perioperative team member’s head, hair, ears, and facial hair.

Additionally, in Table 1 the authors state that AORN recommends that “Non-disposable head coverings should be covered with a disposable head cover.”¹ This is not recommended by AORN. The AORN has never stated in the surgical attire guideline that nondisposable head covering should be covered with a disposable head cover.

The foremost concern for all perioperative professionals should be for patient safety and for providing the cleanest surgical environment possible for all patients undergoing operative and other invasive procedures. Within a bundled approach for reducing risk of SSIs, covering and containing hair is a reasonable and prudent measure. There is no harm in doing so, but the benefit to all patients is a reduced risk of exposure to potentially pathogenic organisms that live on the hair, skin, and facial hair of perioperative team members.

The AORN guidelines are posted for public comment for a 30-day period on AORN’s website for all perioperative team members and members of the public to read and provide comments. Each comment is reviewed and the guidelines revised based on relevant comments provided. Each guideline is reviewed on a 5-year basis and sooner if new research becomes available. The guideline for surgical attire has been revised and was posted online³ for public comment on January 2, 2019 and will be available until February 22, 2019. AORN encourages all perioperative team members to access the guideline at aorn.org and provide comments.

REFERENCES

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for prevention of surgical site infections. *J Am Coll Surg* 2018; 228:98–106.

2. Guideline for surgical attire. In: *Guidelines for Perioperative Practice*. Denver, CO: AORN, Inc; 2017:105–127.
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Operating Room Attire Policy: The Untoward Effects of Favoring Action over Evidence

In reply to Spruce



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We thank the Association of periOperative Registered Nurses (AORN) for their letter to the editor commenting on our manuscript entitled, “Operating room attire policy and healthcare cost: favoring evidence over action for prevention of surgical site infections.”¹ In this work, we reviewed rates of surgical site infection (SSI) in a propensity matched cohort of more than 30,000 patients before and after a campus-wide institution of the AORN bundled guidelines² (headgear and long-sleeved jackets) in a large hospital system. Ultimately, our study showed no benefit to this policy in terms of patient safety, but found that it added a very significant financial burden to health care. We also evaluated the effects on the microbiome of SSI before and after the policy change and showed no difference in the rate of *Staphylococcus aureus* infections, with an increase in the rate of *Pseudomonas* isolates after the policy change.

The AORN letter to the editor conveyed several concerns with our representation of their guidelines in our manuscript. We wish to clarify and address these concerns in the following paragraphs:

“AORN has neither urged the elimination of traditional surgical caps nor mandated the use of bouffant caps.”

The specific language used by the AORN in the cited guidelines mandates “...covering the ears, nape of the neck, side-burns...”² We acknowledge that in the current guidelines, no specific reference is made to the terms *bouffant* or *skull-cap*, but members of a modern operative

environment understand that these requirements cannot be met with the traditional skull-cap. For this reason, institutions such as ours, seeking to implement these policies, have formally mandated the use of bouffant caps to comply with the policy, which is why the policy is cited as such in this study. This has been done with agreement, and in many times the active involvement, of the AORN representatives at hospitals. Furthermore, a number of promotional materials put forth by the AORN do, indeed, make specific pictorial^{3,4} and text references to mandatory use of a bouffant cap; for instance, “The [guidelines] recommend wearing a clean surgical head cover (eg bouffant cap) or hood that confines all hair and completely covers the ears, scalp, sideburns, and nape of the neck.”³ We were surprised by the AORN comments and urge them to re-evaluate the language used both in their guidelines and promotional materials to clarify these points if they no longer wish to encourage the use of bouffant caps.

The authors further state that “...the main criticism (of the guideline) being that, although well intentioned, there is little evidence to support them, and they were promulgated without collaboration with the surgical community especially in light of multiple studies showing no relationship between headgear and SSIs.” Again this is incorrect.

The evidence cited by and supporting the AORN recommendations are, as noted in the manuscript, small, retrospective studies that were conducted before the modern era.^{5,6} The 1965 study cited by AORN was a retrospective study comparing bacterial isolates from the nares and hair of hospital employees and patients. This study identified hair as a reservoir for Staphylococcal species without identifying a causal relationship between this finding and postoperative wound infections.⁵ The 1973 study was a single institution case series of 11 patients, which described an outbreak of postoperative infections that had the same bacteria as that isolated from the hair of a single general surgeon.⁶ In fact, the AORN itself has previously acknowledged that the current evidence for these guidelines is lacking, in a consensus meeting between the AORN, The American College of Surgeons (ACS), the American Society of Anesthesiologists (ASA), the Association of Professionals and Infection Control Epidemiology (APIC), the Association of Surgical Technologists (AST), the Council on Surgical and Perioperative Safety (CSPS), and the Joint Commission (TJC) in February 2018. At the time, these groups released a consensus statement stating that “the requirement of ear coverage is not supported by sufficient evidence” and