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EORNA Best Practice

Perioperative Attire

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Forward

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EORNA Best Practice for Perioperative Attire

Statement

Perioperative attire must be worn by personnel when entering the restricted and semi-restricted areas of the operating suite. This practice is essential to protect surgical patients from possible contamination by external microorganisms that could lead to disease or surgical site infections. Since staff may carry harmful bacteria on their skin and everyday clothing, changing into appropriate attire helps minimize this potential risk.

Keywords

Perioperative attire, shoes, shoes cover, clothes, laundry

Purpose / Objectives

Clean, freshly washed garments must be accessible for all staff and visitors in the operating room, with an adequate supply to allow for changes if they become visibly contaminated (wet or soiled) during use.

Local policy should outline the specific recommended practices for hospitals, as these can differ based on the hospital's layout and the operating room itself. Three designated zones exist within an operating suite, each requiring distinct behaviors, clothing, and access rules.

While there is limited evidence supporting certain practices, the clothing requirements for different areas are largely determined by local guidelines and should be defined within the local context.

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INTRODUCTION

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Zones within the Operating Suite

Unrestricted Areas

All personnel are permitted to enter unrestricted zones within the operating suite, and wearing street clothes is allowed in these areas. However, please note that certain suites may lack unrestricted spaces.

Semi-Restricted Zones

Access to these areas is typically limited to patients and staff wearing the appropriate attire. In these zones, perioperative clothing is required.

Restricted Zones

These areas impose the strictest regulations, typically requiring the use of a head covering and a face mask. The most common examples include the operating room and the instrument setup area. In a restricted zone, wearing a mask and head cover is often mandatory, especially when there is an open sterile package, an instrument trolley present, or when staff members are scrubbed.

What is Perioperative Attire?

Attire can consist of a dress with pantyhose or a top paired with trousers, with the latter being preferable as it minimizes skin shedding, assuming the top is tucked into the trousers. Clothing should be crafted from tightly woven fabrics like cotton and polyester blends to serve as a barrier, preventing the transfer of microorganisms between patients and staff.

It is essential that clothing can withstand high-temperature laundering, ideally by the hospital laundry service, without shrinking or significantly deteriorating.

Skin shedding occurs when individuals move, dispersing their normal microbial flora, which poses risks to others and patients. Movement should be minimized and done at a controlled pace, except in emergencies.

Implementing traffic restrictions and specific clothing guidelines helps lower the risk of infection for patients. Any personal clothing worn beneath perioperative attire must be completely covered.

This standard also addresses the use of jewelry, head coverings, shoes, and shoe covers. Additional details regarding Personal Protective Equipment and the attire for the scrub team will be discussed later in this document.

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Recommendations

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Headcovers

Personnel must ensure that when entering a semi-restricted or restricted area of the operating suite, all hair, including facial hair, is securely covered with a clean, laundered hair cover, preferably a single-use disposable one. This practice safeguards the patient and the sterile field by minimizing contamination from hair or skin shedding from the scalp or face.

The head cover should be in place **before** putting on the surgical or perioperative top to lessen the risk of contaminating the surgical attire with hair, which may harbor microorganisms.

The healthcare organization or an approved contractor should launder cloth hats. Laundering surgical attire at home can lead to cross-contamination of healthcare organizations and community microflora. Home laundering conditions are uncontrolled and may not ensure the proper temperature or strength of cleaning products; therefore, microbial counts may not be reduced to irreducible minimums.

All individuals entering semi-restricted or restricted zones must cover any head coverings worn for cultural or religious purposes with a single-use product that offers complete coverage. (Phillips, 2017).

Cloth hats not laundered by the healthcare organization must be covered with a disposable cap. (AORN, 2018; Phillips, 2017; Rothrock, 2019).

Jewelry

All staff members are required to remove any hand or arm jewelry prior to entering semi-restricted and restricted areas (Phillips, 2017; Rothrock, 2019).

Jewelry such as rings, bracelets, and watches can harbor and protect microorganisms, which leads to an increased bacterial presence on the skin (Cowperthwaite & Holm, 2015; Rothrock, 2019; Spruce, 2016).

Any other jewelry and accessories must either be removed or secured within surgical attire (Rothrock, 2019).

Body piercings, necklaces, earrings, and false eyelashes pose a risk of shedding bacteria or potentially falling into the sterile field or wound (Phillips, 2017; Rothrock, 2019).

Shoes

Footwear is typically supplied to staff and must comply with local health and safety regulations to safeguard employees from exposure to blood, bodily fluids, sharp objects, and chemicals and prevent slipping on wet surfaces, particularly near scrub sinks.

Shoes should have closed toes, solid backs, low heels, non-slip soles, and be easy to clean.

Cloth shoes, like trainers, can harbor microorganisms and are inappropriate for restricted and semi-restricted areas (7).

Regular shoe cleaning is essential to minimize the risk of contamination, which could pose risks to patients, especially in cases of visible soiling (8).

Shoe Covers

Shoe covers are not advisable, as studies have indicated that they can elevate bacterial counts on floors and increase the bacterial presence on hands during application or removal (9).

Cover Gowns

If cover gowns or warm-up jackets are utilized, they must be properly fastened. These items should be changed daily and laundered at the designated facility (not at home) (10).

Visitors needing to briefly enter a semi-restricted area, such as parents accompanying their children to an anesthetic zone or engineers performing on-site equipment maintenance, should have the option to cover their clothing with a single coverall gown and a head covering. Specific details should be outlined by local policy.

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OTHER CONSIDERATIONS

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Wearing Perioperative Attire beyond the Operating Suite

Limited evidence suggests that wearing perioperative attire outside the operating department increases surgical site infections (11).

If personnel exit the operating department while in their perioperative attire (which may contradict local policies), they should change into clean, freshly laundered perioperative clothing upon re-entering the operating suite.

Transport and storing

It is crucial to avoid contamination of laundered surgical attire during transport to healthcare facilities. This practice not only protects the surgical attire from physical damage but also reduces the risk of contamination from the surrounding environment.

Laundered surgical attire should be moved in enclosed carts or containers and transported in vehicles that are routinely cleaned and disinfected.

Store laundered surgical attire in enclosed carts, cabinets, or dispensing machines that are regularly cleaned and disinfected.

Utilizing clean, enclosed carts, cabinets, or dispensing machines for storage helps prevent contamination. However, keeping clean attire in a facility locker alongside personal items from outside may lead to contamination of the scrub attire (11).

Laundry and disposal

Attire worn in restricted and semi-restricted areas may be designated for single use and disposed of in an appropriate waste bin.

Most perioperative clothing is returned to service after being washed at high temperatures, dried meticulously, and ironed. Once cleaned, it is folded and prepared for reuse.

At the end of the workday, it should be placed directly into the laundry bin located in the changing room, prior to performing hand hygiene (12).

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Considerations for local policy

Areas within hospitals that are not classified as operating rooms but are increasingly utilized for significant interventions by radiology, cardiology, and other departments to provide minimally invasive treatment for patients should have specific attire guidelines established by policy. These guidelines should be based on the same evidence and microbiological reasoning applied to operating suites.

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