Achieving Barrier Protection

Kathleen Stoessel, RN, BSN, MS, Senior Manager in Clinical Education at Kimberly Clark Healthcare

When choosing barrier fabrics such as surgical gowns and drapes for the OR, protection, safety and comfort are three key considerations.

1. Protection. Perioperative personnel need to be protected from splash, splatter, and the transfer of infectious pathogens via blood and body fluids. Patients also need to be protected from bacterial penetration through barrier fabrics. When assessing the barrier protection of a surgical gown, consider its resistance to penetration by blood and other potentially infectious material. Barrier protection also requires that the surgical gown be durable, maintain its integrity throughout use, and be of an acceptable level of quality. For instance, it should be free of holes or other defects. Prior to purchase and use, data should be obtained from the manufacturer to verify that the barrier fabric is of acceptable quality and protective against the transfer of microorganisms, particulates, and fluids.

2. Safety. Surgical gowns and drapes should be ignition resistant – a critical component of the OR's fire safety practice. Also, barrier fabrics that are highly lintable and easily abraded are a safety risk. It is generally accepted that the more lint that is generated in the operating room, the greater the possibility of post-operative wound complications caused by either microorganism transfer or a foreign body reaction. Abrasion can weaken the material, adversely affecting barrier properties and causing the material to tear or generate more lint. Prior to purchase and use, data should be obtained from the manufacturer to verify that the barrier fabric is ignition-resistant, low-linting, and abrasion-resistant.

3. Comfort. An essential characteristic of a surgical gown is wearer comfort. To be

comfortable, the gown should maintain the wearer's desired body temperature, be "breathable", allow for movement, and be free of toxic ingredients and allergens. Since comfort is primarily a subjective factor, surgical gowns should be evaluated prior to purchase via an in-use trial period. The challenging goal is to choose the gown that is not so comfortable it has limited protective value or so protective it is hot and binding while in use.

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