

All dressed up and ready to go:

Attired in AAMI guidelines to make infection a rare occasion

by Jayne Baskin, RN, MS, CNOR

Hospitals are recognizing the cost of infection like never before. Starting in October, Medicare's Pay-for-Performance initiative takes effect, with Medicare no longer reimbursing treatment for infections not present or incubating when a patient is admitted. Private health insurers are following suit, refusing reimbursement for treatment of healthcare-associated infections (HAI), the cost of which can be \$25,000 to treat a single case.¹ Increasingly, states are considering legislation mandating public reporting of hospital-acquired infections. The pressure to reduce infection is being felt from the policymakers in Washington, DC, down to the harried healthcare worker who, after a very long and stressful day, forgets to clean a stethoscope in between patients.

A first line of defense

Infectious organisms can survive for months on the doorknob the patient touched, the pen the technician picked up, or the keyboard the nurse used. Personal protective equipment (PPE), like gloves, gowns, masks, goggles and respirators, is one of four parts of the Centers for Disease Control and Prevention's (CDC) hierarchy of prevention that is critical for protecting healthcare workers and patients from disease transmission.¹ Standard Precautions developed by the CDC call for donning gowns, and other protective apparel appropriate to a task whenever there is a possibility of contact with blood, body fluids, or other potentially infectious materials (OPIM). The widely recognized Association for the Advancement of Medical Instrumentation (AAMI) standards relating to protective apparel can serve as a guide for proper protection to help bring down the rate of infection, if everyone involved in apparel purchasing and use decisions understands these recommendations.



Proper apparel protection

Proper protection guidelines for isolation gowning have been outlined in the CDC's 2007 *Guideline for Isolation Precautions*, OSHA's Bloodborne Pathogen Standard, and now another standard, AAMI's PB70 *Liquid Barrier Performance and Classification of Protective Apparel and Drapes Intended for Use in Healthcare Facilities* is the most recent objective benchmark for testing protective apparel. Adopted by the Food and Drug Administration (FDA) in March 2006, the AAMI standard gives purchasing managers, infection prevention specialists (IPS), and nurses a tool for gauging barrier properties like strike-through of blood and fluids, product testing, safety classification, and product labeling so they can make better informed product selections.

There are four tests that must be passed to meet AAMI guidelines:

- **Spray Impact Penetration Test**- simulates resistance to "arterial spurting," often seen when an artery or blood vessel is damaged during blood draws, I.V. changes, or injections. When checking the AAMI guidelines, the higher the number, the lower the fluid resistance.



- **Hydrostatic Head Test**- measures liquid penetration like that of a healthcare worker's arm or torso leaning or resting against contaminated fluids on a gown during procedures involving irrigation fluids, tissue fluids, or other liquids. The higher number means better resistance.
- **ASTM F1670**- used for testing drapes, measures resistance of materials used in protective clothing to penetration by synthetic blood at 2psi under ambient pressure.
- **ASTM F1671**- used for testing gowns, measures resistance in protective clothing to bloodborne pathogens by viral penetration at 2psi and ambient pressure.

The AAMI minimum performance levels range from 1 (least protective) to 4 (most protective). These levels apply to the product's critical zones. In gowns, the critical zone is the entire gown, but also includes seams, typically the weakest point, but excludes cuffs, hems and bindings.

A lack of understanding

A January 2008 independent research survey of 300 purchasing managers, IPSs, and registered nurses that either wear isolation gowns or have responsibility for purchasing protective apparel for their facilities, suggests that some education on the AAMI Standards could help the product purchasing process. Among the findings:

- 38 percent of respondents were aware of AAMI guidelines, but infection control professionals (ICPs) and materials and purchasing managers were more likely than registered nurses to be familiar with them.
- AAMI guidelines factor into purchase decisions on isolation gowns 73 percent of the time.
- 69 percent of those surveyed recognized fluid penetration and resistance as one of the barrier performance requirements for AAMI classification.

INFECTION PROTECTION

- Respondents associated AAMI guidelines to gowning tasks 88 percent of the time, to a clinical area two-thirds of the time, and to both criteria, task and area, 55 percent of the time.

Like other PPE, protective apparel is on the frontline of infection prevention, helping to ensure the safety of healthcare workers and patients, enabling purchasing and stocking decisions to have a practical impact on the quality of care.

Tips to make better selection decisions

The AAMI standards for gown and protective apparel serve as excellent guidance for making the best selection decisions to help meet compliance. Here are other suggestions for optimizing selection decisions that can help in the broader effort to reduce infections:

- Educate staff on current AAMI guidelines to generate awareness and make infection prevention a priority.
- Create a “culture of safety” by treating each patient as if they have an infection

until proven otherwise and urging staff to adhere consistently to Standard Precautions.

- Make compliance easier by keeping gowns, and other protective apparel conveniently located and consistently stocked.
- Place protective apparel containers in a convenient location that also serves as a visual compliance reminder.

AAMI standards guide better decisions

To the community of industry associations like the Association of periOperative Registered Nurses (AORN) and the Joint Commission on the Accreditation of Healthcare Organizations (Joint Commission) that have initiatives to reduce infection, now add the AAMI guidelines. Considering the multitude of choices between



products and vendors, locating the gown, drape, or protective apparel that delivers superior performance while reducing cost-per-procedure has become increasingly challenging. The AAMI Standards can help everyone involved with the decision of selecting protective apparel understand the level of protection they can expect when choosing an off-the-shelf protective apparel product. **HPN**

Jayne Baskin, RN, MS, CNOR is a surgical product technical specialist for Kimberly-Clark Health Care

References:

1. CDC. 2005 Dec
2. Guidance for the Selection and Use of Personal Protective Equipment (PPE) in Healthcare Settings.