Home laundering can leave bacteria on uniforms

Home washing machines may not always use hot enough water to eliminate bacteria like methicillin-resistant Staphylococcus aureus (MRSA) and Acinetobacter from hospital uniforms, according to a study in the November 2011 Infection Control and Hospital Epidemiology.

Researchers in the UK tested nurses’ uniforms worn at work plus fabric swatches experimentally contaminated with MRSA and Acinetobacter. Uniforms from the ICU, emergency department, and infection diseases, hematology, and gynecology units were tested.

UK hospitals ending in-house laundry services

The study was conducted because changes in Britain’s National Health Service have led many hospitals in the UK to end in-house laundry services.

Results showed that home washing the uniforms with detergent and a water temperature of 140°F (60°C) did eliminate both types of microorganisms. At a lower temperature of 104°F (40°C), MRSA was eliminated, but large amounts of Acinetobacter remained.

In the UK, energy-saving washers often operate at temperatures near 40°C. (In the US, a typical warm setting is 90°F to 111°F, while hot is 111°F, and cold is 70°F to 90°F, according to Whirlpool customer service. “Energy Star” washers in the US use 37% less energy and 50% less water than noncertified machines.)

Using a hot iron on uniforms after a 104°F wash did eliminate the Acinetobacter. The effect of tumble drying the uniforms was not tested.

“The results stress the importance of ironing hospital uniforms after washing them in a domestic washing machine that operates at less than 60°C,” said John Holton, PhD, FRCPath, one of the authors.

The researchers said they studied these 2 types of bacteria because both are often linked to health care-associated infections (HAIs) and represent 2 important bacterial types. MRSA is gram-positive, and Acinetobacter is gram-negative. They say they expect their results are applicable to other types of gram-positive and negative bacteria.

AORN recommendations

AORN recommends laundering surgical attire in a health care-accredited laundry facility, not in the home, noting that home laundering is not monitored for quality, consistency, or safety.

The UK researchers note there is some debate about whether nurses’ uniforms are a vehicle for transferring microbes from one patient to another. A recent review found there is evidence that nurses’ uniforms become contaminated with microbes but little evidence that uniforms are responsible for HAIs (Wilson J A, et al. J Hosp Infect. 2007;66[4]:301-307).

Reference