Incorrect Use of an Alcohol-Based Surgical Antiseptic

Do you follow the manufacturer’s instructions for use for surgical hand antisepsis?

Is a process in place to educate the surgical team, including surgeons and assistants, on surgical hand antisepsis protocols?

Infection preventionists at a tertiary academic hospital in New England discovered an increase in surgical site infections (SSIs) during routine surveillance. The SSI rate had increased from 1.3 to 2.9 per 100 surgeries for four procedure types during a 9-month period. Culturing of the surgical site wounds revealed that various bacterial species were responsible for the infections.

An investigative team performed an outbreak investigation and determined that appropriate antibiotics were administered in the correct dosage and within the correct time frame (within 60 minutes) in more than 90% of the procedures. After reviewing patient records, interviewing personnel, and investigating instrument processing, the team had discovered no cause for the increase in SSIs.

The investigative team then conducted observations in the OR for breaks in sterile technique. They found that two different types of surgical hand antisepsis—either the standard surgical scrub or the application of a chlorhexidine gluconate and alcohol-based surgical hand rub—were being performed at the discretion of the personnel. The observers noted that team members who used the alcohol-based hand rub were not performing surgical hand antisepsis correctly according to the manufacturer’s instructions. They were not ensuring their hands were clean or using a fingernail pick before performing hand antisepsis with the alcohol-based rub.

The investigative team decided that the surgical team was taking too many shortcuts with hand antisepsis. They removed the alcohol-based rub from the OR and made the surgical hand scrub a requirement. Educators provided additional education on sterile technique, surgical hand scrub, and gowning and gloving to the surgical team members. The SSI rate decreased significantly and returned to the institutional baseline during the subsequent 6 months.

TAKEAWAY

Manufacturer’s instructions for use should be followed for surgical hand antisepsis. Alcohol-based products are effective only if they are applied to clean dry hands. In this case, the facility decided to eliminate the hand rub because of incorrect use. Though this intervention was effective for this institution, there is no evidence that a hand scrub is more effective in decreasing SSIs than an alcohol-based hand rub when the product is used correctly.

Reference