Question of the Week #16

You have just completed caring for a 66 year old patient undergoing a bowel resection. Your patient has a history of Crohn’s disease and is currently on steroid therapy. You recognize the importance of washing your hands between patient contacts. What method of hand disinfection do you use, and why? Please provide the evidence-based rationale for your decision.

Response:
This week’s question generated some of the most thoughtful discussion we've had since the Question of the Week was initiated. Thanks to all who provided their insight.

Our patient is a poster child for Clostridium difficile colitis (CDC) [see risk factors, below], and this should be taken into account when choosing hand sanitizers. Clostridium difficile (C-diff) is an anaerobic gram-positive bacteria often found in the normal GI flora. When the normal balance of resident bacteria is disrupted, the condition manifests itself through diarrhea, abdominal pain, and an elevated white blood cell count, although carriers may have no symptoms at all. An extremely hardy organism, especially in the spore state, it is highly contagious, spreading via contaminated feces in long-term and acute care facilities and into the community. Even with treatment, CDC may progress to sepsis, peritonitis, toxic megacolon, bowel perforation, or multi-organ failure. Mortality may exceed 50% (Hedrick et al, 2007; Musher & Aslam, 2008). Risk factors associated with this condition include:

- Antibiotic use, which disrupts normal intestinal flora (most common risk factor; C. diff can be associated with a single dose of prophylactic antibiotics)
- Recent hospitalization
- Serious underlying illness, immunosuppressant drugs, or weakened immune system, which makes it difficult to mount an immune response
- Presence of a colon disease, such as Crohn’s disease or ulcerative colitis (Issa et al, 2007).
- 65 years of age or older, although recent outbreaks in low risk populations, e.g. children and young, healthy women, have been reported (McFarland et al, 2007).

C-diff has been found on the hands of 14-59% of health care workers (Curtis, 2008), making hand washing, environmental cleaning, and transmission/isolation precautions of great importance. Minimizing unnecessary antibiotics gives an extra level of credence to the SCIP initiatives.

Most health care practitioners are aware of current hand hygiene standards in which soap and water is used when hands are visibly soiled. The popularity of waterless hand sanitizers makes it appear that they are appropriate whenever visible debris or soil is not present. However, none of the agents used in antiseptic rub preparations is a reliable sporicidal against Clostridium difficile (C-diff), which are among the most difficult
spores to remove. Studies done after the CDC MMR (2002) have found that washing with soap (either plain or antibacterial) and water is more effective in reducing spores than alcohol-based agents (Briggs et al, 2009; Graves & Twomey, 2006; Hedrick et al, 2007; McFarland, et al, 2007). The WHO document referenced by Carol Hromyak is an excellent resource; discussion on C-diff and handwashing is found on p. 22.

Some hospitals are beginning to screen patients at risk, or with an admitting diagnosis of diarrhea, so that drug therapy and appropriate isolation techniques can be implemented more quickly. Whitaker et al (2007) provides a nice template for development of a protocol addressing C-diff. Check with your infection control director about your facility’s policy on the management of C-diff.

References and resources:


