

NOV 27, 2018 | SASKIA V. POPESCU

## Stethoscope Disinfecting—We're Just Not Doing It

Stethoscopes are a time-old symbol for medicine and health care. Because these medical devices play a critical role in patient care, they travel with health care workers throughout their rounds. Unfortunately, this also means that stethoscopes are often used with dirty hands, and travel throughout the hospital without proper disinfection. Discussions surrounding disinfection and sterilization tend to focus on high-risk equipment, like endoscopes; however, easily forgotten equipment, like stethoscopes, can be a prime source for transmission of microorganisms among health care workers and patients. To this end, investigators on a [recent study](#) evaluated existing cleaning practices for stethoscopes and assessed adherence to recommendations for cleaning and disinfection.

The role of stethoscopes as disease transmitters has been debated but ultimately, this medical device should be considered a risk as it comes into contact with both patients and medical providers. The US Centers for Disease Control and Prevention (CDC) lists stethoscopes as both noncritical and semicritical depending on the interaction it has with intact or nonintact skin (meaning: if a patient has nonintact skin, the stethoscope should be classified as a semicritical item requiring the appropriate disinfecting measures). Noncritical items require disinfecting between “each patient or once daily or once weekly,” while semicritical items require disinfecting before each use on each patient. Although there is clear guidance from the CDC on disinfecting stethoscopes, practices vary. Some medical providers even use a glove to cover their stethoscope as a contact precaution.

Investigators on the new study, published in the *American Journal of Infection Control*, performed the observational, cross-sectional, anonymous study of patient-provider interactions in an emergency department (ED), surgical intensive care unit, and labor and delivery unit at a large teaching hospital in Houston, Texas. Health care workers were stratified by category (ie, nurse, physician, etc) and observations to assess the frequency and methods of stethoscope and hand disinfection practices were performed on different days, times, and units.

Of the 400 encounters observed, stethoscopes were disinfected 18% of the time, with only 2% occurring prior to a patient encounter. During the 73 instances of disinfection, observers noted that health care workers used germicidal wipes more than the alcohol pads, and spent less than 15 seconds on the entire process. In noncritical interactions, stethoscopes were disinfected 5.2% of the time while in the semicritical interactions, no stethoscopes were disinfected before physical examinations, despite CDC guidance. The investigators noted that of the 400 observed encounters, only 15 could be confirmed to fully comply with CDC disinfection standards.

Furthermore, when looking at health care worker categories and compliance, the observers found that during semicritical encounters, residents had the highest stethoscope disinfection rate, followed by physicians and nurses. Nurses had the highest rate of compliance in the CDC-compliant cohort while physicians had the lowest. Sadly, hand hygiene did not occur in 58% of the observed interactions although gloves were worn for 85.3% of the interactions.

The investigators noted several reasons stethoscope disinfection was so poor, such as the fast-paced acute care environments, that disinfection is inconvenient, the perception that it is not needed, and the underestimation of the role of stethoscopes in the transmission of health care-associated infections.

The relative risk of infection from stethoscope contamination is considered multifactorial and wholly increases when more patients are examined, skin is contaminated, and other factors like BMI and sex. There is an array of factors that contribute to stethoscopes as vectors for disease transmission in the health care setting; however, this study has underscored the woefully inadequate disinfection practices that exist. Additional education efforts should be made to increase compliance with CDC standards and to make disinfecting wipes more readily available.



### **Saskia v. Popescu**

Saskia v. Popescu, MPH, MA, CIC, is a hospital epidemiologist and infection preventionist with Phoenix Children's Hospital. During her work as an infection preventionist she performed surveillance for infectious diseases, preparedness, and Ebola-response practices. She is currently a PhD candidate in Biodefense at George Mason University where her research focuses on the role of infection prevention in facilitating global health security efforts. She is certified in Infection Control.