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“Hospital-Wide Survey of Bacterial Contamination of Point-of-Care Ultrasound Probes and Coupling Gel.”

LCDR Lawrence, et. Al *J Ultrasound Med* 2014; Vol 33: pp 457-462

BLUF: Bacterial Contamination of bedside ultrasound machines is a growing concern with increased use of ED ultrasound; but, contamination was low at this 250-bed military academic medical center in the US.

What: 320 probe cultures of a total of 82 probes from 43 machines in 9 separate departments at Portsmouth Naval Medical Center, Portsmouth VA were employed to evaluate prevalence of bacterial colonization on hospital-wide (NOT just the ED) ultrasound equipment and coupling gel.

Why: Recent literature has identified *Pseudomonas* and *Burkholderia* species as contaminants of ultrasound gel resulting in patient morbidity during ultrasound guided procedures; MRSA transmission, especially when imaging abscesses, is also a documented concern.

There is no standard decontamination process across all units at this facility.

The Numbers:

ICU, ENT, OBGyn, Labor/Delivery, ED, Cardiology, Radiology, PICU, and Anesthesia Ultrasound units and coupling gel; cultures were obtained over four 2-week sampling periods during 8 week study period.

Excluded intracavitary probes as they undergo high level disinfection after use per policy.

18 (5.6%) positive culture growth; all thought by laboratory department to be common nonpathogenic flora of skin/environmental surface.

3 *Micrococcus* sp.

11 coag neg *Staph.* Sp.

1 *Corynebacterium* sp. (non-diphtheria)

4 *Bacillus* sp. (non anthracis)

4 *Pseudomonas* sp (non-*aeruginosa*) with one additional oxidase negative non-*Enterobacteriaceae* GNR.

0 MRSA isolates.

0 contamination of the ultrasound gel in any department.

Recommendations for cleaning including alcohol or other cleaning agents was nearly 100% effective, even for MRSA in previous studies, but alcohol can degrade the rubber seals and is not recommended for routine sanitizations, whereas a commercially available disposable wipe (Sani-Wipe or similar) was the general practice at this facility (and ours in Dayton, too). Compliance in previous studies in busy Emergency Departments hovers about 50% for removal gross debris (ewww...from a 2011 study).

How it changes what I do: I shan't be barehanding ultrasound probes, and since I'll have my gloves on, ensure maximal compliance with SaniWipe use pre- and post-procedurally. Wouldn't want anyone to get Ebola on my account.

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