

AB113. 195. Theatre shoe contamination: a contributor to prosthetic joint infection?

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Background: Theatre shoes are used daily by all staff however no current guidelines exist for their hygiene and management and pose a potential threat to introducing infection to theatre rooms. This can pose a particular threat to orthopaedic theatres. Assess a sample of Orthopaedic shoes for the presence of bacteria known to cause prosthetic joint infection, difference between named and communal shoes and to establish if shoes with abundant visible spatter carry more bacteria.

Methods: Forty theatre shoes worn regularly in an orthopaedic theatre were selected. These were tested for staphylococci, streptococci, enterococci and resistant organisms [methicillin-resistant staphylococcus aureus (MRSA) & vancomycin resistant enterococcus (VRE)]. Faecal occult blood test assessed for presence of blood and percentage of

blood spatter was measured using IrfanView 4.27.

Results: Coagulase negative staphylococcus was isolated from 25 shoes (65%), staphylococcus aureus from 16 (40%), MRSA from 10 (25%), and vancomycin-resistant enterococcus in 2 (5%). Blood was present in 80%. Increased blood spatter was associated with an increased presence of enterococcus faecalis ($P<0.01$), decreased spatter associated with presence of MRSA ($P=0.01$) and staphylococcus epidermidis ($P=0.02$). Un-named shoes carried more staphylococcus aureus ($P=0.04$).

Conclusions: Common organisms causative of prosthetic joint infection are found on the surface of theatre shoes. MRSA and VRE were also found on a selection of shoes, with MRSA in particular was more likely to be found on shoes appearing 'cleaner'. These results demonstrate the importance of a universal cleaning protocol to be developed, and we provide recommendations for this to be implemented.

Keywords: Infection; arthroplasty; complications

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