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**Infected Diabetic Foot Ulcers: A Review of Specimen Collection and the Microbiological Spectrum** Jabeen Fouzia, S Bukhari, R Jogia\*, R Berrington\*, S Jackson\*, M-F Kong\* Department of Microbiology and \*Department of Diabetes, University Hospitals of Leicester NHS Trust, Leicester, UK

Diabetic foot infections may be difficult to diagnose both clinically and in the laboratory. Depending on whether it is soft tissue or bone which is involved it is not always possible to obtain the desired samples in an out-patient setting. This study was designed to identify the most appropriate specimens for culture and to review the microbiological spectrum isolated from these specimens. We prospectively included 44 patients attending our diabetic foot clinic with clinical evidence of infection of varying severity. Appropriate samples including tissues and irrigation aspirates were collected in parallel with surface swabs. These specimens were processed according to the Health Protection Agency Standard Operating Procedures followed by full identification and sensitivities on up to two isolates.

Bone and pus specimens appeared to be the most superior on culture yielding single pathogens (100%) followed by tissue samples (50%). Irrigation samples were more likely to isolate significant pathogens (36%) than surface swabs (11%). Specimens which yielded three or more than three organisms included superficial swabs (43%), irrigation samples (45%) and tissue samples (20%). Cultures yielded a majority of gram positive organisms (55%) which included *Corynebacterium* species (19%), Coagulase negative *Staphylococcus* species (10%), *Enterococcus* species (9%), Methicillin sensitive *Staphylococcus aureus* (9%), Beta haemolytic *Streptococci* (7%) and (MRSA) Methicillin resistant *Staphylococcus aureus* (1%). Among the Gram negative organisms (45%), coliforms (25%) represented the majority of the total organisms isolated followed by *Pseudomonas aeruginosa* (13%), *Proteus* species (6%) and Gram negative Anaerobe (1%).

Our data shows a predominance of aerobic Gram positive organisms. Bone specimens and pus appeared to be the most superior on culture followed by tissue samples and irrigation aspirates. Surface swabs had a predominance of colonising organisms and were found to be least useful in guiding antibiotic therapy.

It is reassuring that antimicrobial resistance was very low despite the fact that most of these patients had been on long term antibiotics. Multi-resistant pathogens such as MRSA was isolated in only 1 specimen. No Vancomycin-resistant enterococci (VRE) and no extended-spectrum  $\beta$ -lactamase (ESBL) producers were isolated from any of the specimens.