

Key Session 6

[O57] FROM DIAGNOSTICS TO DISCHARGE PLANNING: GETTING IT RIGHT FIRST TIME

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Patients with complex bone and joint infections often have unsatisfactory interactions with the healthcare profession, sometimes having the wrong diagnosis, the wrong orthopaedic surgery, poor soft tissue management and the wrong antimicrobial treatment. Even if three out of four elements on this list are correct, the outcome may still be poor. Sometimes all the elements are correct but they have not **all** been done at the same **time**. Patients may end up with multi-drug resistant organisms, drug side effects, pain, disability, leaking wounds, long hospital stays, depression and disillusionment with the medical profession.

Getting the diagnosis right is important – both anatomically and microbiologically. Risk factors for less common cause of osteomyelitis (e.g. tuberculosis, brucellosis) should be determined and an interactive relationship with the laboratory developed. Pre-op biopsies can sometimes be considered however meticulous intra-operative sampling, good laboratory processing and accurate interpretation of results is most crucial. No lab test will work well if surgical sampling is not expertly performed. This should be off antibiotics with no touch technique, separate sterile instruments and from multiple sites. Histology should always be performed. In the microbiology laboratory, prevention of contamination whilst adequately disrupting biofilm, using enriched media, culturing for an adequate duration and performing appropriate identification and antibiograms are vital to an accurate diagnosis. Sonication and molecular tests can be considered, their place in the clinical pathway being under evaluation.

Surgery should only be performed by a surgeon experienced in infection management and should take into account the patient's wishes and expectations. Soft tissue management is as important as the bones. Intra-operative and post-operative antibiotic therapy should be rational and managed with skill – whilst not causing harm to the patient. Clinical progress must be adequately monitored. Failure means a complete re-assessment, not simply prolonging antibiotics.

Much of this can only be delivered through multidisciplinary specialist bone infection units.