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Accredited to  
ISO 15189:2012

## Orthopaedic Samples (inc tissue)

|   |   |
|---|---|
| <b>Synonyms</b>                             | Infected TKR, THR   |
| <b>Clinical Indication</b>                  | <p>Infected joint replacement, osteomyelitis:-</p> <ul style="list-style-type: none"> <li>• chronic painful stiff joint or</li> <li>• acute hot swollen joint</li> <li>• prosthetic joint revision</li> </ul> <p>Please give detailed clinical information, including date of onset and any current or intended antibiotic therapy</p>  |
| <b>Part of Profile</b>                      | <p><b>Microscopy</b> – Gram stain for Organisms and WBCs only performed on <b>Joint Fluid / aspirates</b> if pyrexial / septic or on <b>Tissue / bone</b> if osteomyelitis</p> <p><b>Culture</b> - Aerobic and anaerobic bacteria, also yeast / fungi where indicated. Mycobacteria/AFB by specific request.</p> <p><b>PCR</b> - Bacterial and fungal 16s rDNA PCR by specific request only</p> |
| <b>Request Form</b>                         | ICE / Medway order comms request or if order comms not available use handwritten Pathology /Microbiology request form   |
| <b>Availability / Frequency of Analysis</b> | <p>During working day</p> <p>For urgent requests please contact laboratory on 01268 968285</p> <p>Out of hours contact on-call Biomedical scientist via hospital switch board</p>   |
| <b>Turnaround Time</b>                      | <ul style="list-style-type: none"> <li>• 16 days</li> <li>• <b>PCR</b> – referred to a reference lab therefore subject to ref lab TATs</li> </ul>   |
| <b>Patient Preparation</b>                  | Usually intraoperative samples or joint aspirate  |
| <b>Sample Requirements</b>                  | <p>Collect samples prior to antimicrobial chemotherapy if possible</p> <p>Transport samples to laboratory as soon as possible</p> <p>Refrigerate sample if there is to be a delay in delivery to the lab</p> <p>Blood culture bottles must NOT to be refrigerated- deliver to lab as soon as possible</p>   |
| <b>Specimen Type</b>                        | <p>Bone fragments, Bone cement</p> <p>Tissue / biopsy</p> <p>Joint fluid / aspirate</p> <p>Intra-operative swab</p>   |

**Volume**

4-5 intraoperative samples collected with separate instruments:-

**Bone / Tissue** –Sufficient to allow for various investigations including PCR if required

**Joint Fluid** – Up to 20 ml - Minimum of 1 ml in universal container.

Blood culture bottle - fill according to volume specified on bottle

**Bacteriology Swab:** Intraoperative swab

**Container**

- White capped sterile CE marked container e.g., Universal or similar wide mouth container



- Blood culture bottle sets inoculated directly at point of collection may be submitted in addition to the universal container



- Blue top bacteriology or orange top 'ENT' type swab

**Test code**

OTCU, OJFC

**Reference Range & Units**

Orthopaedic samples should be sterile. Any growth may indicate infection depending on clinical assessment and organisms isolated.

**References**

PHE SMI B 42 | Issue no: 2 | December 2015  
 Investigation of bone and soft tissue associated with osteomyelitis  
 PHE SMI B 44 | Issue no: 2.1 | August 2021  
 Investigation of orthopaedic implant associated infections

**Interferences**

A delay in receipt of samples by the laboratory may impact viability of organisms and final culture result.

Samples received leaking may be subject to contamination.

**Interpretation & Clinical  
Decision Value (if applicable)**

Positive culture results will be reported with antibiotic susceptibilities where appropriate

The diagnosis of orthopaedic/prosthetic joint infections is greatly enhanced by the examination of multiple samples in order to differentiate between true infection and sample contamination during collection or processing

Results of samples which have been received leaking must be interpreted with caution.

Clinical advice available from Consultant Microbiologist

**Lab Handling**

Samples will be processed on receipt at Pathology First Hub laboratory