

## PROSTHETIC JOINT AND OTHER ORTHOPAEDIC DEVICE RELATED INFECTIONS

Prosthetic joint and other orthopaedic device-related infections are uncommon, yet serious infections leading to significant patient morbidity. Whilst microbiological diagnosis is critical for allowing optimal patient management, routine microbiological culture techniques can fail to identify the causative organism.

ACT Pathology recommends a comprehensive testing protocol, and utilises sonication of prosthetic components, to maximise the microbiological diagnosis. In addition, dually trained clinical microbiologists-infectious disease physicians experienced in the diagnosis and management of orthopaedic device-related infections, supervise microbiological testing and are available to provide expert advice.

### Specimen Collection Recommendations

Prosthetic joint infection (PJI) transportation kits are available in Canberra and Calvary Hospitals operating theatres and for other hospitals through ACT Pathology Customer Services Monday-Friday 0830-1700 (5124 3367). Whenever possible, please provide 24 hours notice if a PJI transportation kit is required.

To maximise the diagnostic yield, the following specimen types are recommended by ACT Pathology.

Specimen Type	Transport Kit Components	Collection Description
1. Joint fluid in aerobic blood culture bottle for culture	<ul style="list-style-type: none"> <li>Aerobic blood culture bottle (NON STERILE)</li> <li>Plastic biohazard bag</li> </ul> <p>Note: needles, syringe and alcohol wipes required for collection not included</p>	<ul style="list-style-type: none"> <li>Aspirate up to 10ml of joint fluid using surgical aseptic technique.</li> <li>Change the needle and pass the specimen to a non-scrubbed assistant to inoculate into the blood culture bottle.</li> </ul>
2. Fresh tissue from 4 sites for culture	<ul style="list-style-type: none"> <li>Sterile 70ml jars x 4</li> <li>Plastic biohazard bag</li> </ul>	<ul style="list-style-type: none"> <li>Fresh tissue from 4 peri-prosthetic sites should be placed directly by the surgeon into the sterile jars to avoid bacterial contamination.</li> </ul>
3. Formalin fixed tissue for histopathology	<ul style="list-style-type: none"> <li>70ml green topped jar with formalin (NON STERILE)</li> <li>Plastic biohazard bag</li> </ul>	<ul style="list-style-type: none"> <li>Peri-prosthetic tissue should be placed into a non-sterile jar with formalin</li> </ul>
4. Prosthetic components for sonication and culture	<ul style="list-style-type: none"> <li>Sterile 2L "lock n lock" container</li> </ul> <p>Note: standard sterile jars can be used for smaller components if necessary</p>	<ul style="list-style-type: none"> <li>Prosthetic components should be placed directly by the surgeon into the sterile container to avoid bacterial contamination.</li> <li>Note: all components can be placed in the single container</li> </ul>

Whilst specimens are cultured daily, optimal processing of the prosthetic components is achieved when the specimen is received in the laboratory before 4pm Monday to Friday.

For further advice, please contact ACT Pathology microbiology laboratory on 5124 2514 or contact the on-call Clinical Microbiologist via Canberra Hospital switch on 5124 0000.

Phone 02 5124 2932 Fax 02 5124 2815

actpathology@act.gov.au

www.health.act.gov.au/services/act-pathology

Gilmore Crescent Garran ACT 2605 PO Box 11 Woden ACT 2606