



CLINICAL PRACTICE CHANGE

Date: January 19, 2016

To: **Orthopedic surgeons performing revision for prosthetic joint infections.**

From: Dr. Philippe Lagacé-Wiens, Medical Microbiologist, Joelle Carlson, Technical Director, Dr. James Karlowsky, Medical Director, Clinical Microbiology Discipline, Diagnostic Services MB

Re: **Discontinuation of routine cultures for filamentous fungi on specimens from prosthetic joints.**

Background Information:

- Fungal prosthetic joint infections (PJI) are extremely rare and account for less than 1% of PJI (1). Among these, approximately 80 – 100% are caused by yeast (1, 2).
- Guidelines for the diagnosis and treatment of PJI only recommend routinely testing specimens for aerobic and anaerobic bacteria (3, 4).
- Retrospective review of all orthopedic specimens sent for fungal culture for the past 10 years indicated that of 7,749 specimens, 41 (0.5%) were positive for fungi. Of the 41 specimens, 21 were unique patients. Of the 21 unique patient specimens, 10 had yeast (primarily *Candida* spp.), 90% of which were recovered from multiple specimens, and 11 had filamentous fungi. Of the 11 filamentous fungi, all were deemed to be probable contaminants based on either their late recovery on culture, recovery in only one of multiple specimens or demonstrated lack of pathogenic potential.
- Fungal cultures require a total of 28 days of incubation and constitute a significant cost and workload for the laboratory.

Change in or New Test Procedure:

- As of February 1, 2016, prosthetic joint specimens will only be cultured for aerobic and anaerobic bacteria and yeast. The laboratory will routinely use enhanced protocols for the detection of *Propionibacterium* spp. from shoulder revision specimens. Specifically requesting prolonged incubation is not required. Any other culture requests on these specimens (e.g., culture for filamentous fungi or mycobacteria) will require consultation with the microbiologist-on-call at the Health Sciences Centre (204-787-1273), St. Boniface Hospital (204-237-2484) or Westman Laboratory (204-578-4482).

Patient Impact:

- No patient impact is anticipated by this change in protocol.



Physician Alert



DSM Contact Information:

For further information, please contact

Dr. Philippe Lagacé-Wiens, 204-237-2483, email: plagacewiens@dsmanitoba.ca,

Joelle Carlson, 204-237-2073, email: jcarlson@dsmanitoba.ca, or

Dr. James Karlowsky, 204-237-2105, email: jkarlowsky@dsmanitoba.ca

References:

1. Schoof B, Jakobs O, Schmidl S *et al.* Fungal periprosthetic joint infection of the hip: a systematic review. *Orthopedic Reviews* 2015; 7:5748.
2. Jakobs O, Schoof B, Klatter TO *et al.* Fungal periprosthetic joint infection in total knee arthroplasty: a systematic review. *Orthopedic Reviews* 2015; 7:5623.
3. Osmon DR, Berbari EF, Berendt AR *et al.* Diagnosis and Management of Prosthetic Joint Infection: Clinical Practice Guidelines by the Infectious Diseases Society of America. *Clinical Infectious Diseases* ; 2013 ; 56:1 -25.
4. Della Valle C, Parvizi J, Bauer TW *et al.* Diagnosis of Periprosthetic Joint Infections of the Hip and Knee. *Journal of Bone and Joint Surgery: American volume.* 2011 93:1355-7.