Allina Health
LABORATORY

MEMORANDUM

To: Orthopedic specialists and staff
From: Lauren Anthony, system laboratory medical director
Date: November 13, 2017
Subject: **Broad spectrum bacterial PCR culture-negative joint infections**

Broad-range bacterial PCR is able to diagnose bacterial joint infections when cultures are negative. Unlike nonspecific inflammatory markers such as alpha-defensin, sed rate or C-reactive protein, broad-spectrum bacterial PCR is able to provide a definitive diagnosis with bacterial identification.

Broad-range bacterial PCR:

1. Targets and amplifies a DNA segment "16s" common to all bacteria, i.e. usual bacteria and also mycobacteria and treponema.
2. The amplified DNA is then sequenced to identify the bacteria species.
3. Broad-range bacterial PCR can be performed on fresh tissue or fluid from any normally sterile site.
4. Broad-range bacterial PCR is also possible on paraffin block tissue, but the sensitivity is lower than fresh tissue.
5. We have partnered with HCMC for this testing to provide optimal service, sample integrity, and turnaround time (typically 2-4 days for fresh fluid/tissue).

Synovial fluid aspiration for broad-range bacterial PCR:

1. Minimum 1 ml. Requires special care to prevent contamination from environmental bacteria.
2. Synovial fluid for PCR must be aspirated into a separate syringe (optimal) or a portion of the aspirate must be placed in a separate sterile urine cup at collection. No other testing can be performed on the PCR specimen.
3. The PCR fluid must get to Central Lab by the end of the working day, by special courier if necessary. (must not sit in the clinic overnight or on a weekend).

Syringe/cup 1: All other tests
Cell count, diff, crystals, etc.

Syringe/cup 2: PCR only, at least 1 ml.
Do not re-open for any reason.

Order:

LAB994 (Miscellaneous sendout). For the test name, enter: "16s bacterial PCR to HCMC"