

## Arthrocentesis Reference

**The order sets are constructed to be practical and reflect proven standards care based on best available evidence and or preference/ opinion of physicians in the OSF System.**

### **Level of Evidence = LOE**

A = Randomized prospective controlled trials (control and intervention group and enrolled prior to measured outcome)

B = Nonrandomized prospective trials

C = retrospective analyses

E = Expert opinion, guideline, consensus statement, textbook summary, articles that summarize

M = Meta-analyses

Q = Economic analyses

(LOE= B )Shmerling RH, Delbanco TL, Tosteson AN, Trentham DE. Synovial fluid tests. What should be ordered? JAMA 1990 Aug 22-29;264(8):1009-14.

To determine which synovial fluid tests are most useful, we prospectively analyzed the synovial fluid test results of 100 consecutive patients undergoing diagnostic arthrocentesis. Each patient's diagnosis was established independently of synovial fluid laboratory test results; in 69 patients a definite inflammatory or noninflammatory categorization could be made. Sensitivity and specificity were estimated for synovial fluid white blood cell count (sensitivity, 0.84; specificity, 0.84), percentage of polymorphonuclear cells (sensitivity, 0.75; specificity, 0.92), glucose (sensitivity, 0.20; specificity, 0.84), protein (sensitivity, 0.52; specificity, 0.56), and lactate dehydrogenase (sensitivity, 0.83; specificity 0.71). Receiver operating characteristic regression analysis indicated that both white blood cell count and percentage of polymorphonuclear cells were found to contribute independent diagnostic information but lactate dehydrogenase did not.

In a separate, retrospective analysis of 19 patients with definite septic arthritis, similar results were observed.

**Synovial fluid white blood cell count and percentage of polymorphonuclear cells perform well as discriminators between inflammatory and noninflammatory disease.**

**Ordering chemistry studies of synovial fluid should be discouraged because they are likely to provide misleading or redundant information. PMID: 2198352**