

Synovial Fluid Analysis

	Noninflammatory (e.g. osteoarthritis)	Inflammatory (e.g. RA)	Septic	Hemorrhagic
WBC Count (cells/microL)	<2000	2000-20,000	>20,000 (usually > 50,000- 100,000)	Up to 1 WBC for every 1000 RBCs
Percent Neutrophils	<25%	50-75%	>75%	<50%
Crystal Examination	Negative	May have uric acid or CPPT crystals	Negative	Bloody
Culture	Negative	Negative	May be positive (depends on organism and prior antibiotic tx)	Negative

Gross Appearance

- NORMAL JOINT FLUID
 - highly viscous, clear, essentially acellular
- Clarity
 - Increased opacity -- due to large numbers of nucleated or RBCs
- Color
 - plasma and nucleated cells contribute to yellow - the yellow/green color of inflammatory or septic joints
 - Bright red, rusty, chocolate brown indicates fresh or old blood
- Viscosity
 - Release of proteolytic enzymes into inflamed synovial fluid decreases the viscosity