

Overview

Useful For

Identifying the presence and type of crystals in synovial fluid

Method Name

Compensated Polarized Light Microscopy

NY State Available

Yes

Specimen

Specimen Type

Body Fluid

Specimen Required

Container/Tube:

Preferred: Lavender top (EDTA)

Acceptable: Green top (heparin)

Specimen Volume: 2 mL

Specimen Minimum Volume

0.5 mL

Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Body Fluid	Refrigerated (preferred)		
	Ambient	24 hours	
	Frozen		

Clinical & Interpretive

Clinical Information

Birefringent crystals are found in the synovial fluid of more than 90% of patients with acutely inflamed joints.

Monosodium urate crystals are seen in gouty fluids and calcium pyrophosphate crystals are seen in chondrocalcinosis. The urates are usually needle-shaped, and the calcium crystals are often rhomboidal. Cholesterol crystals may also be observed.

**Reference Values**

None seen  
If present, crystals are identified.

**Interpretation**

Positive identification of crystals provides a definitive diagnosis for joint disease.

**Cautions**

Powdered anticoagulants such as oxalate are themselves crystalline or may cause crystals to form; their use may cause false-positive results or mask the presence of synovial fluid crystals definitive for the disease.

**Clinical Reference**

Hussong JW, Kjeldsberg CR, eds: Kjeldsberg's Body Fluid Analysis. ASCP Press; 2015

**Performance****Method Description**

Synovial fluid is anticoagulated with heparin or EDTA. The specimen is examined with a polarizing microscope with and without a first-order red compensator. Cholesterol crystals appear as bright, square or rectangular plates. Pyrophosphate crystals, rhomboidal, are weakly birefringent. Urate crystals are mainly needle-shaped and strongly doubly refractile; they may be found within leukocytes.(Hussong JW, Sorensen E, Perkins SL, et al: Laboratory methods. In: Hussong JW, Kjeldsberg CR, eds. Kjeldsberg's Body Fluid Analysis. ASCP; 2015:chap 2)

**PDF Report**

No

**Day(s) Performed**

Monday through Sunday

**Report Available**

1 day

**Specimen Retention Time**

1 week

**Performing Laboratory Location**

Rochester

**Fees & Codes**

Fees

- Authorized users can sign in to [Test Prices](#) for detailed fee information.
- Clients without access to Test Prices can contact [Customer Service](#) 24 hours a day, seven days a week.
- Prospective clients should contact their account representative. For assistance, contact [Customer Service](#).

Test Classification

This test has been cleared, approved, or is exempt by the US Food and Drug Administration and is used per manufacturer's instructions. Performance characteristics were verified by Mayo Clinic in a manner consistent with CLIA requirements.

CPT Code Information

89060

LOINC® Information

Test ID	Test Order Name	Order LOINC® Value
CRSBF	Crystal ID, BF	6825-4

Result ID	Test Result Name	Result LOINC® Value
CRYFT	Fluid Type	14725-6
CRYID	Crystal ID	6825-4
CRYCM	Comment	77202-0