

## Overview

### Useful For

Identifying the presence and type of crystals in synovial fluid

### Method Name

CompensatedPolarizedLightMicroscopy  
Includescytospinprep.

### 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 and 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; their use may cause confusion masking the presence of synovial fluid crystals definitive for the disease.

**Clinical Reference**

Kjeldsberg C, Knight J: Body fluids: Laboratory examination of cerebrospinal, seminal, serous and synovial fluids. Third edition. Chicago, ASCP, 1993, pp 272-283, 292-293

**Performance****Method Description**

Synovial fluid is anticoagulated with heparin or EDTA (not oxalate because calcium oxalate crystals form). 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. (Phelps P, Steele AD, MacCarty DJ Jr: Compensated polarized light microscopy. Identification of crystals in synovial fluids from gout and pseudo gout. JAMA 1968;203:508-512)

**PDF Report**

No

**Day(s) and Time(s) Test Performed**

Monday through Sunday; Continuously

**Analytic Time**

1 day

**Maximum Laboratory Time**

1 day

**Specimen Retention Time**

1 week

**Performing Laboratory Location**

Rochester

**Fees and Codes**

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**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 Regional Manager. For assistance, contact [Customer Service](#).

**Test Classification**

This test uses a standard method. Its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

**CPT Code Information**

89060

**LOINC® Information**

Test ID	Test Order Name	Order LOINC Value
SFC	Crystal ID, Synovial FI	5781-0

Result ID	Test Result Name	Result LOINC Value
SFCID	Crystal ID, Synovial FI	5781-0
REV28	Reviewed By:	18771-6