



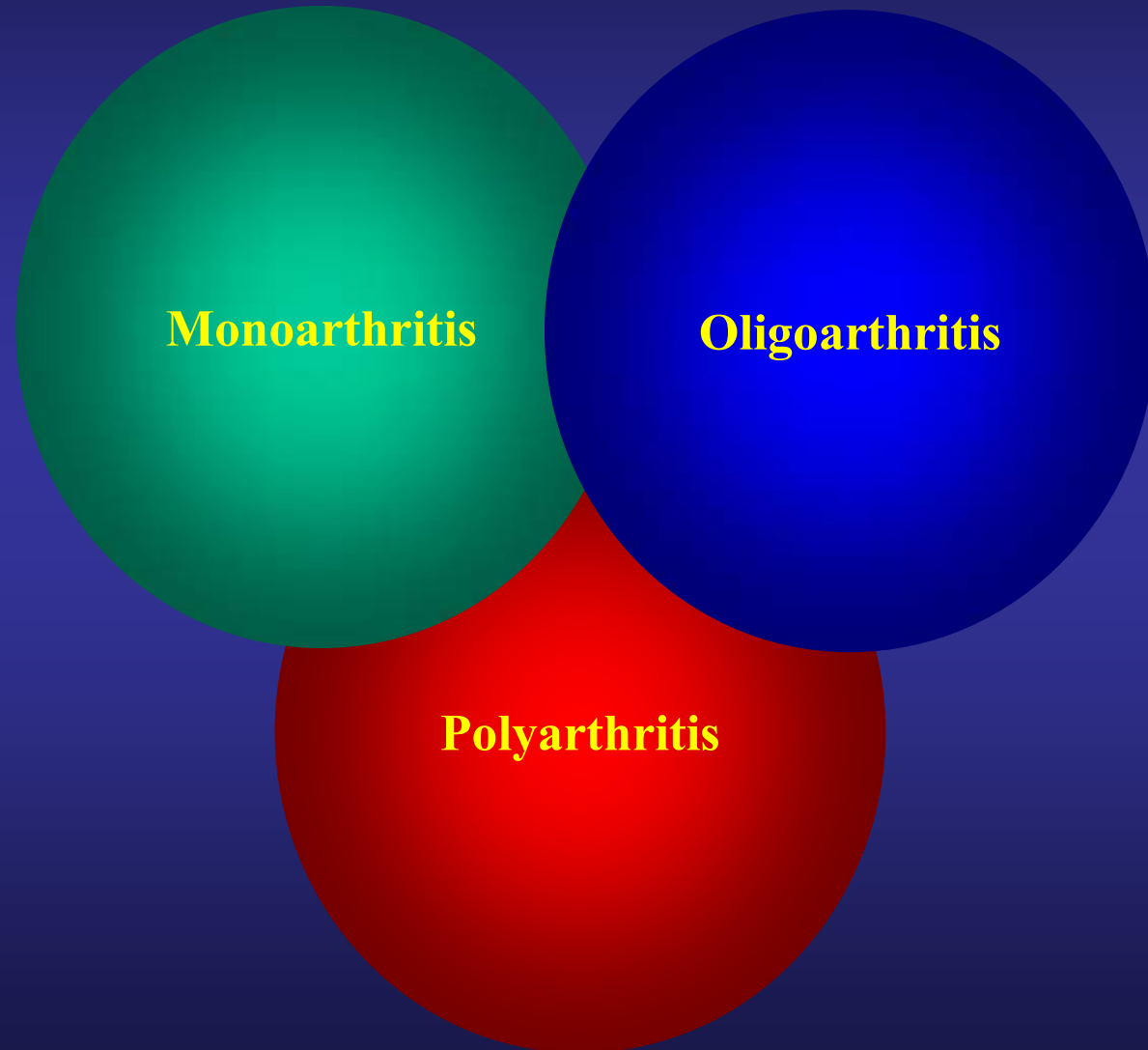
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# **Approach to a patient with monoarthritis/oligoarthritis**

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## Classification of arthritis according to the number of joints involved

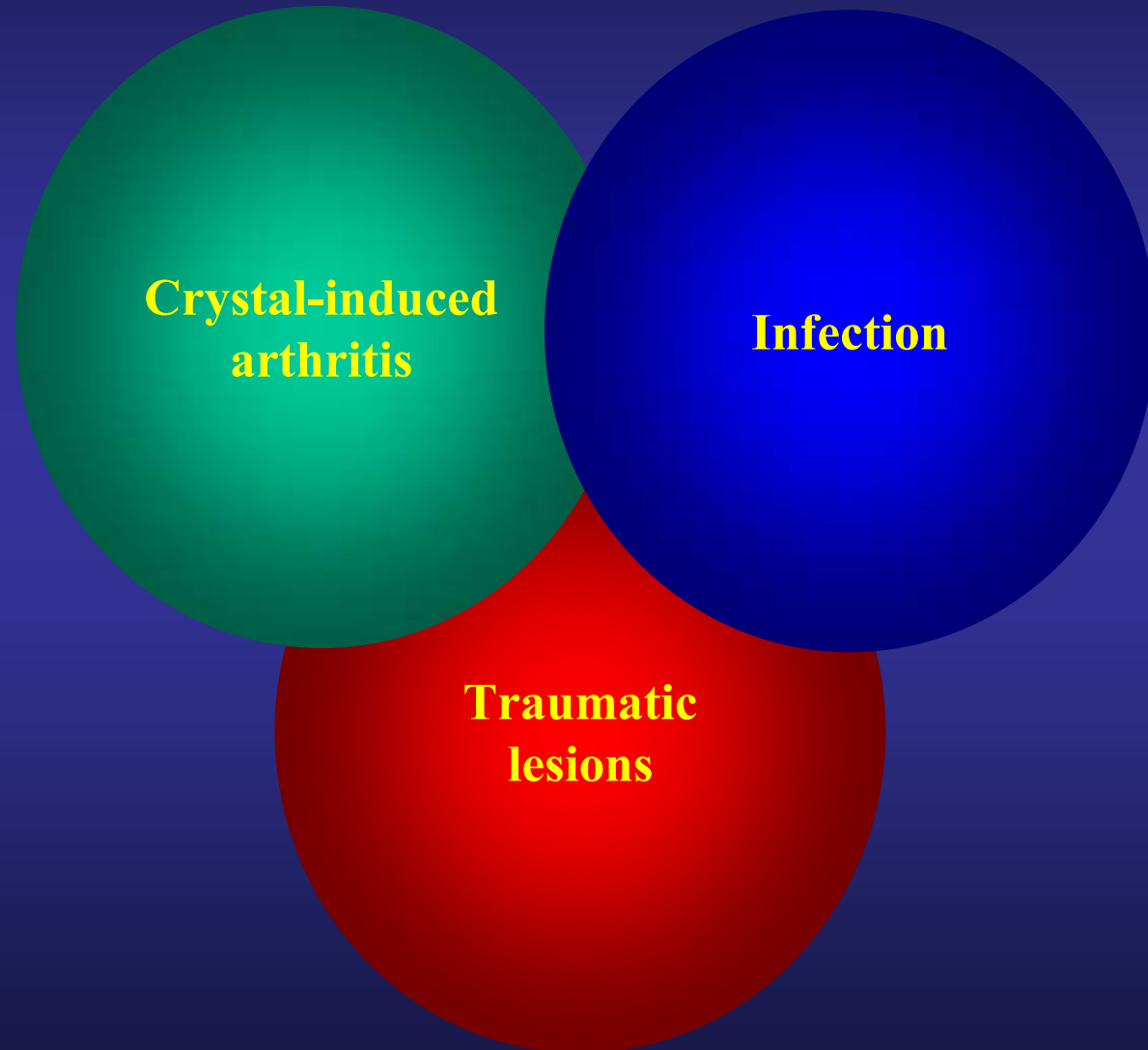


A-K, a 40-year old male patient came to his family doctor because of severe pain and swelling in his left knee. There was no history of any trauma to the joint. On physical examination swelling of the joint and effusion was present ...



**Which conditions should be  
taken into account?**

# Most common causes of acute monoarthritis



# Potential causes of acute monoarthritis

## Common

- Crystal-induced
- Infectious arthritis
  - Bacteria/Fungi
  - Mycobacteria/Viruses
  - Lyme disease
- Overuse Trauma
- Osteoarthritis
- Hemarthrosis
- Internal derangement
- Osteomyelitis
- Avascular necrosis of bone

## Less common

- Bone malignancies
- Bowel-disease-associated arthritis
- Hemoglobinopathies
- Juvenile arthritis
- Loose body
- Psoriatic arthritis
- Rheumatoid arthritis
- Reactive arthritis
- Sarcoidosis

## Rare

- Amyloidosis
- Behçet's syndrome
- Familial Mediterranean fever
- Foreign-body synovitis
- Hypertrophic pulmonary osteoarthropathy
- Intermittent hydrarthrosis
- Pigmented villonodular synovitis
- Relapsing polychondritis
- Still's disease
- Synovioma
- Synovial metastasis
- Vasculitic syndromes

## Diagnostic Clues in Patients Presenting with Joint Pain (1)

- Sudden onset of pain in seconds or minutes → Fracture, internal derangement, trauma, loose body
- Onset of pain over several hours or one to two days → Infection, crystal deposition disease, other inflammatory arthritic condition
- Insidious onset of pain over days to weeks → Indolent infection, osteoarthritis, infiltrative disease, tumor
- Intravenous drug use, immunosuppression → Septic arthritis
- Previous acute attacks in any joint, with spontaneous resolution → Infection, crystal deposition disease, other inflammatory arthritic condition



## Diagnostic Clues in Patients Presenting with Joint Pain (2)

- Recent prolonged course of corticosteroid therapy → Infection, avascular necrosis
- Coagulopathy, use of anticoagulants → Hemarthrosis
- Urethritis, conjunctivitis, diarrhea, and rash → Reactive arthritis
- Psoriatic patches or nail changes such as pitting → Psoriatic arthritis
- Use of diuretics, presence of tophi, history of renal stones or alcoholic binges → Gout

## Diagnostic Clues in Patients Presenting with Joint Pain (3)

- Eye inflammation, low back pain → Ankylosing spondylitis
- Young adulthood, migratory polyarthralgias, inflammation of the tendon sheaths of hands and feet, dermatitis → Gonococcal arthritis
- Hilar adenopathy, erythema nodosum → Sarcoidosis

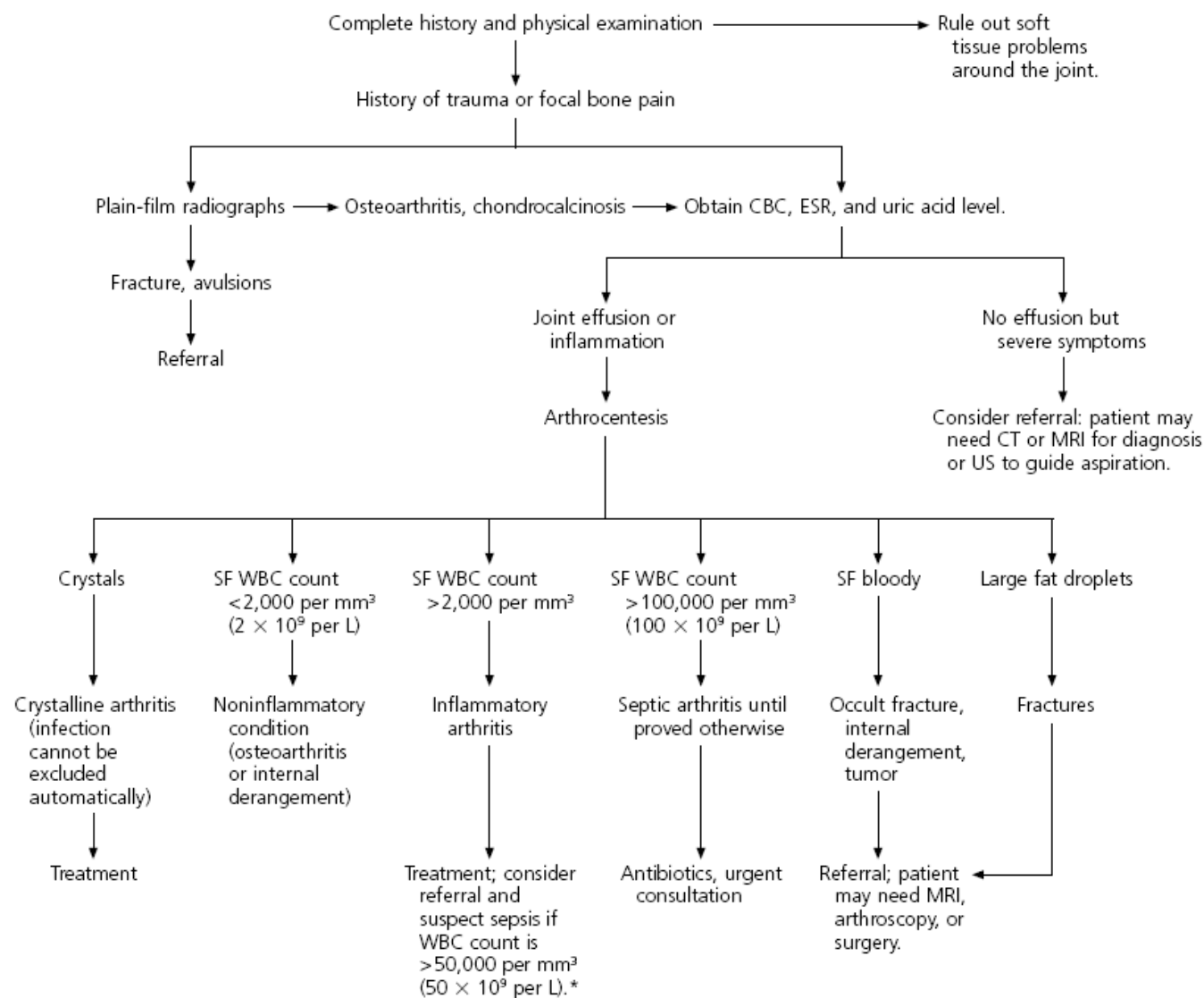
**What to do next?**



*Until infection has been ruled out, corticosteroids should not be injected into a joint!*

*If not contraindicated, i.a.  
glucocorticoid injection is  
recommended in many patients  
with monoarthritis*

## Diagnosing Acute Monoarthritis



\*—On occasion, however, high WBC counts can occur in patients with other conditions, such as gout or rheumatoid arthritis.

## Categorization of Synovial Fluid, with Associated Conditions

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*Noninflammatory: < 2,000 WBC  
per mm<sup>3</sup> (2 × 10<sup>9</sup> per L)*

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Osteoarthritis

Trauma

Avascular necrosis

Charcot's arthropathy

Hemochromatosis

Pigmented villonodular  
synovitis

*Inflammatory: > 2,000 WBC per mm<sup>3</sup>*

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Septic arthritis\*

Crystal-induced monoarthritis  
(e.g., gout, pseudogout)

Rheumatoid arthritis

Spondyloarthropathy

Systemic lupus erythematosus

Juvenile rheumatoid arthritis, Lyme disease,  
other crystalline arthritides

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*WBC = white blood cell.*

*\*—Synovial fluid analysis in patients with septic arthritis often shows more than 90 percent polymorphonuclear neutrophilic leukocytes.*



## Common Errors in Diagnosing Acute Monoarthritis

<i>Error</i>	<i>Reality</i>
The problem is in the joint, because the patient complains of "joint pain."	The soft tissues around the joint can be the source of the pain (e.g., olecranon bursitis of the elbow, prepatellar bursitis of the knee).
Crystal-proven diagnosis of gout or pseudogout rules out infection.	Crystals can be present in a septic joint.
The presence of fever is useful in distinguishing infectious causes from other causes.	Fever may be absent in patients with infectious monoarthritis but can be a presenting feature in acute attacks of gout or pseudogout. Fever may occur for other reasons in certain patients (e.g., the immunocompromised).
A normal serum uric acid level makes gout a less likely diagnosis.	Serum uric acid levels often are lowered in patients with acute gout. Conversely, there may be unrelated hyperuricemia in patients with other conditions.
Gram staining and culture of synovial fluid are sufficient to exclude infection.	Cultures of blood, urine, or another primary site of infection (e.g., abscess) must be obtained and repeated as necessary if infection is strongly suspected clinically. Culture results may be negative in early infection.

## Indications for Referral

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### *Circumstance*

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### *Reasons for referral*

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Failed arthrocentesis or joints that are difficult to aspirate, such as hips and sacroiliac joints

Need for computed tomography or ultrasound-guided arthrocentesis

Septic arthritis

Urgent consultation, hospitalization for intravenous antibiotics, joint drainage, débridement; infectious disease consultation for atypical infections

Suspected inflammatory polyarthritis or recurrent monoarthritis unresponsive to treatment

Rheumatologist evaluation and management

Undiagnosed chronic monoarthritis

Need for closed synovial biopsy or arthroscopy

# Common causes of oligoarthritis

- Reactive arthritis
- Psoriatic arthritis
- Ankylosing spondylitis
- Early rheumatoid arthritis
- Gonococcal arthritis
- Rheumatic fever
- Lyme disease

**HOW to treat  
monoarthritis?**