



QR code for
mobile view

Exclusion Criteria

- Sepsis (see [Sepsis Clinical Pathway](#))
- [Necrotizing fasciitis](#) (contact Orthopedic Surgery and Infectious Diseases (ID) immediately)
- Chronic MSK infection (> 6 weeks)
- Post-operative infection
- Infection associated with surgical hardware
- Infection associated with foreign body
- Infections from penetrating trauma
- Decubitus ulcers
- Sickle cell disease
- Neonates

Concerning Signs and Symptoms

- Painful fixed joint (pseudoparalysis)
- Point tenderness over the bony metaphysis
- Hip rests in a position of flexion, abduction, and external rotation
- Fever > 38.0°C (100.4°F)
- Limb pain in absence of trauma
- Refusal to bear weight or use an extremity
- Previous health care visit for the same problem

The combination of elevated CRP and refusal to bear weight may increase the probability of MSK infection. However, CRP alone has insufficient sensitivity and specificity, and cut-off values have not been determined (PIDS/IDSA 2021, 2023).

Note: The Kocher Criteria only applies to concern for septic hip

Can patient be managed at CMK?

- MRI must be obtained in the Emergency Department PRIOR to admission
- Ortho, Hospitalist, ED and ID attending agree case can be managed at CMK
- Transfer to Adele Hall campus if MRI is unavailable or pt. requires surgery (typically direct admit)

Abbreviations

IDSA = Infectious Diseases Society of America
PIDS = Pediatric Infectious Diseases Society of America

Patient with concern for acute or subacute musculoskeletal infection (osteomyelitis or septic arthritis)

Initial Evaluation

- **Complete** history and physical exam
- **Obtain** plain radiographs of the affected area
- **Complete** joint ultrasound (e.g., hip) if suspected effusion
- **Order and review** the following labs:
 - CBC with differential
 - Blood culture
 - CRP and ESR (Procalcitonin is **not** recommended)

Is the clinical presentation still concerning for MSK Infection?

No

- Consider alternative diagnoses
- Recommend follow up within 24 - 48 hrs if patient is discharged

Yes

- **Consult** Orthopedic Surgery
- **Determine** need for MRI
- **Discuss** with ID regarding [empiric antibiotic](#) need and timing
 - If ill-appearing, do not delay antibiotics
 - If well-appearing and bone/synovial culture is planned, consider delaying antibiotics
 - [Consider risk factors for *Kingella kingae*](#)
 - [Consider risk factors for MRSA](#)

Risk Factors for *Kingella kingae*

- Typically 6 months to 4 years of age
- Often indolent course, frequently >3 days of symptoms
- Often well-appearing
- May have preceding viral URI or viral stomatitis
- Often attends daycare

Risk Factors for MRSA

- Personal history of MRSA
- Family history of MRSA
- Recent or frequent hospitalization
- Recurrent skin boils

If bone or synovial fluid culture is obtained, **order**:

- Aerobic and anaerobic cultures
- Cell count
- Joint Infection (JI) Panel PCR (*if enough fluid is available*)

Discuss need for admission with ID and Orthopedic Surgery

Will the patient be admitted?

No

- Recommend follow up within 24 - 48 hrs

Yes

Is the patient at Adele Hall?

Yes

Admit to General Pediatrics with consults for ID and Ortho
[Laboratory Monitoring](#)

No

Can patient be managed at CMK per discussion between provider and consultants?

No

Transfer to Adele Hall campus

Yes

Admit to Platinum Team with consults for ID and Ortho
[Laboratory Monitoring](#)