

A 5-year-old boy is brought to the physician for evaluation of left hip pain after his parents saw him limping this morning. He spent time on the playground yesterday but his parents do not think he was injured then. The boy complains that the pain in his hip worsens when he moves or walks. For the past 3 days, he has had a runny nose and congestion. Review of systems is otherwise negative. His grandmother has rheumatoid arthritis treated with methotrexate. His temperature is 37.2° C (99° F), blood pressure is 100/65 mm Hg, pulse is 92/min, and respirations are 18/min. Physical examination shows a well-appearing child with clear rhinorrhea and intermittent dry cough. Lungs are clear to auscultation bilaterally. His left hip is slightly abducted and externally rotated with mildly decreased range of motion. He is able to stand and bear weight. The remainder of his examination is normal. X-rays of both hips are normal. His laboratory results are as follows:

Complete blood count

Hemoglobin	12.5 g/dL
Platelets	287,000/mm ³
Leukocyte count	8,500/mm ³
Neutrophils	30%
Eosinophils	1%
Lymphocytes	64%
Monocytes	5%
Erythrocyte sedimentation rate	30 mm/h
C-reactive protein	9 mg/L (N: ≤ 8 mg/L)

Which of the following is the best next step in management of this patient?

- ☐ A. Ibuprofen, rest, and follow-up in 1 week
- ☐ B. Intravenous antibiotics
- ☐ C. Magnetic resonance imaging of the left hip
- ☐ D. Serum antinuclear antibodies
- ☐ E. Synovial fluid aspiration of the left hip

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Which of the following is the best next step in management of this patient?

A. Ibuprofen, rest, and follow-up in 1 week [52%]



B. Intravenous antibiotics [2%]



Which of the following is the best next step in management of this patient?

A. Ibuprofen, rest, and follow-up in 1 week [52%]



B. Intravenous antibiotics [2%]

C. Magnetic resonance imaging of the left hip [22%]

D. Serum antinuclear antibodies [5%]

E. Synovial fluid aspiration of the left hip [18%]

Proceed to Next Item

Explanation:

User Id: [REDACTED]

Transient synovitis is the most common cause of hip pain in children, typically occurring in boys age 3-10 years. The cause is unknown but usually follows a viral infection or mild trauma. Synovial inflammation leads to pain, decreased range of motion, and limping. On examination, the affected hip is typically flexed, slightly abducted, and externally rotated. This position maximizes the joint space, thereby providing some pain relief.

Because characteristics of transient synovitis overlap with septic arthritis, laboratory studies should be sent to assess for severity of inflammation. In contrast to septic arthritis, children with transient synovitis rarely have fever or significant laboratory abnormalities.

Features of septic arthritis of the hip

- Fever $\geq 38.5^{\circ}\text{C}$ (101°F)
- Inability to bear weight
- White blood cell count $>12,000/\text{mm}^3$
- Erythrocyte sedimentation rate >40 mm/h
- C-reactive protein >2 mg/dL (20 mg/L)

Features of septic arthritis of the hip

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Patients who are ill-appearing, febrile, or have >3 or 4 findings shown in the table should undergo immediate arthrocentesis (**Choice E**) and intravenous antibiotics (**Choice B**). This child is well-appearing, able to bear weight, and has no concerning laboratory findings, making invasive arthrocentesis and intravenous antibiotics unnecessary.

Plain radiographs should be done to exclude bony lesions, fractures, and Legg-Calvé-Perthes disease (LCP). Anteroposterior and frog-leg lateral views of both hips should be obtained to compare affected and normal sides for subtle changes. Additional workup is unnecessary unless symptoms persist or worsen. Treatment consists of **rest** and **nonsteroidal anti-inflammatory medications** (NSAIDs). NSAIDs (eg, ibuprofen) have both analgesic and anti-inflammatory properties and are recommended over other pain relievers (eg, acetaminophen, opioids). The exception is aspirin, which should be avoided due to the risk of Reye syndrome. Children usually recover within 1-4 weeks and have no complications.

(**Choice C**) If symptoms persist or worsen, a diagnosis of **LCP** should be reconsidered as initial radiographs may appear normal in early disease. Magnetic resonance imaging can detect early LCP as well as marrow changes suggestive of **osteomyelitis**. This scan is very expensive, often requires sedation in young children, and is not warranted for this patient at this time.

(**Choice D**) Pauciarticular-onset juvenile idiopathic arthritis or pauciartthritis is the most common subgroup of juvenile idiopathic arthritis. Serum antinuclear antibodies are usually the only laboratory abnormality. Although pauciartthritis can present with a morning limp, it typically occurs in female toddlers and rarely involves the hip, making this diagnosis unlikely.

Educational objective:

Transient synovitis is the most common cause of hip pain in children and is treated with rest and ibuprofen. There are usually no laboratory abnormalities or fever. Bilateral hip x-rays should be obtained to assess for Legg-Calvé-Perthes disease.

This child is well-appearing, able to bear weight, and has no concerning laboratory findings, making invasive arthrocentesis and intravenous antibiotics unnecessary.

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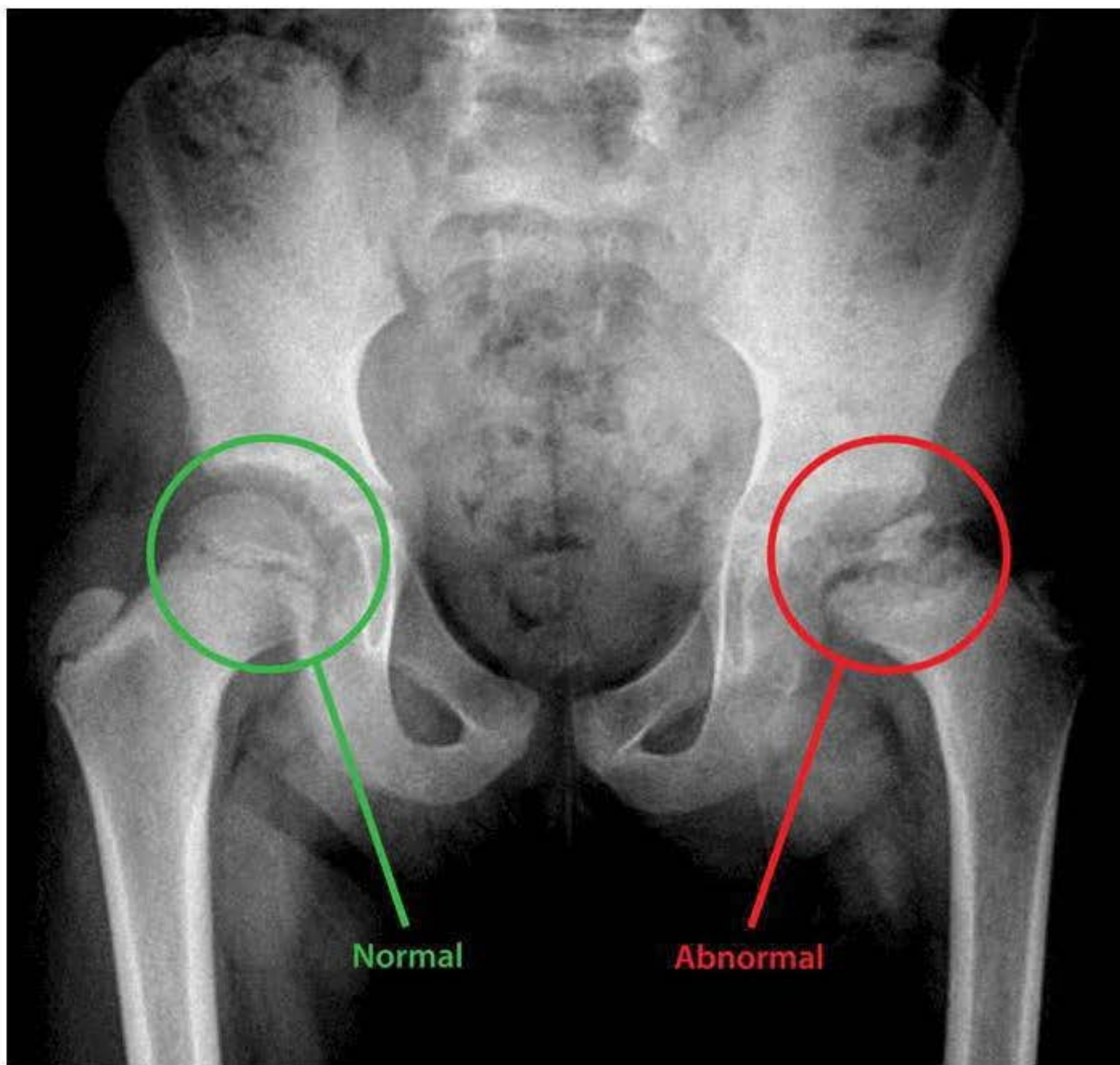
Transient synovitis is the most common cause of hip pain in children and is treated with rest and ibuprofen. There are usually no laboratory abnormalities or fever. Bilateral hip x-rays should be obtained to assess for Legg-Calvé-Perthes disease.

References:

1. **Factors distinguishing septic arthritis from transient synovitis of the hip in children. A prospective study.**
2. **A clinical practice guideline for treatment of septic arthritis in children: efficacy in improving process of care and effect on outcome of septic arthritis of the hip.**
3. **Transient synovitis as a cause of painful limps in children.**
4. **Validation of a clinical prediction rule for the differentiation between septic arthritis and transient synovitis of the hip in children.**

Media Exhibit

alve-Perthes disease



Media Exhibit

Myelitis MRI

