

CASE SCENARIO: HIP

History

The patient is a 33-year-old man who works in a fence factory. The patient complains of a 3-week history of left hip pain after he fell on the ice that had formed on his porch overnight. He was taking out the trash to the receptacle in the alley that morning and did not see the ice. He recalls he may have done the splits when he fell, but he is not sure. He does remember that he landed on his left side, and he bruised his left shoulder. At that time, he experienced a moderate deep, sharp pain in his left hip that motivated him to go to the emergency room because he found it hard to walk and he was worried he might have cracked something. He saw the emergency room doctor, who diagnosed his condition as a sprain and prescribed nonsteroidal anti-inflammatory drugs (NSAIDs) and rest. His sharp pain receded, but his hip gradually stiffened and the pain became dull and aching in nature.

The patient complains of pain in the left groin and buttock that is a 4/10 on the visual analog scale that is a dull ache, and infrequently sharp with sudden movements. He feels like his hip needs to be stretched. His aching pain increases after sitting, lying, or standing still for an extended time, and decreases after walking. He has no increase in his pain with a cough, sneeze, or strain and there is no particular time of day when his pain worsens.

His past medical history includes tonsillectomy as a child, and open reduction internal fixation for a right humerus fracture at 15 years old after falling from a tree. Plain films are negative for fracture or dislocation. Current medications are NSAIDs when he thinks he needs them.

Clinical examination

The patient's inspection and screening tests were negative. The only salient findings from his clinical examination were as follows:

- passive hip flexion: left hip ROM mild limitation (10° limit) with firm endfeel and mild (2/10) groin pain at the end range;
- passive hip internal rotation at 90° flexion: left hip ROM moderate limitation (25° limitation) with firm endfeel and mild (3/10) buttock pain at end range;
- passive hip abduction: left hip ROM mild limitation (10° limit) with firm endfeel and mild (2/10) groin pain at the end range; no change with knee flexion;
- modified circumduction test: right hip had mild (3/10) buttock pain at the end range of flexion, adduction, and internal rotation;
- passive hip extension: left hip ROM mild limitation (10° limit) with firm endfeel and mild (2/10) buttock pain at the end range;
- passive hip internal rotation with hip neutral in prone: left hip ROM moderate limitation (30° limit) with firm endfeel and mild positive buttock pain at end range;
- all resistive tests were strong and mildly uncomfortable; and
- all other tests were negative for limitation, sensory disturbance, weakness, or pain.

1. The patient in this scenario is likely suffering from which of the following conditions?
 - a. coxafemoral primary arthrosis.
 - b. coxafemoral traumatic arthritis.
 - c. hamstring tendinopathy.
 - d. labral tear.

2. Which might be the best treatment choice for the condition in the case?
 - a. intraarticular injection.
 - b. joint-specific traction mobilization.
 - c. resistive exercise.
 - d. transverse friction massage.

3. Flexion limitations can be best treated by pre-positioning the hip in flexion at the limit, along with what other two submaximal pre-positions?
 - a. abduction and external rotation.
 - b. abduction and internal rotation.
 - c. adduction and external rotation.
 - d. adduction and internal rotation.

4. For what condition is a high-velocity, low-amplitude mobilization/manipulation maneuver contra-indicated as a primary intervention?
 - a. acetabular (coxafemoral) labral tear.
 - b. arthritic loose body.
 - c. idiopathic loose body.
 - d. osteochondritis dissecans.

ANSWERS

1. The correct answer is **b. coxafemoral traumatic arthritis**. The patient presents with a limitation that is likely a capsular pattern, due to the significant internal rotation loss. Coxafemoral primary arthrosis presents with a similar motion loss but is found in older individuals. Labral tear, if present, occurs with an internal rotation motion loss, and only with the hip positioned in 90° flexion but not in neutral. Hamstring tendinopathy produces buttock pain but does not typically present with a hip internal rotation limitation.
2. The correct answer is **b. joint-specific traction mobilization**. This is indicated for traumatic arthritis. Intraarticular injection may reduce any inflammation but may not address capsular adaptation. Resistive exercise may increase the patient's pain if incorporated before the limitations are reduced. Transverse friction massage, while controversial, may be best indicated for tendinopathy.
3. The correct answer is **b. abduction and internal rotation**. In order to achieve anatomical flexion in the parasagittal plane, the femoral head is required to flex, abduct, and internally rotate with respect to the acetabular concavity. Thus, to place greater emphasis on the capsule during traction loading, the joint can be placed in flexion, abduction, and internal rotation to twist the capsule around the head while it is distracted from the acetabulum.
4. The correct answer is **d. osteochondritis dissecans**. Intraarticular flake fracture loose body, idiopathic loose body, arthritic loose body, and/or labral tear can all be treated with a high-velocity, low-amplitude rotatory mobilization/manipulation maneuver.