

EM CASE OF THE WEEK

BROWARD HEALTH MEDICAL CENTER DEPARTMENT OF EMERGENCY MEDICINE

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<http://alfa-img.com/show/hip-dislocation-treatment.html>

Hip dislocations are a relatively rare injury in the US, totaling fewer than 200,000 cases per year. Nevertheless, they are an orthopedic emergency and if not reduced, can have significant neurovascular consequences.

EM CASE OF THE WEEK

EM Case of the Week is a weekly "pop quiz" for ED staff. The goal is to educate all ED personnel by sharing common pearls and pitfalls involving the care of ED patients. We intend on providing better patient care through better education for our nurses and staff.



Hip Dislocation: The Basics

A 93 year old man with a history of bilateral total hip arthroplasty was putting on his left sock in the morning when he heard a "thunk" and felt a sharp pain in his left hip. The pain was so intense, and his hip felt so unstable, that he could not bear any weight on his left leg. He also noticed a bulging deformity of his left hip that was not present before the pain, and his left leg was internally rotated and could not be straightened. The patient was completely independent in all of his ADLs prior to this injury, but lived alone and could not get help for eight hours after the incident. Physical examination and x-rays revealed that the patient had a posteriorly dislocated left hip. All of the following are true about hip dislocations EXCEPT:

- A. Contact sports account for a significant number of hip dislocations.
- B. 80 to 90% of dislocations are anterior
- C. Dislocations are most often caused by motor vehicle accidents
- D. Timely reduction plays a significant role in reducing later complications and associated comorbidity
- E. The hip is the most commonly dislocated joint of the lower extremity, with an incidence of 5.2%



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Figure 2: A common reduction technique uses the physician's knee as a fulcrum to create traction, causing the patient to assume the pose of our friend, Captain Morgan.
<http://regionstraumapro.com/post/10201631357>

Take Home Points

- The most common cause of hip dislocation is trauma, specifically MVAs.
- Posterior hip locations are the most common type of hip dislocation.
- There must be a high suspicion for life-threatening sequelae as a great deal of force is required to dislocate a hip.
- After patients arrive in the hospital and other injuries have been ruled out, reduction must take place as soon as possible as any delay can damage the neurovascular structures associated with the hip.

Hip Dislocation

The correct answer is B. Anterior hip dislocations account for only 10-20% of all hip dislocations. The hip is the most commonly dislocated joint of the lower extremity. High-energy blunt force trauma is the most common cause, although prosthetic hip joints may dislocate with much less force. Motor vehicle accidents are the most common cause of hip dislocations, with contact sports following in a distant second place. In the setting of trauma, life-threatening injuries to the pelvis, abdomen, chest, and head should be ruled out before treatment for dislocation is performed.

Presentation:

Patients with a hip dislocation will present with significant pain on active or passive movement. Posterior and anterior dislocations have classic presentations:

- Posterior: The hip is flexed, internally rotated, and adducted.
- Anterior: The hip is minimally flexed, externally rotated and markedly abducted

Patients will have significantly reduced range of motion due to pain. Normally, painless range of motion will exclude hip dislocation. A thorough neurovascular examination should be undertaken as the sciatic nerve and femoral nerve may have become damaged from the dislocation.

Workup:

Following physical examination, imaging is the most important step in the workup. A portable anteroposterior (AP) pelvis radiograph is often ordered as part of an initial trauma workup. If physical examination and the AP radiograph do not reveal whether the dislocation is anterior or posterior, a lateral radiograph will aid in diagnosis.

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and click on the "Conference" link. All are welcome to attend!

A CT scan is an accurate test for diagnosing hip injuries, except in patients with prosthetic hips where streak artifact obscures the image. A CT scan can accurately determine the type of dislocation as well as the presence of vascular damage, a common comorbid condition. However, a radiograph will be enough, in most instances, to diagnose a dislocation. Waiting for a CT scan should not delay reduction, but may be helpful post-reduction to diagnose any lingering sequelae.

Treatment

Reducing the dislocation in the field is strongly discouraged as the cause of the injury is most often trauma, and the full spectrum of accompanying injuries will not be fully appreciated. Before arrival in the ED patients must be hemodynamically stabilized. In a trauma setting, hip dislocations are often an indication of further damage to the pelvis, a highly vascularized structure. Therefore, there must be a high degree of suspicion of internal bleeding, and this should be ruled out before reduction. Once bleeding or any other life threatening injuries have been ruled out, the hip must be reduced as quickly as possible. If there is evidence of a neurologic deficit, reduction of the dislocation is even more urgent. If there is no associated fracture, reduction of simple hip dislocations are within the scope of most emergency medicine physicians. An orthopedic surgeon can be consulted, but reduction should not be delayed more than 6 hours. Attempts at reduction are often futile if procedural sedation is not utilized, because patients are in too much pain to relax. More than three attempts at closed reduction in the ED are not recommended, as the risk of avascular necrosis is increased with each attempt. If reduction cannot be achieved, the patient should be taken to the operating room. After successful reduction, a repeat radiograph should be taken to confirm successful placement. Patients will still be in significant pain after reduction, and thus will require continued pain relief. Patients will be non-ambulatory and will likely need admission.

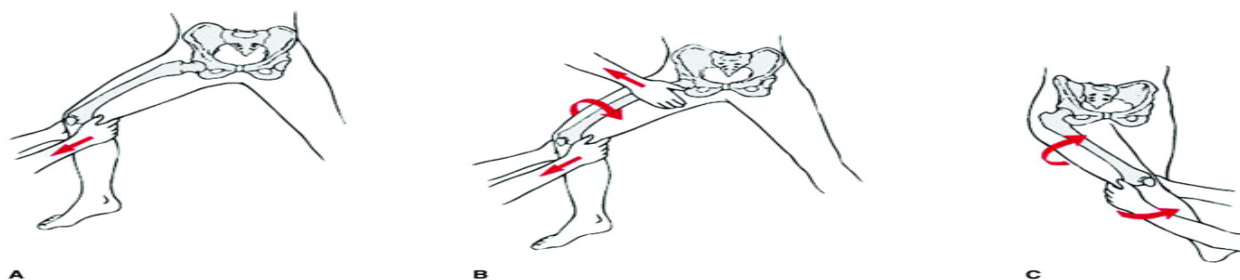


Figure 3: an anterior dislocation reduction technique. <http://z0mbie.host.sk/Hip-Dislocations.html>

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ABOUT THE AUTHOR:

This month's case was written by Devin Kearns. Devin is a 4th year medical student from NSU-COM. He did his emergency medicine rotation at Broward Health North in November 2015. Devin plans on pursuing a career in Family Medicine after graduation.