

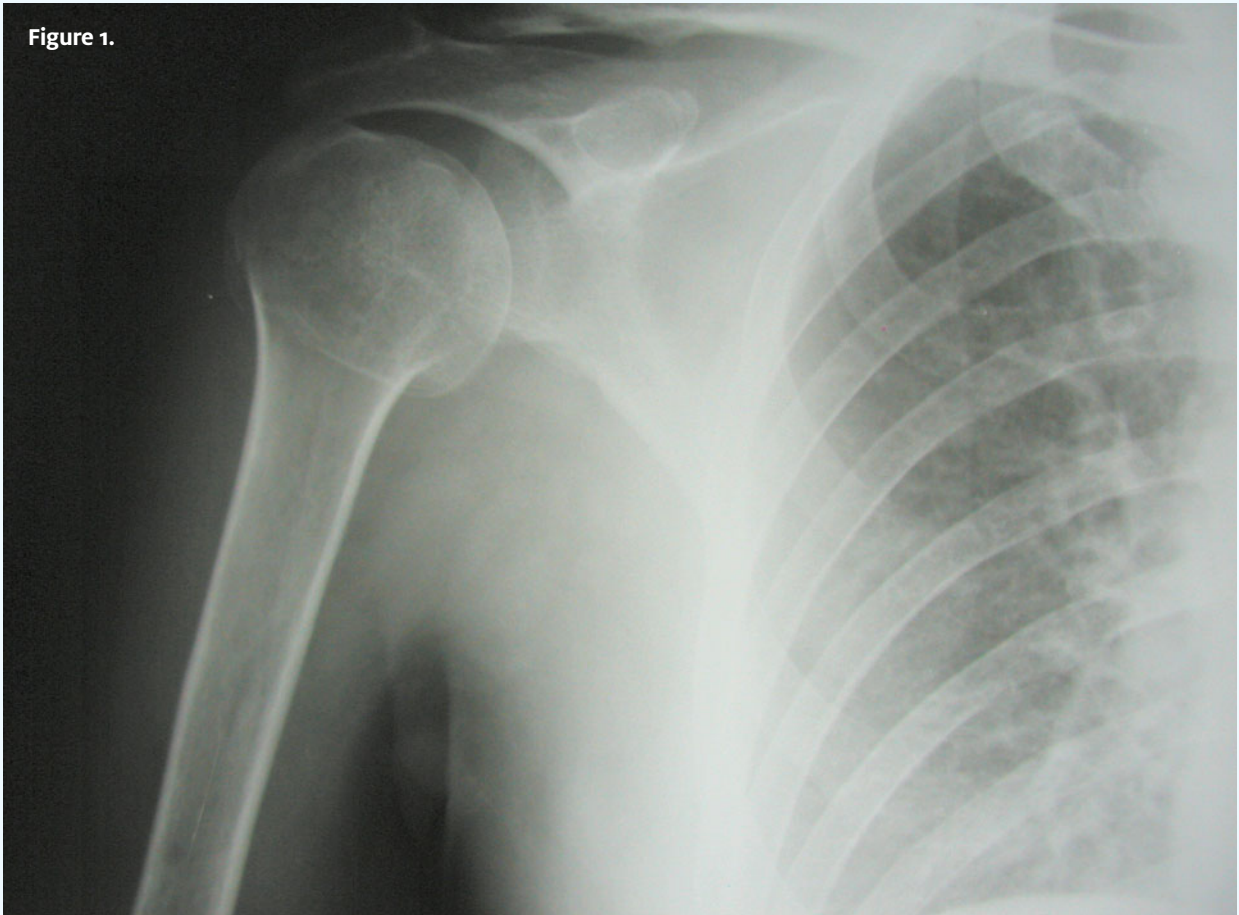


In each issue, *JUCM* will challenge your diagnostic acumen with a glimpse of x-rays, electrocardiograms, and photographs of conditions that real urgent care patients have presented with.

If you would like to submit a case for consideration, please e-mail the relevant materials and presenting information to [editor@jucm.com](mailto:editor@jucm.com).

## Shoulder Pain in a 62-Year-Old After a Fall

Figure 1.



### Case

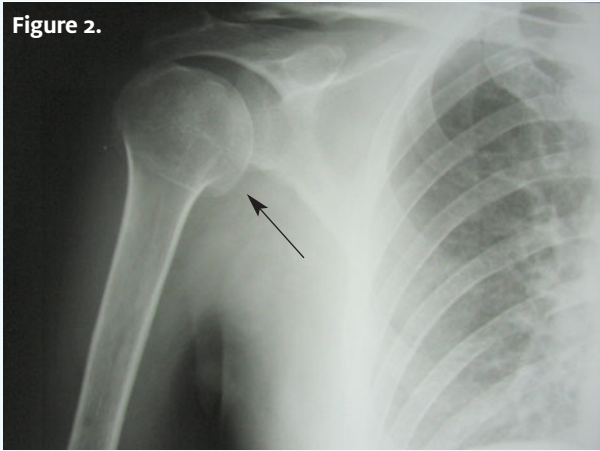
A 62-year-old man presents with right shoulder pain that began the previous evening after he fell in his garage. The pain is worse with movement through the range of motion. He has no pain in the elbow and says that he has no head pain or head injury. His social history reveals that he is a smoker and drinks alcohol.

View the image taken (**Figure 1**) and consider what your diagnosis would be.

Resolution of the case is described on the next page.

## THE RESOLUTION

Figure 2.

**Differential Diagnoses**

- Pathologic fracture
- Clavicle fracture
- Shoulder dislocation
- Pneumothorax
- Pulmonary contusion

**Physical Examination**

On physical examination, the patient is afebrile and to have a pulse of 132 beats/min, a respiration rate of 24 breaths/min, and a blood pressure of 162/96 mm Hg. He is alert and oriented. He winces whenever he moves his right shoulder. Both lungs are clear on auscultation. His heart rate and rhythm are regular, without murmur, rub, or gallop. His abdomen is soft and nontender, without rigidity, rebound, or guarding.

His right shoulder has an abrasion on the lateral aspect, and he experiences generalized pain on palpation. However, he has no pain at the distal clavicle or scapula. There is not an empty sulcus sign. He does not have elbow pain on palpation. His neurovascular status is intact, with a 2+ right radial pulse.

**Diagnosis**

A humerus x-ray (**Figure 2**) is ordered. Image findings indicate a diagnosis of proximal humerus fracture.

**Learnings**

Proximal humerus fractures occur frequently, accounting for 5.7% of all fractures in adults. These fractures occur more commonly in women (70%) and the elderly, with the average age in the latter group being 64.8 years, because this is typically an osteoporotic fracture. About half of the fractures are displaced, and most are at the surgical neck.

**What to Look For**

Factors from the medical history to consider include the mechanism and reason for the fall. Inquire about pain in the elbow, wrist, hand, and neck. Differentiate the reason for the injury: syncope or mechanical fall. Consider seizure as a cause.

These history points are suggestive of syncope:

- Preceding nausea or diaphoresis
- Oriented on waking (supine)
- Age >45 years
- Prolonged sitting or standing before the fall
- Congestive heart failure or coronary artery disease

These are suggestive of seizure:

- A history of seizures
- Tongue biting
- Postictal state
- Age <45 years
- Preceding aura
- Observed seizure activity—not myoclonic activity

Important elements of the physical examination include assessing for neurovascular compromise, determining the location and exacerbation of pain, and inquiring as to tetanus status if there is an associated laceration. As with all fractures, examination of the distal joint and proximal structures and documentation of neurovascular status are important. With a proximal humerus fracture, the axillary nerve is the nerve most commonly injured. Its function may be assessed by checking sensation over the deltoid muscle.

Imaging generally involves an x-ray, which should demonstrate a fracture. It is important to exclude a dislocation, associated pneumothorax, pathologic fracture, and multiple rib fractures, which may indicate a more serious injury.

Management even for significantly displaced fractures is non-surgical, with an arm sling and pain control. Orthopedic or primary-care follow-up in 3 to 4 days is recommended.

Transfer to an emergency department should be done immediately with the following:

- Open fractures
- A concerning mechanism of injury such as major trauma from a motor vehicle collision
- Consideration of elder abuse
- Associated pneumothorax
- Unstable vital signs ■

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## Shoulder Pain in a 42-Year-Old After an Attempt to Stop a Fall



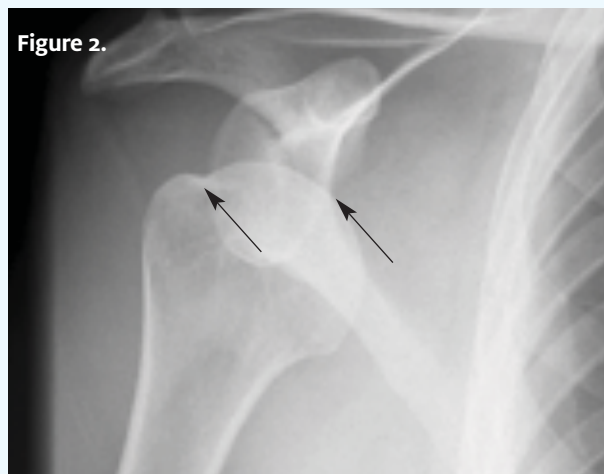
### Case

A 42-year-old woman presents with pain in her right shoulder that suddenly began after she caught herself with her raised right arm as she fell. She reports that she had been standing on a step stool and reaching for an object, and then fell forward. She has severe pain in the right shoulder, and it worsens with movement even through a minimal range of motion. She has associated numbness over the lateral portion of her upper arm. She does not have fever, vomiting, chest pain, shortness of breath, abdominal pain, any head injury, or head or neck pain.

View the image taken (**Figure 1**) and consider what your diagnosis would be.

Resolution of the case is described on the next page.

## THE RESOLUTION

**Differential Diagnoses**

- Posterior shoulder dislocation
- Pathologic fracture
- Scapular fracture
- Acromioclavicular joint separation
- Inferior shoulder dislocation

**Physical Examination**

The patient's medical history reveals no previous illnesses. She is a smoker and occasionally drinks alcohol. On physical examination, the patient is found to be afebrile and to have a pulse of 112 beats/min, a respiration rate of 24 breaths/min, and a blood pressure of 138/92 mm Hg. She is alert and oriented, is in no acute distress, and is breathing comfortably but slightly faster than normal. Both her lungs are clear on auscultation. Her heart rate and rhythm are regular, and she has no murmur, rub, or gallop. Her abdomen is soft and nontender, without rigidity, rebound, or guarding.

Her right shoulder appears distorted, with a slight divot where the humeral head is normally palpated, resulting in a squared-off appearance. Sensation is intact in the distribution of her axillary nerve. Her radial pulse is 2+. She reports no pain in her right shoulder or clavicle on palpation.

**Diagnosis**

A chest x-ray is ordered, and it confirms (**Figure 2**) that an anterior shoulder dislocation with a Hill-Sachs lesion is the correct diagnosis. Note the shoulder dislocation, with the humeral head displaced from the glenoid fossa, and the deformity from a compression fracture of the humeral head (Hill-Sachs lesion).

**Learnings**

The shoulder joint is the most commonly dislocated joint, most often anteriorly. Other types of shoulder dislocation include posterior and inferior (luxation erecta). A typical mechanism of injury for an anterior dislocation includes stress on an externally rotated and abducted shoulder.

A posterior dislocation may occur when there is an acute force directed toward the anterior shoulder (proximal humerus) and pushing the head of the humerus posteriorly. Other mechanisms of posterior dislocation include falls, electric shock, and a seizure. Approximately 90% of shoulder dislocations are traumatic, with recurrence rates of up to 90% in athletes and in patients younger than 20 years of age.

**What to Look For**

If the mechanism was from a fall, there may be other injuries. Inquire about pain in the elbow, wrist, hand, head, and neck. Differentiate a mechanical fall from a syncopal episode or a seizure, which may result in a posterior dislocation or bilateral posterior dislocations. If there was an altercation, inquire about other injuries, any police report, and the possibility of physical abuse. Assess for neurovascular compromise by asking about numbness or disproportionate pain. Localize the area of greatest pain. Inquire about what makes the pain worse, such as movement, breathing, or palpation.

First inspect the shoulder for the presence of a visible deformity and compare it with the other shoulder. Assess the integrity of the skin and look for swelling. The humeral head can often be palpated anteriorly (below the coronoid process). Evaluate range of motion and neurovascular status.

Assessing the position of the arm may provide clues to the type of dislocation:

- Anterior dislocation—abduction and external rotation
- Posterior dislocation—adduction and internal rotation
- Inferior dislocation—abduction with flexed elbow and hand on or behind the head (the patient will appear to be in severe pain). Note that it may be possible to palpate the humeral head on the lateral chest wall.

Most patients will require transfer to an emergency department for a definitive diagnosis. Transportation may be done by private automobile for patients who are hemodynamically stable, are not in respiratory distress, and have a good social support network. Experienced health-care providers can reduce the shoulder in the urgent care setting before transfer. ■