



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.

Clavicular Pain in a 23-Year-Old



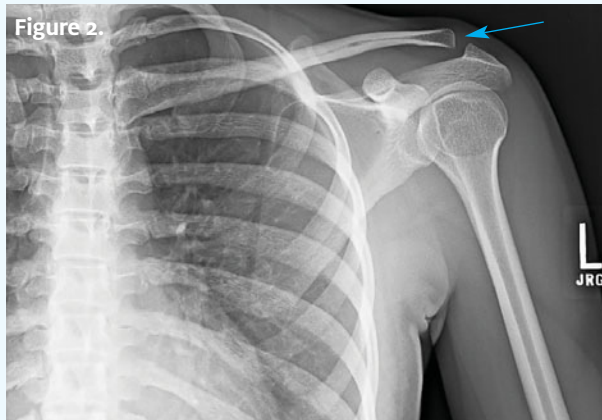
Case

A 23-year-old man presents to an urgent care with pain at the distal end of his left clavicle that began the previous day after he fell onto his left shoulder while mountain biking. His pain is constant and sharp and worse when moving his left arm and shoulder. He does not have fever, vomiting, chest pain, shortness of breath, or abdominal pain, and he has no head injury, no head or neck pain, and no history of previous illnesses.

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 Diagnosis

- Clavicular fracture
- Shoulder strain
- Fracture of the humerus
- Dislocation of the humerus
- Pneumothorax

Physical Examination

On physical examination, his vital signs are as follows: temperature, 98.6°F (37°C); pulse rate, 112 beats/min; respiration rate, 24 breaths/min; blood pressure, 138/92 mm Hg; and oxygen saturation, 94% on room air. He is alert and oriented, is not in acute distress, and is breathing comfortably. He has no pain on palpation of the posterior cervical spine. He does have pain on palpation at the acromioclavicular joint and minimal swelling at the site, but there are no cuts or breaks in the skin.

Diagnosis

A chest x-ray is obtained (**Figure 2**) that shows an acromioclavicular joint injury. Note that the distal clavicle and acromion are not approximated, and there is approximately 50% vertical displacement, which means that this is a Rockwood type 3 injury. Rockwood classification is as follows:

- **Type 1:** The acromioclavicular joint is intact. Treatment can usually be done on an outpatient basis and is conservative.
- **Type 2:** There is slight vertical separation of the acromioclavicular joint. Treatment is conservative.
- **Type 3:** The acromioclavicular ligament is disrupted and the acromioclavicular joint is dislocated. The coracoclavicular distance for the injured joint is 25% to 100% greater than for the uninjured joint. Treatment for these injuries is controversial, but they are usually treated conservative initially.
- **Type 4:** The acromioclavicular joint is dislocated, the coracoclavicular ligaments are completely torn, the clavicle is

displaced into the trapezius, and the deltoid and trapezius are detached from the distal clavicle. Treatment for these injuries is surgical repair, and a lidocaine injection may decrease pain.

- **Type 5:** The coracoclavicular distance for the injured joint is 100% to 300% greater than for the uninjured joint. Treatment is the same as for type 4.
- **Type 6:** The acromioclavicular joint is dislocated, and the clavicle is in the subcoracoid position. Treatment is the same as for type 4.

Learnings

An acromioclavicular separation is typically caused by a traumatic fall onto the affected shoulder, such as during sports or motor vehicle accidents. The bony approximations superior to the humerus are the distal clavicle and acromion, and the medial approximation is the glenoid cavity. The acromion and clavicle are held together by strong ligaments, which may be stretched or torn with injury. The acromioclavicular ligament provides horizontal stability, whereas the coracoclavicular ligaments provide vertical stability. As with all shoulder injuries, adjacent structures may be damaged. A fracture may occur at the proximal humerus or glenoid cavity.

- **The axillary nerve:** This nerve runs below the humeral head and is the most commonly injured nerve in shoulder dislocations. It innervates the deltoid and teres minor muscles and skin over the lateral shoulder. Assess its function by checking sensation over the deltoid muscle.
- **The axillary artery:** Confirm the presence of the distal pulses.

What to Look For

When performing the physical examination, look for the following.

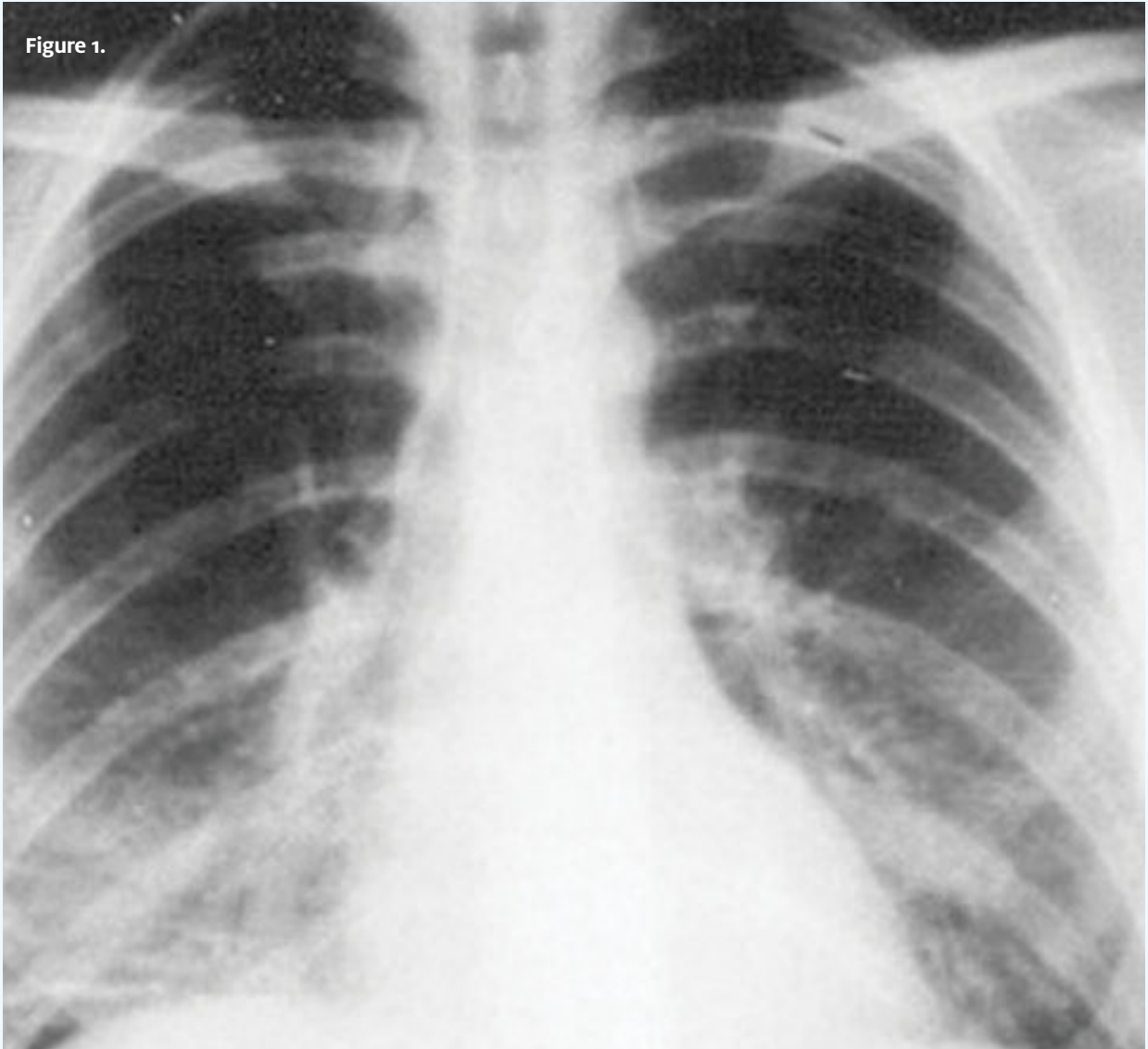
- Mechanism of injury
- Location and exacerbation of pain
- Appearance
- Range of motion
 - Assess abduction and adduction.
 - Assess internal and external rotation.
- Neurovascular status
- The one-finger test: Findings on this test are positive when the practitioner asks the patient to point to the area of greatest pain and they point directly to the acromioclavicular joint.

X-ray views to be obtained are the anteroposterior view, the lateral view, and the axillary view, the latter of which is needed to diagnose Rockwood type 4 injuries. ■



Ten-Day Dry Cough in a 36-Year-Old Man

Figure 1.



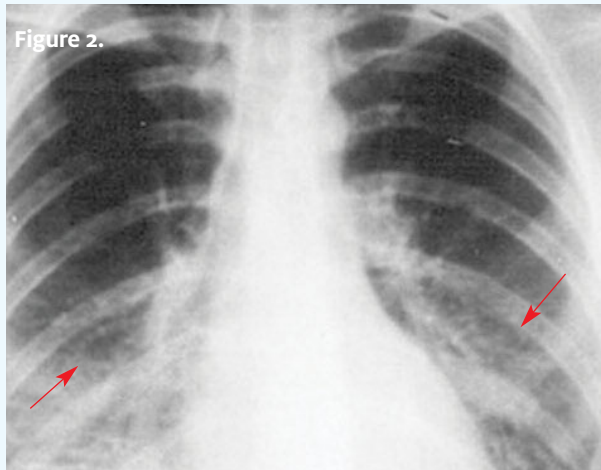
Case

A 36-year-old man presents to an urgent care center with a dry cough that he has had for the preceding 10 days. He has mild dyspnea. He has no rhinorrhea, fever, chest pain, blood in the urine or stool, or lower-extremity pain or swelling. He has no history of previous illnesses. He smokes cigarettes, occasionally drinks alcohol, and has a remote history of intravenous drug use.

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 Diagnosis**

- Pneumococcal pneumonia
- Pneumothorax
- Pulmonary mass
- Mediastinitis
- Aortic dissection

Physical Examination

On physical examination, his vital signs are as follows: temperature, 101.2°F (38.4°C); pulse rate, 108 beats/min; respiration rate, 24 breaths/min; blood pressure, 112/82 mm Hg; and oxygen saturation, 94% on room air. He is alert and oriented, is in no acute distress, and is breathing comfortably but slightly faster than normal. His lungs are clear to auscultation. His heart rate and rhythm are regular, and there is no murmur, rub, or gallop.

Diagnosis

A chest x-ray is obtained (**Figure 2**) that shows the fairly symmetric bilateral infiltrates of pneumocystis pneumonia (PCP). There is no evidence of a lobar infiltrate, pleural effusion, parapneumonic effusion, or pneumothorax.

Learnings

PCP is caused by a fungus-type organism called *Pneumocystis jiroveci*, which was previously called *Pneumocystis carinii* (a parasite). PCP commonly occurs in immunocompromised hosts, generally as a result of acquired immunodeficiency syndrome (AIDS), first recognized in men who have sex with men and in intravenous drug users in 1981. PCP is an AIDS-defining illness and may be the initial presentation of human immunodeficiency virus (HIV) or AIDS in patients who did not know they were HIV-positive. The incidence has decreased with the advent of antiretroviral therapy and use of medications for prophylaxis. For

example, between 1994 and 2007, the incidence of opportunistic infections decreased from 89% to 13%.

Pneumocystis jiroveci, originally thought to be a protozoan, is actually a yeast-like fungus, spread through the air. It is ubiquitous; most children have antibodies for it at a young age, with 80% having evidence of exposure by the age of 13. The most common site of infection is pulmonary, but infection may occur in extrapulmonary sites as well, such as the skin, lymph nodes, spleen, and brain. PCP is most likely in patients with AIDS, as defined by a CD4 count of <200 cells/mm³, a CD4 percentage of <14%, or an AIDS-defining illness such as PCP, cerebral toxoplasmosis, esophageal candidiasis, cytomegalovirus retinitis, or mycobacterium avium complex.

Risk factors include immunosuppression, typically in patients with AIDS, though it may also occur in those with malignancies, those who have undergone organ transplantation, and in patients receiving immunosuppressive therapy. If there is concern for undiagnosed HIV or AIDS infection, inquire about risk factors such as these:

- High-risk behaviors such as men engaging in unprotected sex with men
- Intravenous drug use
- Hemophilia with blood transfusions
- Multiple sexual partners

Other factors with undiagnosed AIDS may include the following:

- Lymph node swelling
- Weight loss
- Skin rashes

What to Look For

Pay particular attention to temperature, tachypnea, tachycardia, and hypoxia. Findings on the lung examination may be normal or may reveal rales (crackles), rhonchi, or bronchial breath sounds. Evaluate the state of hydration through such findings as poor skin turgor, dry mucous membranes, and lack of urine output.

The following testing should be done.

- Chest x-rays
- Computed tomography scanning
- Oxygenation
- Laboratory tests:
 - HIV testing
 - CD4 count testing

All patients with a new diagnosis of PCP must be transferred to an emergency department for admission and bronchoscopy to confirm the diagnosis. ■