



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 email the relevant materials and presenting information to [editor@juqm.com](mailto:editor@juqm.com).

## A 17-Year-Old Male with Knee Pain After a Fall



Figure 1.

### Case

The patient is a 17-year-old male who presents to urgent care with anterior knee pain after a fall while mountain biking. However, he states that he'd been experiencing pain for an indeterminate period of time before the incident that preceded his visit.

View the image taken (**Figure 1**) and consider what your diagnosis and next steps would be. Resolution of the case is described on the next page.

## THE RESOLUTION



Figure 2.

### Differential Diagnosis

- Achondroplasia
- Aseptic necrosis
- Meniscus tear
- Osteochondritis dissecans of the medial femoral condyle
- Punctate epiphyseal dysplasia

### Diagnosis

The image shows osteochondritis dissecans of the medial femoral condyle, which occurs most typically in patients between 9 and 18 years of age.

### Learnings

- Osteochondritis dissecans (OCD) of the medial femoral condyle is often the result of repetitive injury or growth disturbances
- The knee, talar domes, and elbows are common locations, though it can occur in other locations
- Typical OCD lesions appear as a semilunar bone fragment along the articular surface separated from the parent bone by a lucent zone
- The OCD lesion is caused by loss of blood supply to the subarticular bone leading to a focal bone necrosis. Absorption

of the necrotic bone deprives the support to overlying articular cartilage, which becomes prone to trauma, tears and fissures

- Symptoms include pain, limited mobility of the joint, and locking

### Pearls for Urgent Care Management and Consideration for Transfer

- Treatment and prognosis vary according to the age of the patient
- In children with nondisplaced fractures, initial treatment includes limitation of activity with the use of crutches and restricted range of motion
- Nonopioid pain medication and nonsteroidal anti-inflammatory drugs may control discomfort and swelling
- Normal activity may be resumed upon healing of the OCD lesion, and when quadriceps strength has returned to within normal limits
- If symptoms do not resolve in 6–12 months, surgical treatment may be required

*Acknowledgment: Images courtesy of Teleradiology Specialists.*



# A 42-Year-Old Man with a ‘Flipping’ Sensation in his Heart

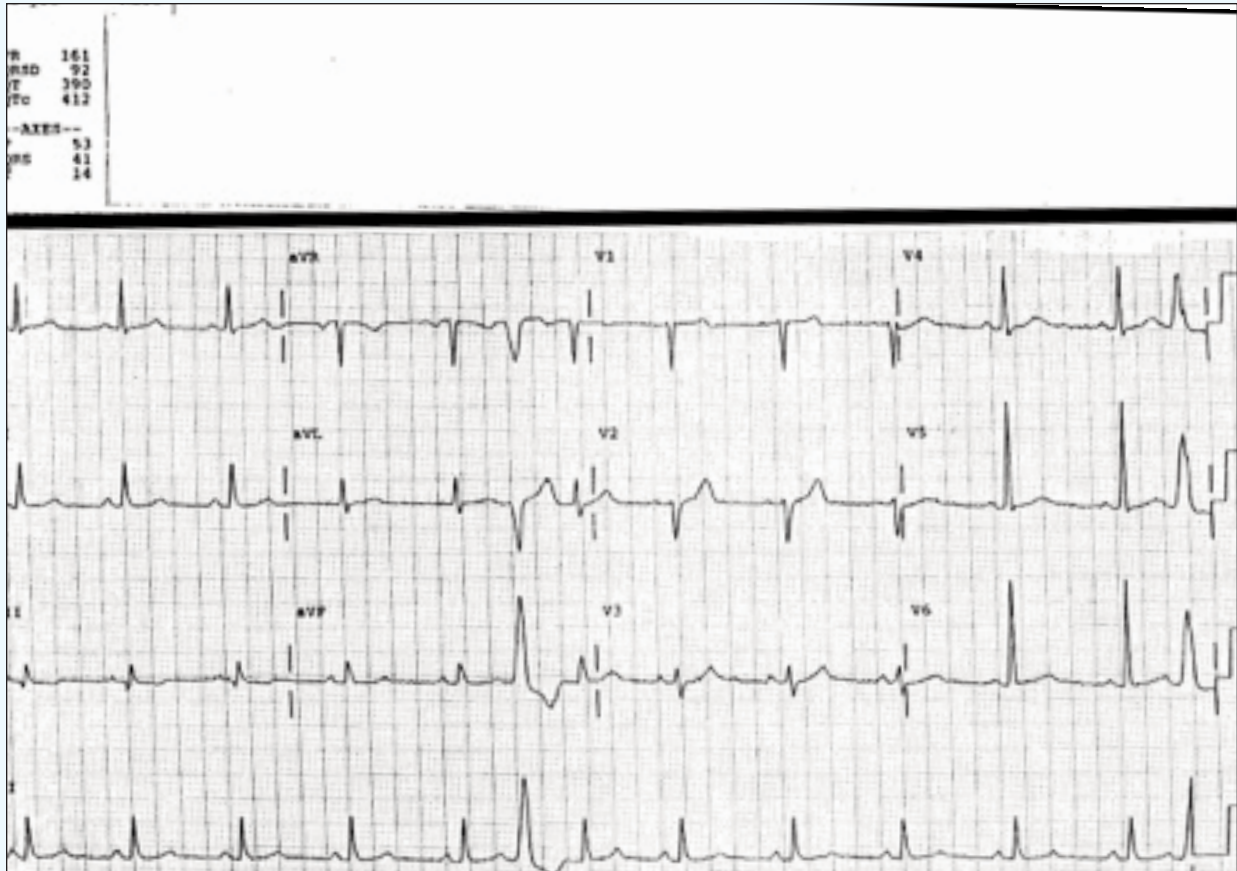


Figure 1.

## Case

The patient is a 42-year-old man with a sensation he describes as his heart “flipping” intermittently for the last 3 days. He denies chest pain, shortness of breath, diaphoresis, or dizziness.

Upon exam, you find:

- **General:** Alert and oriented X 3, sitting comfortably in a chair
- **Lungs:** CTAB

- **Cardiovascular:** RRR without murmur, rub, or gallop

- **Abdomen:** Soft and NT

View the ECG taken and consider what the diagnosis and next steps would be. Resolution of the case is described on the next page.

## THE RESOLUTION



Figure 2.

**Differential Diagnosis**

- Multifocal atrial tachycardia (MAT)
- Wolff-Parkinson-White (WPW)
- Inferior ischemia
- Multiple premature ventricular contractions (PVCs)
- First-degree AV block

**Diagnosis**

The patient is experiencing multiple premature ventricular contractions (PVCs). The ECG reveals wide complex, intermittent, beats consistent with premature ventricular contractions.

The normal PR interval is 120-200 ms; in this ECG it is 161ms, so there is not a first-degree AV block. The underlying rhythm is a regular sinus rhythm, so MAT is not occurring. The inferior leads are II, III, and aVF, but they do not demonstrate ischemic changes such as T wave inversion or ST segment changes; the patient does not have inferior ischemia. WPW is characterized by a short PR interval and a delta wave; neither are present in this ECG.

**Learnings/What to Look for**

- A PVC is a wide complex beat, originating in the ventricle
- Patients with palpitations commonly have an ECG tracing performed, but it is difficult to correlate the presence of PVCs with palpitations, as many patients have asymptomatic PVCs
- If the history is not suggestive of ischemia or an electrolyte abnormality, no further evaluation is necessary for PVCs

**Pearls for Urgent Care Management and Considerations for Transfer**

- Compare to a previous ECG, if available
- Correlate the presence of PVCs with the patient's symptoms (if they are placed on a monitor). If there is suspicion of an electrolyte abnormality based on medications or GI losses (vomiting or diarrhea), then blood work can be considered. For isolated PVCs, no further evaluation is necessary
- Multiple PVCs occurring back to back may be from intermittent ventricular tachycardia (VT)—if a patient is symptomatic or having "runs" of VT, then emergent transfer to an ED is indicated



## A 34-Year-Old Woman with an Unidentified Insect Sting

Figure 1.



### Case

The patient is a 34-year-old woman who has just returned from the first camping trip of the year with her family. She relays that 2 days earlier, as she as she was setting up a tent, she “got stung” by something she didn’t see. As she struggled to free herself of the tent fabric, she was stung several more times on her hand and arm. She never saw the culprit. Not long after, she began vomiting and saw that her skin was erythematous.

View the photo and consider what your diagnosis and next steps would be. Resolution of the case is described on the next page.

## THE RESOLUTION

Figure 2.

**Differential Diagnosis**

- A. Fire ants
- B. Lyme disease
- C. Spider bite
- D. Wasp sting

**Diagnosis**

This woman suffered multiple stings from a wasp. Because their stingers do not have barbs, as a bee's stinger does, wasps are able to sting repeatedly. This is most likely to occur when they're trapped in clothing (or, in this case, a tent).

**Learnings**

- Wasp venom contains enzymes, small peptides, and amines. Allergens include phospholipases, hyaluronidases, and cholinesterases
- Some peptides cause histamine release by degranulating mast cells; histamine, along with serotonin and acetylcholine, contribute to the pain associated with wasp stings
- Anaphylactic reactions cause diffuse urticaria, pruritus, angioedema, bronchoconstriction, respiratory distress, hypotension, loss of consciousness, and cardiac arrhythmias

**Pearls for Urgent Care Management and Considerations for Transfer**

- Life-threatening, anaphylactic signs typically occur within 10 minutes of the sting. Patients who present days or even hours after a sting should receive symptomatic treatment geared toward reducing discomfort
- Wash the area of the sting with soap and water to remove as much venom as possible
- Apply cold packs to reduce swelling and pain
- Keep the wound clean and dry to prevent infection
- A bandage may be used to cover the wound