

# **Investigation 3.3**

**3.3A: Rib Area Pain**

**3.3B: Shingles**

## Investigation

# 3.3A: Rib Area Pain

### 1. Introduction:

When a patient presents with pain in their chest or ribs, as their physician, must sort out the origin of that pain. Does their pain come from the skin overlying the ribs, from the muscles between the ribs, from the organs directly under the ribs, or from the ribs themselves?

The ribs function as a protective boney cage that guards the vital organs beneath. If you get hit in the ribs by a ninety-mile-per-hour fastball, the impact can break one or more ribs and injure the organs below. If the rib breaks completely it can puncture a lung, a very serious injury. Sometimes a rib can **fracture** simply from turning in such a way as to put too much stress on the weakest part of this long, thin, curved bone. But many other conditions can cause pain in the area of the ribs. Your job, as always, is to investigate the possibilities and come up with the diagnosis.

You have enjoyed a wonderful few days off, but today you must head to the office and pay the price. Whenever you take a holiday the first day back in the office proves exhausting, because you need to see everyone in your practice who has developed new symptoms while you relaxed. As you come through the door your medical office receptionist shoves the list of appointments at you before even saying, "Welcome back." You understand, of course, that your receptionist has spent hours on the telephone with your patients trying to make sure everyone with urgent needs got the attention of the doctor who routinely covers for you. If the symptoms did not seem urgent, that patient went on your list.

The first name on the list actually pleases you. Professor Edwin Bristol, retired, a computer scientist, makes you glad to have your job because he always gives you a thorough history and sincerely appreciates your efforts to keep him healthy and active.

### 2. Chief Complaint:

Today Ed sits on the examination table in Exam Room 1, and is not displaying his characteristic smile and jovial nature. "What's wrong Ed?" you ask.

He answers, "Doc, I have been in misery for two days. I have a burning pain in my ribs on the right side that will not go away. I can't sleep. I have no **appetite**. All I can do is sit in my chair and suffer."

You quickly review the new chart notes left by your nurse:

Weight: 178    BP: 158/92    Pulse: 88    Respirations: 19    Temp: 98.4 F.

Then you ask, “What started this Ed?”

“I don’t know. I don’t remember anything hitting my ribs. I did move some furniture for my wife about four days ago, but I don’t remember feeling like anything strained or pulled while I was helping her. I can’t figure it out.”

You are thinking very hard about what could be happening to Ed.

What Ed says next explains why Ed has become a favorite patient of yours. He uses his computer skills to try to figure out himself what has happened to his body.

“I ran my symptoms through the Isabel Healthcare symptom checker on the internet [<http://symptomchecker.isabelhealthcare.com/home/products>] and they said I might have **fibromyalgia**, food poisoning, vitamin B12 deficiency, lung cancer, **depression**, restless leg **syndrome**, a **brachial plexus** injury, **concussion**, mono-**neuropathy** multiplex, sleep **apnea**, **shingles**, **stroke**, **multiple sclerosis**, general **anxiety** disorder, iron deficiency **anemia**, or about 20 other things that included diabetic neuropathy. I do have that borderline Type II **Diabetes** that you found, but I am staying on the diet you gave me. Could this be coming from my diabetes?”

The Isabel Healthcare website had certainly kicked out a wide array of possible causes for Ed’s chief complaint. You know your knowledge and diagnostic skills will be tested to whittle down that list into a workable differential diagnosis in order to come up the diagnosis and solution.

You next get Ed to remove his shirt. After a quick exam of his normal heart and lungs you ask him to point out where he feels his discomfort. There is not much to see. Ed has dark skin and it looks perfectly normal. You **palpate** along the right T-6 rib and Ed confirms you got the right area, but your touch does not seem to **elicit** worse pain. The area of discomfort seems to follow along that single rib perhaps 6-8 inches in length. Nothing appears bruised or injured anywhere else on his arms or **thorax**. Lymph nodes in the right armpit, however, are not **palpable** or enlarged.

You clearly want to figure out the cause so you can get Ed back to normal, but you do not see anything life threatening, and this day in the office has a full schedule. So you decide to give Ed some serious pain medicine so he can sleep and ask him to come back to see you in two days. You tell Ed that a strained muscle or a sprain will resolve and the pain medicine will allow time for that to happen. If the pain persists you will need to do a more thorough examination and some extensive testing, but it will take time to set all of that up. In the meantime, you ask him to call the office if anything changes.

The rest of the day meets your expectations of hectic. You drag yourself home at its end, and head to bed much earlier than usual. The next morning when you sit down at your desk to start another day at your office, you see a note from your receptionist that says Ed’s wife phoned to say Ed has a rash and a few blisters all along that rib, and it still hurts. He experienced diarrhea this morning as well. Are these new clues helpful in making your diagnosis?

### 3. Review of Systems:

A review of Ed's medical history reveals that he had measles and chicken pox as a child. Your chart indicates he is borderline diabetic and he has managed his diabetes as your patient of the past 9 years with strict diet control. He has no history of fractured ribs, abdominal pain, or chest pain.

| Disorder               | Acute/<br>Chronic | Pain ↑<br>moving/<br>breathing | Swollen<br>lymph<br>nodes | Head<br>aches | rash | Uni or<br>bi-<br>lateral | Stiff<br>joints | Numb<br>ness | blisters | Dia-<br>rhea |
|------------------------|-------------------|--------------------------------|---------------------------|---------------|------|--------------------------|-----------------|--------------|----------|--------------|
| Muscle strain          | A                 | X                              |                           |               |      | U                        |                 |              |          |              |
| Rib Fracture           | A                 | X                              |                           |               |      | U                        |                 | X            |          |              |
| Fibromyalgia           | C                 | X                              |                           | X             |      | U/B                      | X               |              |          | X            |
| Food poisoning         | A                 |                                | X                         | X             |      |                          |                 |              |          | X            |
| Lung Cancer            | C                 | X                              | X                         |               |      |                          |                 |              |          |              |
| Brachial plexus injury | A                 | X                              |                           |               |      | U                        |                 | X            |          |              |
| Shingles               | A/C               |                                | X                         |               | X    | U                        |                 |              | X        | X            |
| Stroke                 | A/C               |                                |                           |               |      | U                        |                 | X            |          |              |
| Multiple sclerosis     | C                 | X                              |                           |               |      | U/B                      |                 |              |          |              |

### 4. Examination:

Wt: 178 lbs.    Respirations: 19 /min                      Pulse: 88 /min

Blood Pressure: 158/92                      Temperature: 98.5° F.

**Heart:** no abnormal sounds

**Lungs:** clear

**Chest exam:**

- pain elicited on palpation along the right T-6 rib for a distance of 6 – 8 inches.
- No sign of bruising or other discoloration.
- Enlarged lymph nodes right armpit.
- No palpable mass.

Remainder of exam deferred until next visit.

5. **Differential Diagnosis:** The following chart contains some of the possible conditions that may cause similar symptoms.

U = unilateral                      B = bilateral

6. **Medical Tests:** Below are some of the medical tests that might be considered to assist in the investigation.

### Investigation 3.3A: Rib Area Pain

Which test(s) would be most appropriate at this time? (check any that apply)

- X-rays** of the chest and ribs
- MRI** of the chest and ribs
- Rib Biopsy**
- CBC** blood test
- Ultrasound** of chest and ribs
- Prescription** for pain medication

#### 7. Test Results:

If you ordered a chest x-ray your report would read something like this: No fractures or dislocations are visualized. The pleural cavities are clear. Normal chest x-ray.

#### 8. Diagnosis:

Use the following workup pages to review this medical investigation. Try to put together the various pieces of the puzzle that have been provided. Then make your Diagnosis;

|  |   |
|--|---|
| Complete Blood Count (CBC)                     | High WBC count suggests infection; Low WBC count suggests immune response suppression   |
| <b>Biopsy</b> of rib                           | A sample of rib bone is taken and examined for signs of cancer or other abnormality   |
| Magnetic Resonance Imaging (MRI) of chest/ribs | Provides a layer by layer view of the entire chest area to visualize an intercostal cartilage tear or other soft tissue abnormality |
| <b>Prescription</b> for pain medication        | Blocks pain but does not cure the problem   |
| Ultrasound of chest/ribs                       | Uses sound to visualize the soft tissue structures of the chest   |
| X-Ray of ribs                                  | Shows boney structures to rule out fracture   |
| <b>CT Scan</b> of ribs                         | Uses high doses of radiation to detect rib fractures not seen on x-ray or enlarged lymph nodes.                                     |

Ed is counting on you!