Clues Beneath Symptoms

Compare bone, joint, and nerve conditions through clinical evidence

HAP.4.6 "Research and analyze various pathological conditions (e.g., bone fractures, osteoporosis, bone cancers, various types of arthritis, and carpal tunnel syndrome)."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline each condition, circle the structure it affects, and number the symptom clues and possible tests that help distinguish it from another condition.

What Does the Evidence Point To?

1. After a minor stumble, a patient has a painful, misshapen wrist. An X-ray can show a fracture, a break in bone, but it cannot by itself explain why the bone broke. Osteoporosis lowers bone density and weakens internal structure, so a low-impact fracture may prompt a bone density scan called DXA. A person can also break a bone weakened by a tumor. Osteosarcoma is a malignant bone tumor that often develops near the knee in adolescents and young adults. Persistent localized pain and swelling, sometimes before a fracture, warrant imaging and possibly a biopsy. These clues guide investigation; none alone proves a diagnosis.

2. At another clinic, two patients describe aching knees and hands. In osteoarthritis, cartilage in a joint gradually breaks down, and surrounding bone may change. Pain often worsens with use, and stiffness after rest is usually brief. Rheumatoid arthritis is different: an immune attack inflames the lining of joints. It often affects matching joints on both sides of the body, with warmth, swelling, and morning stiffness that can last more than an hour. A clinician compares symptom patterns, examines joints, and may use imaging or blood tests. A blood test alone cannot confirm or rule out rheumatoid arthritis.

3. A third patient feels tingling in the thumb, index finger, and middle finger, especially at night. Carpal tunnel syndrome occurs when the median nerve is compressed as it passes through a narrow space in the wrist. Repeated wrist positions or swelling can contribute, but symptoms do not identify the cause of compression. A clinician checks sensation and hand strength and may order nerve conduction tests. Unlike arthritis, carpal tunnel syndrome primarily affects a nerve, not the joint surface or lining. When researching these conditions, compare the affected structure, symptom pattern, and test results rather than treating one shared symptom, such as hand pain, as proof.

2 ANSWER WITH EVIDENCE

Use the passage

1. An X-ray shows a wrist fracture after a minor stumble. Why might a clinician also order a DXA scan?

2. Which clues might lead a clinician to investigate osteosarcoma rather than treating a fracture as an isolated injury? What additional test might be needed?

3. Compare osteoarthritis and rheumatoid arthritis by naming the structure or process involved and one symptom pattern that helps distinguish each.

4. Why does nighttime tingling in the thumb and first two fingers point toward a different affected structure than joint pain from arthritis? Name one way a clinician could investigate it.

3 YOUR TURN

Your own words

A 59-year-old has knee pain that worsens on stairs and wakes with tingling in the thumb and index finger. In four sentences, explain how two different conditions might account for these symptoms, name the structure each affects, suggest one way to investigate each, and explain why the symptoms do not confirm either condition.

Clues Beneath Symptoms

PART 1 · READ AND MARK

Underline each condition, circle the structure it affects, and number the symptom clues and possible tests that help distinguish it from another condition. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	An X-ray shows a wrist fracture after a minor stumble. Why might a clinician also order a DXA scan?	**The X-ray shows the break but not why the bone broke. A DXA scan can assess low bone density associated with osteoporosis.**
2	Which clues might lead a clinician to investigate osteosarcoma rather than treating a fracture as an isolated injury? What additional test might be needed?	**Persistent localized pain and swelling, especially before a fracture, could raise concern about a bone tumor. Further imaging and possibly a biopsy might be needed.**
3	Compare osteoarthritis and rheumatoid arthritis by naming the structure or process involved and one symptom pattern that helps distinguish each.	**Osteoarthritis involves cartilage breakdown and often causes pain that worsens with use and brief stiffness. Rheumatoid arthritis involves immune-driven inflammation of the joint lining and often causes warm, swollen joints on both sides with prolonged morning stiffness.**
4	Why does nighttime tingling in the thumb and first two fingers point toward a different affected structure than joint pain from arthritis? Name one way a clinician could investigate it.	**That tingling can point toward median nerve compression in carpal tunnel syndrome rather than a problem with a joint surface or lining. A clinician could check sensation or order nerve conduction tests.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Knee pain that worsens with use could fit osteoarthritis involving joint cartilage, while nighttime thumb and index finger tingling could fit carpal tunnel syndrome involving the median nerve. A clinician could examine the knee and consider imaging for joint changes. Checking hand sensation or ordering nerve conduction tests could investigate median nerve compression. These symptoms do not confirm either diagnosis because other conditions can also cause knee pain or tingling.

Accept other passage-supported investigations, such as examining joints or checking hand strength. Responses should treat the conditions as possibilities, not confirmed diagnoses.