Educational Objectives:

1. Describe the differential diagnosis framework of hand and wrist pain using key components of the history and physical exam
2. Identify common causes of wrist pain and their initial management
3. Review common causes of hand pain and their initial management

Note:
Before starting this chapter, make sure learners have done some homework prior on the anatomy of the wrist and hand. They can visit the following sites:

- American Society for Surgery of the Hand (ASSH): review of the bones of the hand [https://www.assh.org/handcare/Anatomy/Bones#Hand](https://www.assh.org/handcare/Anatomy/Bones#Hand)
- E Orthopod: [https://eorthopod.com/hand-anatomy/](https://eorthopod.com/hand-anatomy/)

This chapter will not cover carpal tunnel syndrome or other neuropathies.

CASE ONE:

Mr. M is a 60-year-old veteran who presents with hand and wrist pain for the past two days. Unfortunately, the patient was in a physical altercation with a family member, who punched and kicked him multiple times. Ever since, he has had mild tenderness on the radial side of his wrist.

His past medical history is notable for obesity (BMI 34), active tobacco use (a pack a day), dyslipidemia, and a prior rotator cuff tear in his right shoulder while in the service. He denies any history of carpal tunnel syndrome, rheumatoid arthritis, or osteoarthritis. His social history is notable for his passion for playing the piano.

Questions:

1. What is your framework for diagnosing Mr. M’s wrist pain?
2. What key historical features stand out about Mr. M.? What other questions would you want to know?

CASE ONE CONTINUED:

The pain is described as dull and throbbing, does not radiate, is not worsened by any movements, and is relieved by NSAID use. He is left hand dominant, and is worried about this, because his hobby is playing the piano for other veterans. He is currently unemployed but worked as a music teacher in the past. He does not remember the physical altercation in detail but says he may have fallen backwards when his family member pushed him. He denies any fevers, chills, or other joint involvement. He denies any history of osteoarthritis, carpal tunnel syndrome, rheumatoid arthritis, or osteoarthritis.

3. What is the approach to examining the hand and wrist?

CASE ONE CONTINUED:

On physical exam, the left wrist has no visible effusion or ecchymosis. There is mild tenderness over the anatomic snuff box on light palpation. Range of motion is otherwise intact with wrist flexion to 90°, dorsiflexion 80°, radial deviation up to 20°, and ulnar deviation to 40°.

4. You are concerned about a scaphoid fracture, what is the next step in management for Mr. M.?
CASE ONE CONTINUED:

You send the patient to obtain radiography the same day that comes back as unremarkable for any fractures in the hand (metacarpals, phalanges) or wrist (carpals). However, the patient is still complaining of tenderness over the anatomic snuff box.

5. Should you still be concerned about a scaphoid fracture? If so, what is the next step in management for Mr. M.?

CASE TWO:

Ms. A is a 62-year-old woman with a PMH of osteoarthritis in her knees, who is presenting to clinic with worsening right thumb pain over the past year. She has stiffness in the morning in both her hands lasting about 15 minutes. She denies any shooting pain or paresthesia, any systemic symptoms, or any other joint involvement. She completed menopause in her 50s.

On exam you notice she has Heberden (DIP) and Bouchard (PIP) nodes over multiple fingers bilaterally. Her MCP joints and wrists have limited range of motion. A grind test is performed and is positive.

6. What is the most likely diagnosis for Ms. A’s right thumb and hand pain?

7. How would you manage Ms. A’s hand OA?
CASE THREE:

Ms. F is a 40-year-old woman with no significant PMH who presents with pain over the radial part of her wrist for the past four to five months. The pain has been worsening, is dull and achy, does not radiate, and is exacerbated when holding her pen during work as an executive at a Fortune 500 company. She denies any trauma of any kind. She has no history of OA.

On physical exam, her hands and wrist look largely unremarkable, with no nodes, masses, swelling, or erythema. There is some mild tenderness on palpation over her anatomic snuff box. Grind test is negative.

8. What is the likely diagnosis for Ms. F’s wrist pain? What historical features led you to that diagnosis?

9. What physical exam maneuver would you perform next?
10. What are your next steps in management?

BONUS CASE:

Mr. N is a 60-year-old man with a past medical history of diabetes, who is presenting with intermittent finger pain of his second digit (index finger) for the past several months. He noticed several months ago that his finger began clicking and locking. It progressively worsened over the past month, to the point where his finger is locking in a flexed position and is extremely painful. The pain starts in the middle of his PIP and radiates up his finger and down to his MCP. He retired from the Navy and is working as an engineer at a local firm.

11. What is the likely diagnosis? What historical features should be assessed that could be associated with this diagnosis?

12. What treatment options are available to the patient?
Primary References:


Additional References:


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Knowledge Questions

1. A 43-year-old man sees you in clinic after falling on his boat. While on his boat yesterday he fell forward, and ever since his wrist has been hurting. On exam, he has no pain on palpation over the anatomic snuff box, however that area is still hurting him constantly. What is your next step in management?
   a. Spica cast and return in 10-14 days
   b. Ice and NSAIDS
   c. X-ray of the wrist with at least three views
   d. Bone scan

2. A 28-year-old postpartum woman sees you in clinic for radial wrist pain. She gave birth two months ago to a healthy baby boy. Finkelstein test is positive. What is the most likely diagnosis?
   a. CMC arthritis
   b. de Quervain’s tendonitis
   c. Scaphoid fracture
   d. Scaphoid-lunate instability

3. An 88-year-old man sees you in clinic for right thumb pain. He has a history of OA in his knees, hips, and hands. He has a positive grind test. What is the next step for treatment of this thumb pain?
   a. Acetaminophen
   b. Referral to OT for hand exercises
   c. Assisted technology
   d. All the above