By Layth Kareem

Ms.c in MRI applications

radiographic techniques for upper limbs(lec9)

hand, fingers and thumb



The hand is composed of many different bones, muscles, and ligaments that allow for a large amount of movement and dexterity. There are 3 major types of bones in the hand itself, including:

- **Phalanges.** The 14 bones that are found in the fingers of each hand and also in the toes of each foot. Each finger has 3 phalanges (the distal, middle, and proximal); the thumb only has 2.
- **Metacarpal bones.** The 5 bones that compose the middle part of the hand.
- **Carpal bones.** The 8 bones that create the wrist. The 2 rows of carpal bones are connected to 2 bones of the arm--the ulna bone and the radius bone.

Hand anatomy



Hand positioning

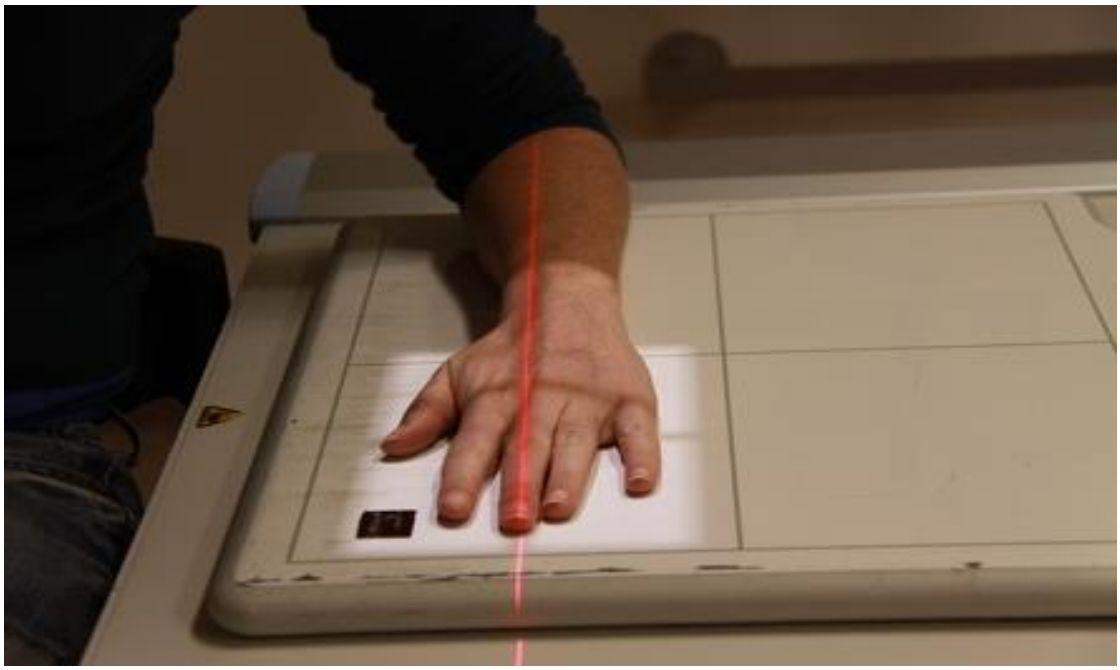
1. hand PA (basic)

2.hand lateral (basic)

3.ball-catchers position

4.oblique

PA position of the hand



Position

1.the patient is placed in sitting position.

2.place the hand on the IR in pronation state.

3.seperate all of phalanges to avoid overlapping of each finger.

Anatomy of the hand PA



lateral position of the hand

1. 1.the patient is placed in sitting position.

2.place the second to fifth fingers to be 90 degree (true lateral) on IR and pose each finger to overlap.

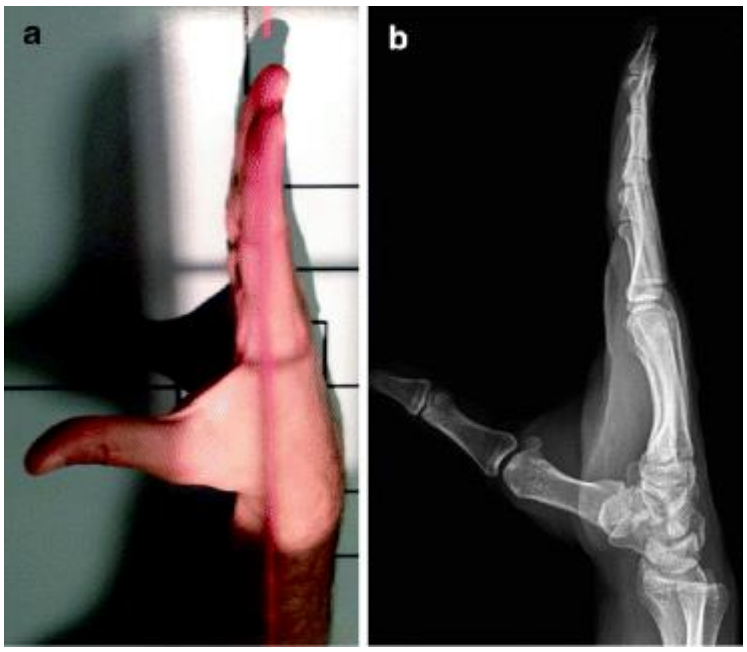
3. place the hand in true lateral

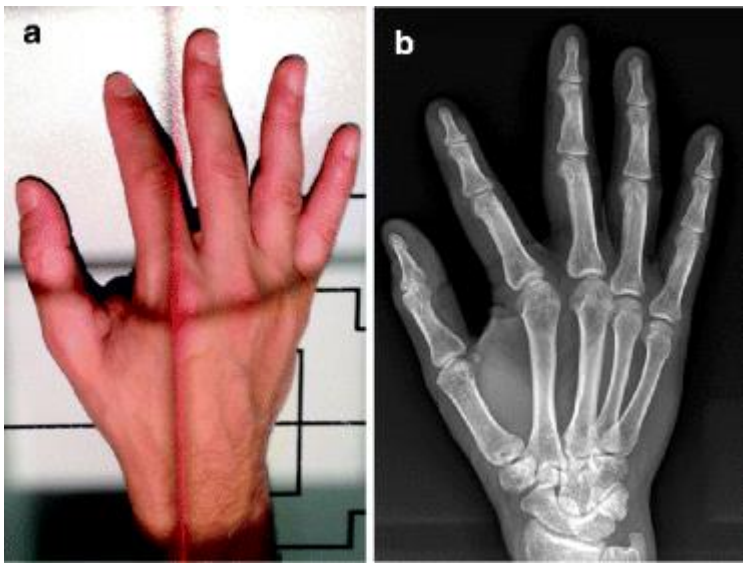
4.place second metacarpophalangeal joint perpendicularly to IR

Pathology

-fracture, osteoarthritis, foreign body of hand

Lateral position of the hand





Oblique position of the hand

ball-catchers position

1.place the patient in sitting position and the hand in supination

2.adjust the both hands to make 45-degree slope in holding a ball like position

Pathology

-rheumatoid arthritis



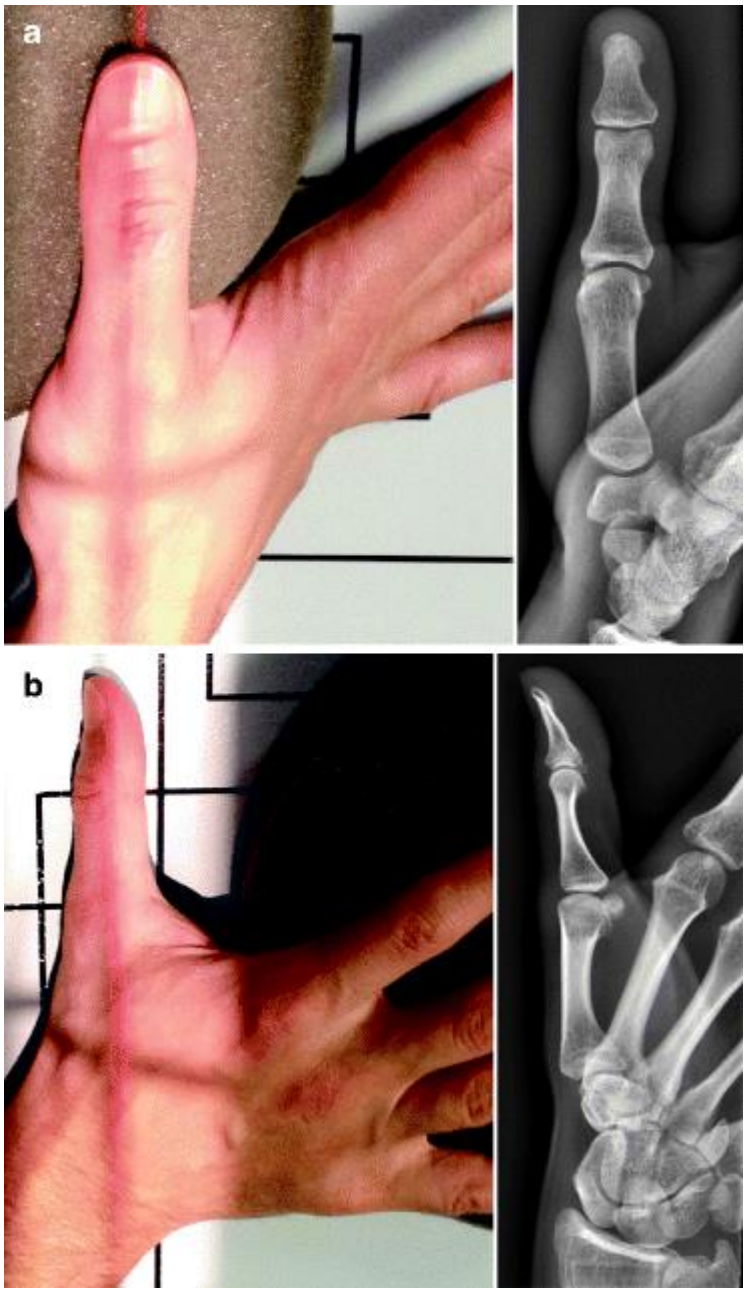
ball-catchers view

The thumb

the thumb metacarpal is similar in shape to the metacarpals of the fingers, but it is thicker. The thumb metacarpal has significantly more motion than the other metacarpals. It makes a joint with the trapezium that allows much of the thumb motion. This joint allows the thumb to move in a way that allows pinching. ***g***

thumb position

1.AP &lateral



Thank you