



STRENGTH, SENSITIVITY, SUPPORT:

OUR HANDS IN YOGA PRACTICE

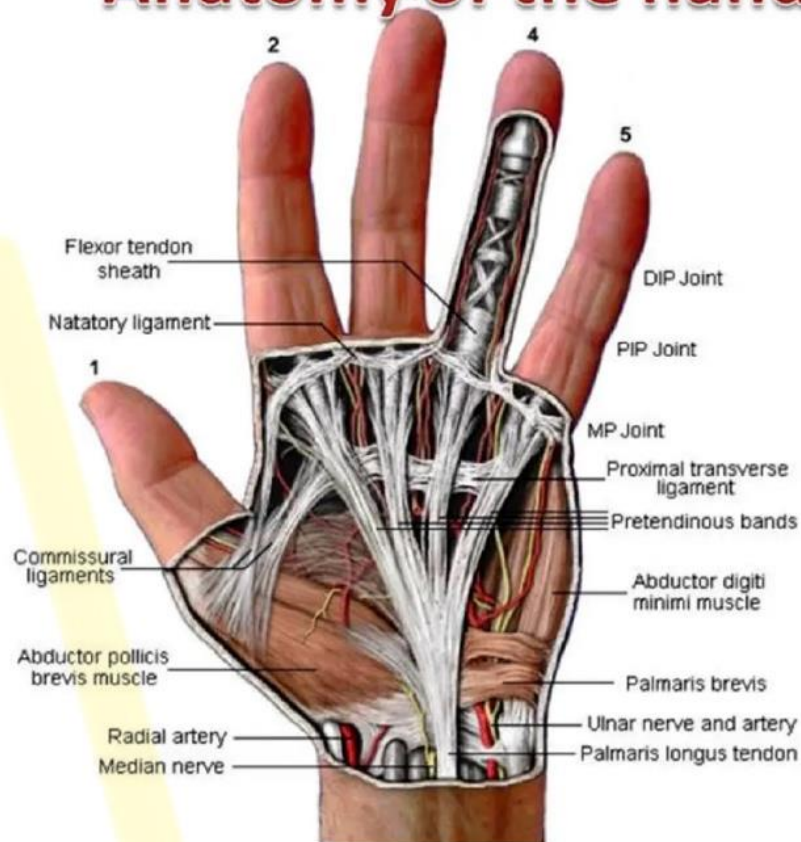
THE HANDS AND FOREARMS:

Engineering: a quarter of your body's bones are in your hands – Each hand contains 27 bones and more than 30 muscles, giving it extraordinary dexterity and strength.

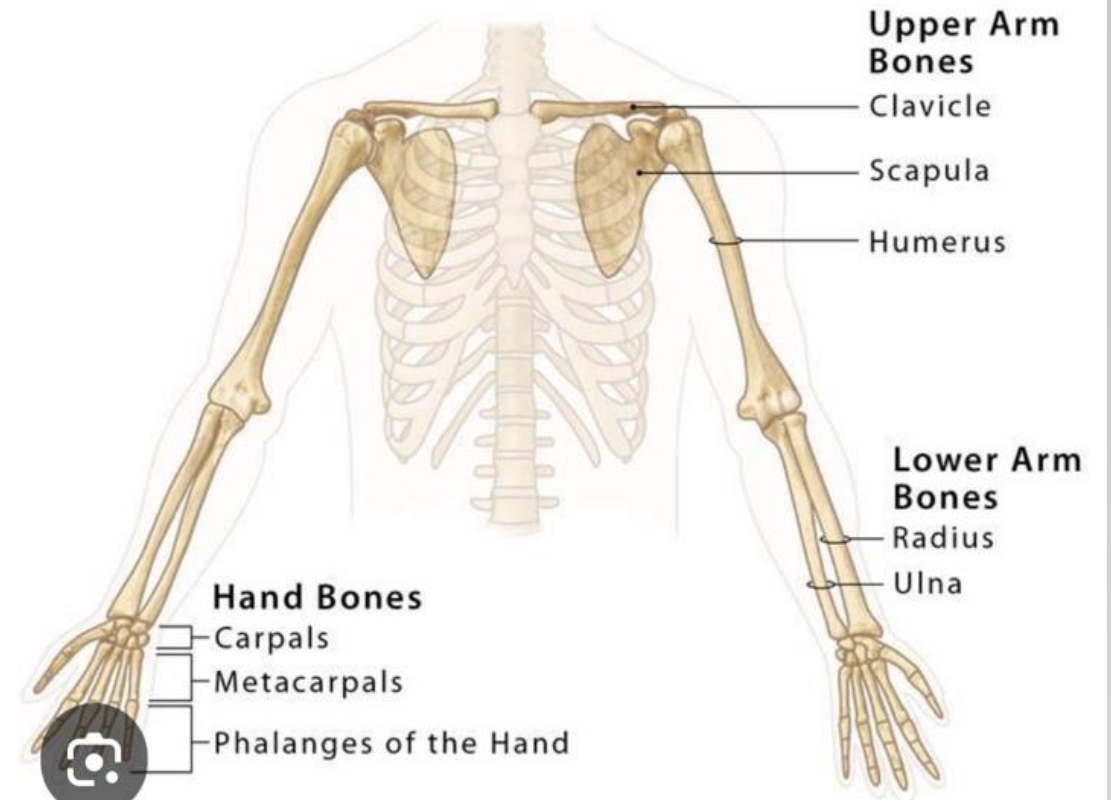
The hand–brain connection is profound – A huge portion of the brain's motor cortex is devoted to controlling the hands and fingers. That's why activities like yoga mudras, music, or handwriting have such a strong effect on concentration and nervous system regulation.

Forearm muscles move the fingers – Most of the finger movements you make don't come from tiny muscles inside the fingers. Instead, they're powered by long muscles in the forearm, with tendons running into the hand like puppet strings.

Anatomy of the hand



Arm Bones



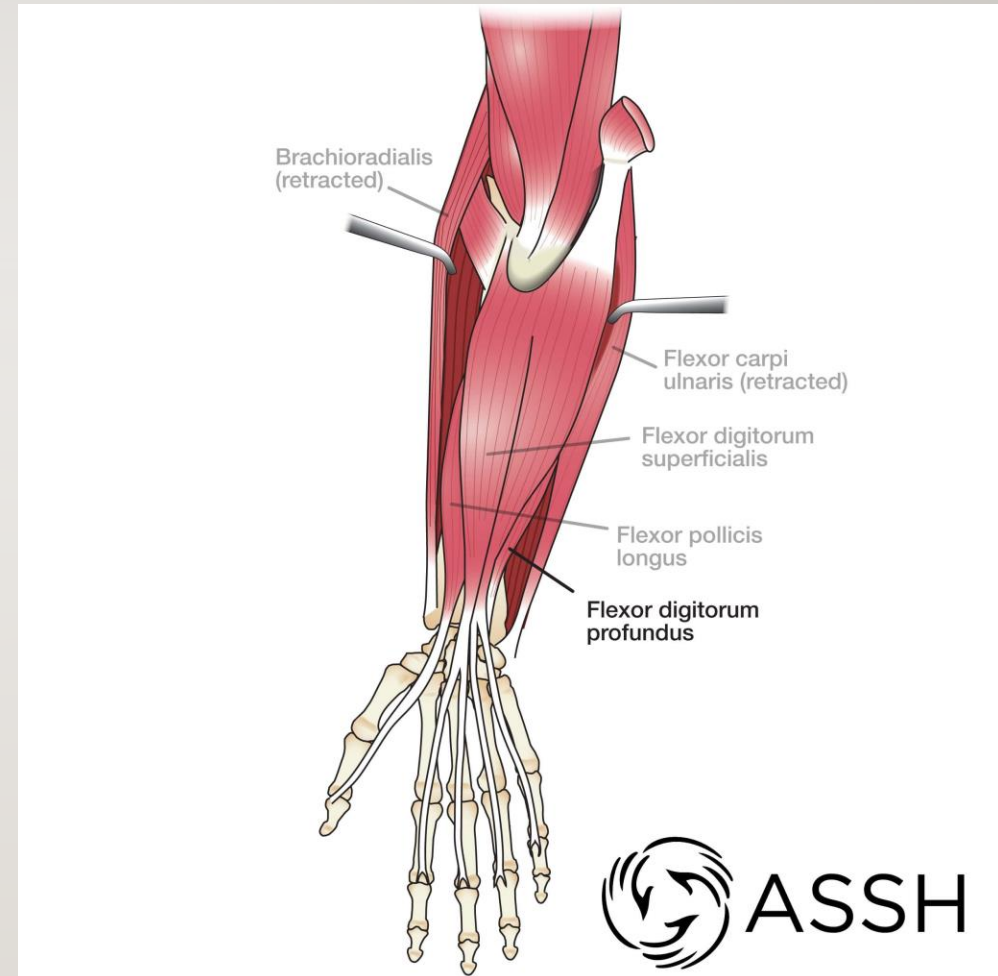
BONY LANDMARKS AND CONNECTIONS

MAJOR MUSCLE GROUPS OF THE FOREARM & HAND

- **Major Muscle Groups of the Forearm & Hand**

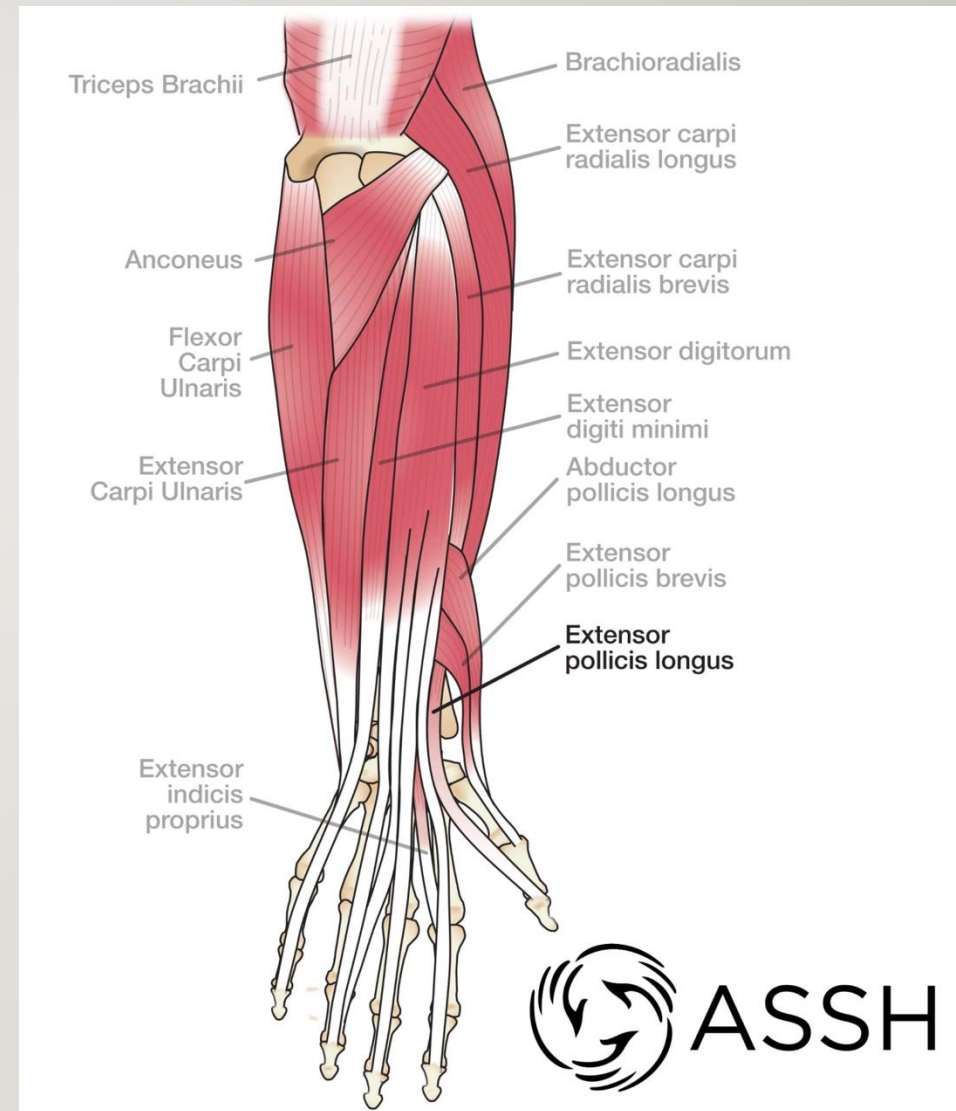
I. Front (Flexors – palm side) These muscles mainly flex the wrist and fingers (curl the fingers inward, close the hand, or bend the wrist).

- Flexor carpi radialis – bends the wrist toward the thumb side.
- Flexor carpi ulnaris – bends the wrist toward the little finger side.
- Palmaris longus – assists wrist flexion, contributes to the palmar fascia.
- Flexor digitorum superficialis – flexes the middle joints of the fingers.
- Flexor digitorum profundus – flexes the fingertips.
- Flexor pollicis longus – flexes the thumb.
- Active in gripping actions, or when pressing the palms into the mat in Adho Mukha Svanasana.



2. BACK (EXTENSORS – BACK OF HAND SIDE)

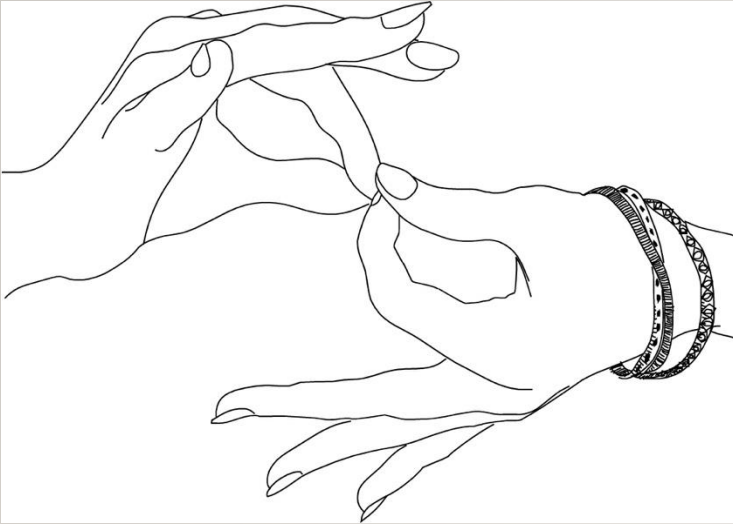
- These mainly extend the wrist and fingers (straighten the fingers and open the hand).
- Extensor carpi radialis longus & brevis – extend the wrist on the thumb side.
- Extensor carpi ulnaris – extends wrist on the little finger side.
- Extensor digitorum – straightens the fingers.
- Extensor indicis – extends the index finger.
- Extensor digiti minimi – extends the little finger.
- Extensor pollicis longus & brevis – extend the thumb.
- Abductor pollicis longus – pulls thumb away from palm.
- Yoga: These keep the hand and wrist strong and stable when weight-bearing (e.g. in Chaturanga Dandasana or Urdhva Mukha Svanasana)



3. INTRINSIC MUSCLES OF THE HAND (INSIDE THE HAND ITSELF)

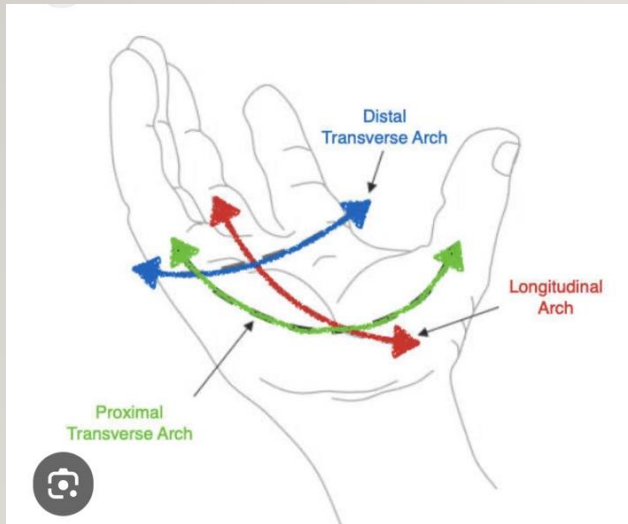
- These are small muscles that fine-tune movement:
- Thenar eminence (thumb base):
 - Opponens pollicis, Abductor pollicis brevis, Flexor pollicis brevis.
- Hypothenar eminence (little finger base):
 - Opponens digiti minimi, Abductor digiti minimi, Flexor digiti minimi.
- Lumbricals – flex knuckles while extending fingers (essential for precise grip).
- Interossei (between the metacarpals):
 - Dorsal interossei abduct (spread) the fingers.
 - Palmar interossei adduct (bring together) the fingers.
- Yoga: Allow subtle spreading of the palms in Urdhva Hastasana, firm rooting of fingers in inversions, and expressive gestures in mudras and in digital Pranayama.

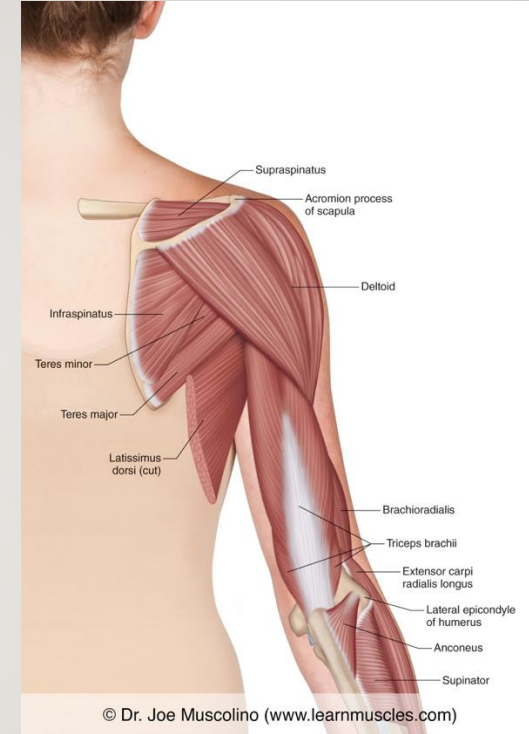
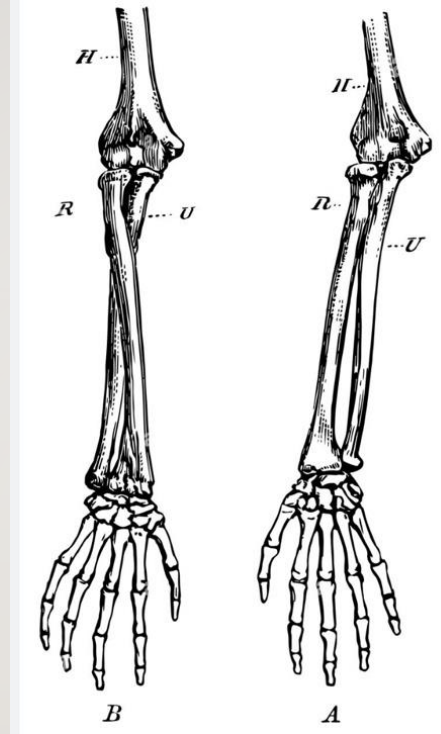




KEY TENDONS

- Flexor tendons – run along the palm into the fingers.
- Extensor tendons – run along the back of the hand into the fingers.
- Palmar aponeurosis – thick sheet of connective tissue supporting the palm.
- Retinacula (flexor and extensor) – strong bands at the wrist that hold tendons in place, like straps.
- Yoga perspective:
 - Forearm flexors & extensors are like the “roots and branches” of hand strength — without them, wrists collapse in weight-bearing.
 - Intrinsic hand muscles are like “gardeners” — small, delicate, but essential for precision, spreading, and sustaining the arches of the hand (just like the arches of the feet).
 - The forearms provide strength and steadiness in arm balances, while the hands offer sensitivity and awareness — strength and refinement working together.
 - The hands are an extension of the heart and spine, transmitting energy outward in Hasta Mudras or grounding in Adho Mukha Svanasana.



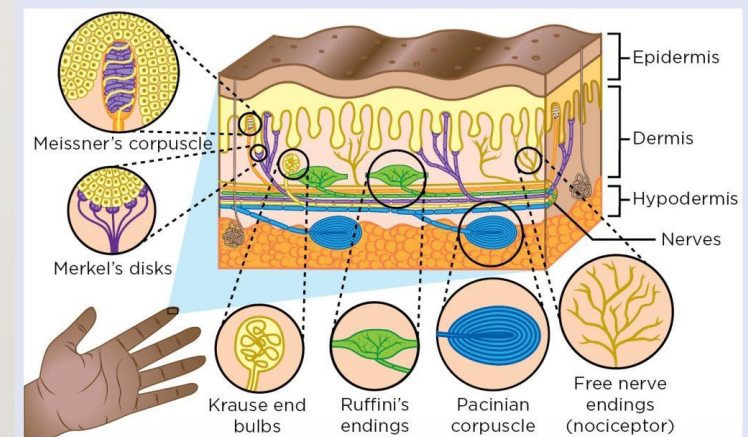


CONNECTIONS: THE HAND TO THE BACK BODY

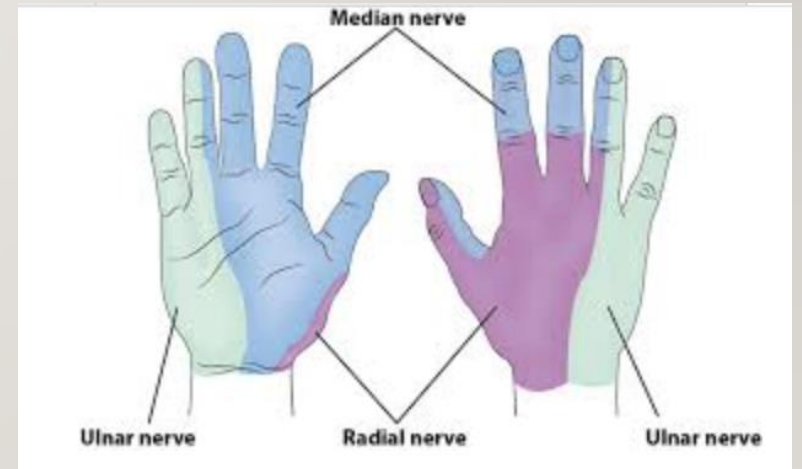
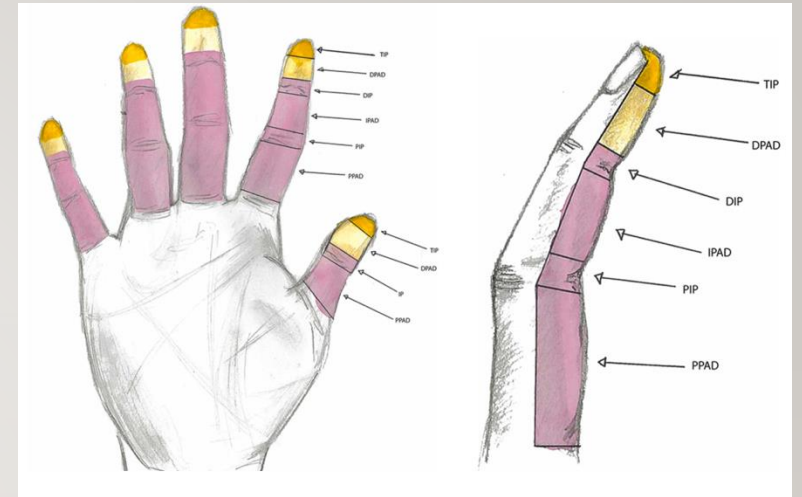
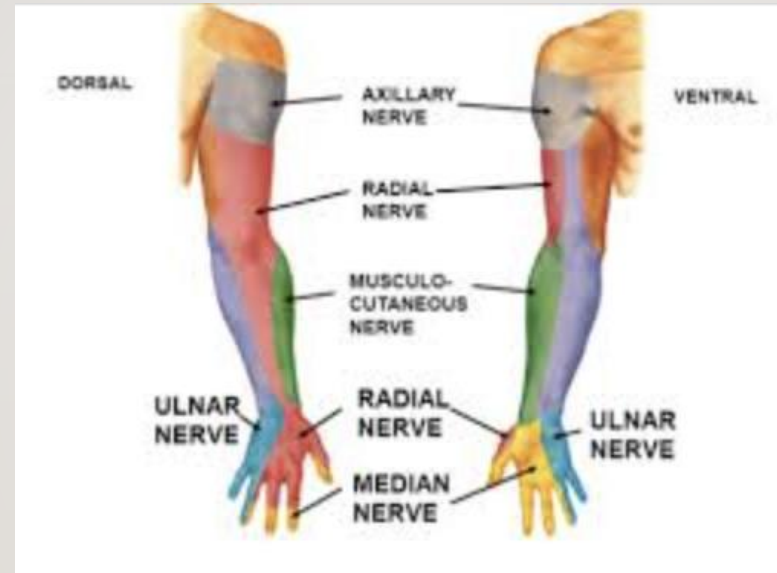
SENSORY NERVE ENDINGS IN THE HAND

- **1. Mechanoreceptors**
- Function: Detect mechanical stimuli like pressure, vibration, and touch. Each has its own particular characteristic and name.
- **2. Nociceptors**
- Function: Respond to potentially damaging stimuli, alerting you to pain.
- Characteristics: These are typically free nerve endings located in the skin and other tissues, sending signals to the brain for conscious perception of pain.
- **3. Thermoreceptors**
- Function: Detect changes in temperature.
- Characteristics: Also considered free nerve endings, they are responsible for sensations of heat and cold.
- How they work together:
- When a stimulus, like an object's texture or a sharp touch, activates these receptors, the sensory neurons transmit the information to the spinal cord and then to the brain. The brain processes this information, allowing you to perceive shapes, textures, temperatures, and pain.

Fig 1. Mechanoreceptors in the somatic sensory system



MAJOR NERVES OF THE ARMS AND HANDS



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