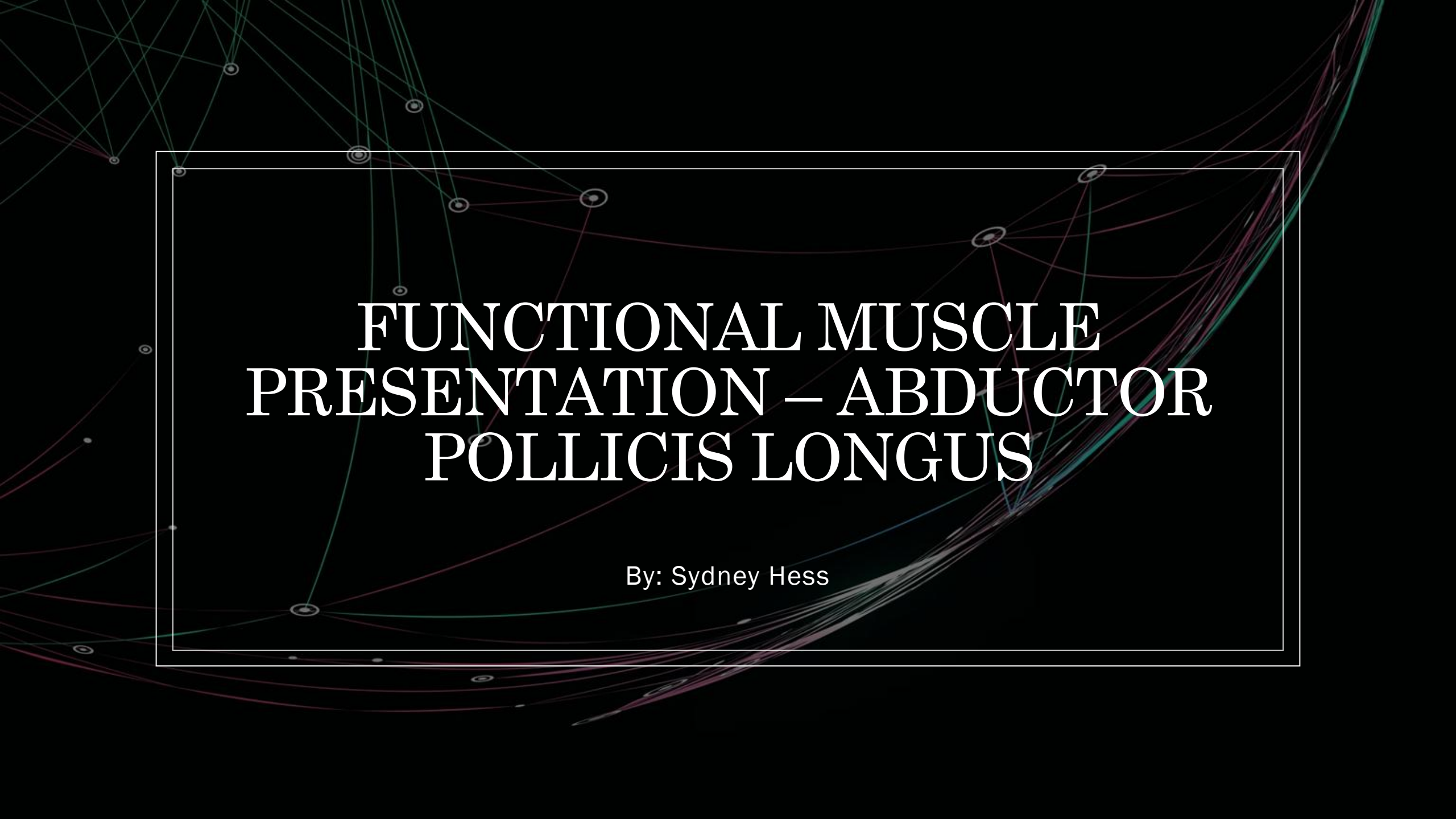




FUNCTIONAL MUSCLE PRESENTATION – ABDUCTOR POLLICIS LONGUS

By: Sydney Hess

Abductor Pollicis Longus

REHAB
My Patient.com



Figure 1
(REHAB My Patient, 2020)

Muscle Overview

1. Muscle group: the posterior forearm (located within the deep compartment) (Barnes, 2024)
2. Attachments and Insertion: the posterior radius and ulna (approximately in the middle 1/3 of the radius, ulna, and interosseus membrane) to the thumb (the lateral side of the base of the first metacarpal) (Muscolino, 2017, pg. 225)
4. Innervation: radial nerve (posterior interosseous nerve, C7, C8) (Muscolino, 2017, pg. 226)
5. Actions: abduction of the thumb (Barnes, 2024)

Functions of the Abductor Pollicis Longus

- The abductor pollicis longus is involved in concentric (shortening) mover mover actions (Muscolino, 2017, pg. 225). These include...
 - 1. Abduction of the first metacarpal at the CMC joint (Muscolino, 2017, pg. 225)
 - This allows wide grip, important for many activities (ex: holding a cup or buttoning a shirt)
 - 2. Extends the thumb at the CMC joint (Muscolino, 2017, pg. 225)
 - This aids in pinching, grasping large objects, or pushing buttons (ex: opening containers or typing)
 - 3. Laterally rotates the thumb at the CMC joint (Muscolino, 2017, pg. 225)
 - This supports opposition and precision grips (ex: twisting a cap or using scissors)
 - 4. Radial deviation of the hand at the wrist joint (Muscolino, 2017, pg. 225)
 - This lets the hand move toward the first metacarpal side of the forearm (ex: lifting objects or reaching)
 - 5. Flexes the hand at the wrist joint (Muscolino, 2017, pg. 225)
 - This enables the wrist the bend towards the palm (ex: writing or pour water into a water bottle)
 - 6. Supinates the forearm at the radioulnar joints (Muscolino, 2017, pg. 225)
 - This permits the palm to face upward (ex: holding a lunch tray or placing bath soap on your hand)



A (1st CMC Extension)



B (1st CMC Flexion)



C (1st CMC Adduction)



D (1st CMC Abduction)



E (Opposition)

Figure 2

(Musculoskeletal
Key, 2016)

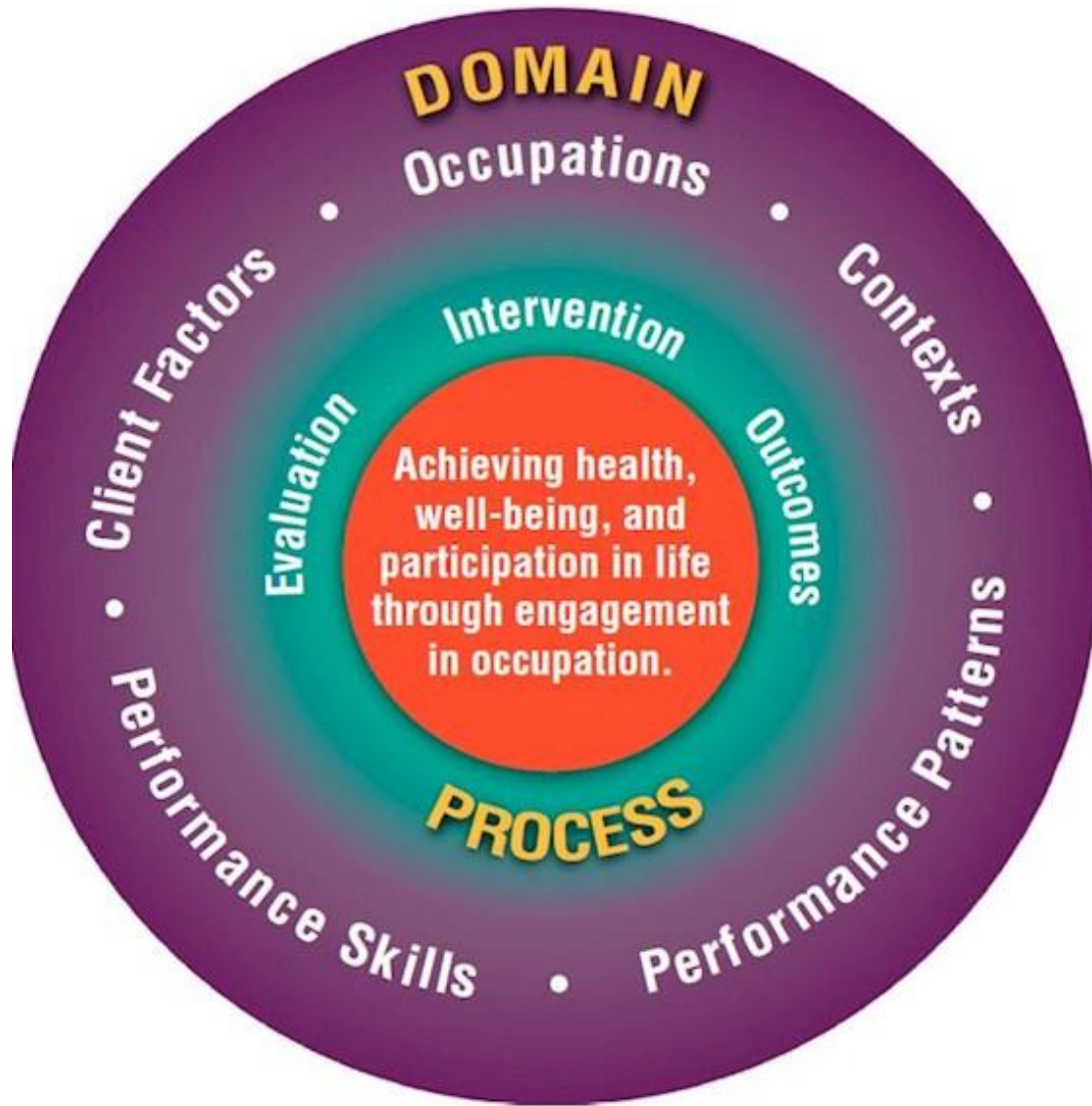


Figure 3
(AOTA, 2020)

OTPF Connection

- Performance skills – Motor (OTPF, 2020)
 - Ex: Gripping, lifting, manipulates
- Client factors – Body functions and structures (OTPF, 2020)
 - Ex: Motor power



Movement Demo Time!

- For my movement demo, I will have Eliza come up and throw a softball to me, and then I will demonstrate swinging a bat!
- APL's role in throwing a softball:
 - Holds the thumb in abduction and extension at the carpometacarpal joint to stabilize the ball in the hand.
 - Provides control for an accurate release of the ball.
- APL's role in catching a softball:
 - Moves the thumb into abduction to widen the hand and glove opening
 - Helps keep the thumb positioned outward against the inward force of the ball's impact, allowing the catch to be secured.
- APL's role in swinging a bat:
 - Abducts the thumb to wrap around the bat, creating a firm, stable grip
 - Assists in maintaining grip strength through the swing's power phase

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