

Nerve Palsies - Trouble Making Fist

The "trouble making a fist" gesture resulting from a proximal ulnar nerve injury is due to the inability of the medial flexor digitorum profundus to flex the 4th and 5th digits when trying to make a fist. This presentation often resembles an OK gesture. Proximal ulnar nerve injuries are commonly caused by medial epicondyle fractures, which may occur if a patient falls on an outstretched hand with the elbow in extension or a posterior elbow dislocation. Other associated features that may accompany proximal ulnar nerve injuries and the "trouble making a fist" gesture include hypothenar eminence atrophy and radial deviation of the wrist upon flexion.



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Nerve

Proximal Ulnar Nerve

P-proximal Underwear Nerve

The proximal ulnar nerve is comprised of the C8 and T1 nerve roots and carries both sensory and motor fibers. This nerve originates from the brachial plexus at the axilla and travels along the medial aspect of the upper limb, passing the medial epicondyle of the humerus. It innervates the flexor carpi ulnaris and the medial half of the flexor digitorum profundus. From there, it continues down the medial forearm to innervate the flexors of digits 4 and 5. Additionally, the ulnar nerve innervates the intrinsic muscles of the hand.

Causes

Fracture Medial Epicondyle of Humerus (Proximal Injury)

Fractured Medal on Epicondyle of Funny-bone

The proximal ulnar nerve runs through the retrocondylar groove at the elbow, which is positioned posterior and medial to the medial epicondyle. A fracture in this region may damage it.

Deficit

Unable to Flex 4th and 5th Digits

Flexing all but 4th and 5th Digits

The proximal ulnar nerve innervates the medial half of flexor digitorum profundus, which facilitates flexion of digits 4 and 5. When making a fist with a proximal ulnar nerve injury, digits 4 and 5 are unable to flex and face unopposed extension by extensor digitorum. This hand position resembles an "OK" sign.

Presentation

Resembles OK Gesture

Okay Hand

The proximal ulnar nerve innervates the medial half of the flexor digitorum profundus, which facilitates the flexion of digits 4 and 5. When making a fist with a proximal ulnar nerve injury, digits 4 and 5 are unable to flex and face unopposed extension by the extensor digitorum. This hand position resembles an "OK" sign.

Complication

Hypothenar Atrophy

Hippo with Hypothenar @-trophy

Without innervation from the ulnar nerve, muscle wasting of the opponens digiti minimi, abductor digiti minimi, and flexor digiti minimi brevis may occur.