Teaching NeuroImage: Palmaris Brevis Sign

Clue to Localizing Ulnar Nerve Neuropathy

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Neurology® 2023;100:638-639. doi:10.1212/WNL.0000000000206751

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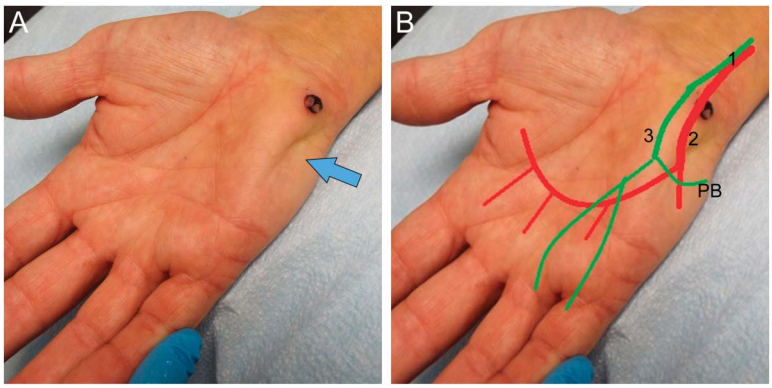
Figure Ulnar Nerve Injury at the Guyon Canal: Localization



(A) Puckering of skin (arrow) from normal contraction of palmaris brevis muscle. Note scar from drill bit injury. (B) Guyon canal lesions at site 2 involve deep motor (red) but spare superficial sensory (green) branch of the ulnar nerve, which innervates PB. Lesions at sites 1 and 3 paralyze PB. PB = palmaris brevis.

Case

A 65-year-old man sustained a penetrating injury to the base of the hypothenar area from a slipped drill bit. Severe weakness of ulnar nerve-innervated intrinsic hand muscles was noted with normal sensation in digits 4 and 5. Attempt to abduct the small finger against resistance caused puckering of skin from contraction of palmaris brevis (Figure, A).

In cases of ulnar nerve injuries at the Guyon canal, intact contraction of palmaris brevis localizes the injury to site 2 (Figure, B) *distal* to the origin of the superficial branch of the ulnar nerve (which in addition to carrying sensation from digit 5 and ulnar side of digit 4 also provides motor innervation to palmaris brevis). This finding has been previously referred to as palmaris brevis sign.[1,2]

Nerve conduction and EMG studies in this patient confirmed the location of ulnar nerve injury to site 2 at the Guyon canal.

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Study Funding
The author reports no targeted funding.

Disclosure
V.G. Iyer reports no disclosures relevant to this manuscript. Go to Neurology.org/N for full disclosures.

Publication History
Received by *Neurology* August 14, 2022. Accepted in final form November 15, 2022. Submitted and externally peer reviewed. The handling editor was Resident and Fellow Section Editor Whitley Aamodt, MD, MPH.

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Appendix Authors

Name	Location	Contribution
Vasudeva G. Iyer, MD	Neurodiagnostic Center, Louisville, KY	Drafting/revision of the manuscript for content, including medical writing for content; major role in the acquisition of data; study concept or design; analysis or interpretation of data

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Neurology 2023;100;638-639 Published Online before print December 20, 2022
DOI 10.1212/WNL.0000000000206751