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Differentiating C8–T1 Radiculopathy from Ulnar Neuropathy: A Survey of 24 Spine Surgeons

Study Design　Questionnaire.

Objective　To evaluate the ability of spine surgeons to distinguish C8–T1 radiculopathies from ulnar neuropathy.

Methods　Twenty-four self-rated “experienced” cervical spine surgeons completed a questionnaire with the following items. (1) If the ulnar nerve is cut at the elbow, which of the following would be numb: ulnar forearm, small and ring fingers; only the ulnar forearm; only the small and ring fingers; or none of the above? (2) Which of the following muscles are weak with C8–T1 radiculopathies but intact with ulnar neuropathy at the elbow: flexor digiti minimi brevis, flexor pollicis brevis, abductor digiti minimi, abductor pollicis brevis, adductor pollicis, opponens digiti minimi, opponens pollicis, medial lumbricals, lateral lumbricals, dorsal interossei, palmar interossei?

Results　Fifteen of 24 surgeons (63%) correctly answered the first question—that severing the ulnar nerve results in numbness of the fifth and fourth fingers. None correctly identified all four nonulnar, C8–T1-innervated options in the second question without naming additional muscles.

Conclusion　The ulnar nerve provides sensation to the fourth and fifth fingers and medial border of the hand. The medial antebrachial cutaneous nerve provides sensation to the medial forearm. The ulnar nerve innervates all intrinsic hand muscles, except the abductor and flexor pollicis brevis, opponens pollicis, and lateral two lumbricals, which are innervated by C8 and T1 via the median nerve. By examining these five muscles, one can clinically differentiate cubital tunnel syndrome from C8–T1 radiculopathies. Although all participants considered themselves to be experienced cervical spine surgeons, this study reveals inadequate knowledge regarding the clinical manifestations of C8–T1 radiculopathies and cubital tunnel syndrome.

24 名脊柱外科醫生的調查：從尺神經病變鑑別出 C8-T1 神經根病

研究設計　　問卷調查

目的　為了評估脊柱外科醫生從尺神經病變鑑別出 C8-T1 神經根病的能力。

方法　二十四名自評為“經驗豐富”頸椎外科醫生完成了以下項目的調查問卷。（1）如尺神經在肘部被切斷，下列哪部份會麻木：前臂尺側，小和無名指; 只有前臂尺側; 只有小和無名指; 或以上皆非？（2）患有 C8-T1 神經根病，但在肘部的尺神經完好，下列哪些肌

肉會變弱：屈小指短肌，拇短屈肌，小指展肌，拇短展肌，拇內收肌，小指對指肌，拇對掌肌，內側蚓狀肌，橫向蚓狀肌，背側骨間肌，掌側骨間肌？

結論　尺神經提供給感覺給第 4 和第 5 手指和手的內側。前臂內側皮神經提供感覺給前臂內側。尺神經支配的所有固有的手部肌肉，除了外展肌和拇短屈肌，拇對掌肌和橫向兩組蚓狀肌，這些是由 C8 和 T1 通過正中神經所支配。通過測這五組肌肉，可以臨床從 C8-T1 神經根病區分肘管綜合症。雖然所有參與者都認為自己是經驗豐富的頸椎外科醫生，本研究揭示了他們對 C8-T1 神經根病和肘管綜合徵的臨床表徵認識不足。