Massachusetts Neurologic Association
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The Poster Presentation Session at the MNA Spring Meeting aspires to allow residents and fellows in training to present their research or interesting cases in a poster session. Please follow the following abstract guidelines:

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Title:
Diagnostic Accuracy of Electromyography Referrals, with a Focus on Carpal Tunnel Syndrome

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Abstract:
(There is a limit of **350** words for your abstract submission).

Objective: To review electromyography (EMG) referrals and assess clinician accuracy and effectiveness of the studies.

Background: EMG is a costly and often painful diagnostic examination. Therefore, referrals for EMG must be relevant and likely to produce a significant result. Understanding the referral process is paramount to improving quality

studies and furthering provider education.

Design/Methods: A retrospective chart review examined six months of patient referrals (n=602) to an academic medical center. Data collected included referral question or symptoms, specialty referring, and diagnoses. Data were analyzed examining whether referrals matched the diagnosis, accuracy by subspecialty, and incidental findings (findings in a limb not described in the referral question).

Results: Overall, 50.8% of referral questions matched the diagnoses found on EMGs. For specialties referring at least ten patients, neurology had the lowest referral match rate (40.3%), while orthopedics was most accurate (65.3%). When looking specifically at carpal tunnel syndrome (CTS), there was an overall 69.8% referral match rate. Here, orthopedics had the lowest referral match (59.4%), while neurosurgery ranked most accurate (76.9%). Additionally, there were 131 incidental CTS diagnoses (21.8% of all patients); 54 referred from primary care and 50 from neurology.

Conclusions: Approximately half of EMG results did not correlate with the referral question, most commonly due to a normal test or incidental results. While at times referrals are made to disprove an unlikely diagnosis and thus searching for normal, often this mismatch is due to a lack of a clear question or misunderstanding what EMGs can diagnose. CTS is a more accurate referral, likely since this diagnosis has recognizable clinical findings. However, of concern is CTS found incidentally 22% of times, which can lead to additional medical burden and stressors in a patient's life. Holding providers to a stricter eligibility for EMG referrals, as done in radiology, may improve EMG efficiency and decrease healthcare costs.