



EMG troubleshooting: obtaining sensory median nerves



Kyaw Lin, DO & Marc Evensen, MD

Department of Physical Medicine and Rehabilitation
University of California, Irvine Health

Background

Electrodiagnostic testing can sometimes be difficult. Factors such as temperature and exogenous creams limits study at time. Comorbidities such as age and pre-existing risk factors for polyneuropathy (diabetes, history of alcohol abuse, history of chemotherapeutic agents) can make certain aspects of nerve conduction studies difficult to illicit. Operator error can account for a significant percentage of mistakes. However, there are techniques that experienced electromyographer have been utilizing to increase higher yield data especially in harder to illicit nerve studies.

Methods

The median sensory nerve is one of the most common peripheral nerves to have pathology and can at that time be challenging to measure on electrodiagnostic study. We incorporated 2 novel techniques to improve measurement of the median sensory nerve. After cleaning the hand thoroughly and ensuring appropriate temperatures, we then isolate the digits of the fingers with non-conducting devices to reduce co-stimulation and interference. Often we will place the cardboard circle of a used-up scotch tape around the 2nd and 4th digit. The idea is to limit as much interference as much as possible. Next, if the nerve is difficult to illicit, then activation of the abductor pollicis brevis is done by having patient repeat thumb abduction 10-12 times. The rationalization behind this is to increase the activity of the median nerve hence increasing the sensitivity of picking up it's signal.

Figure 1

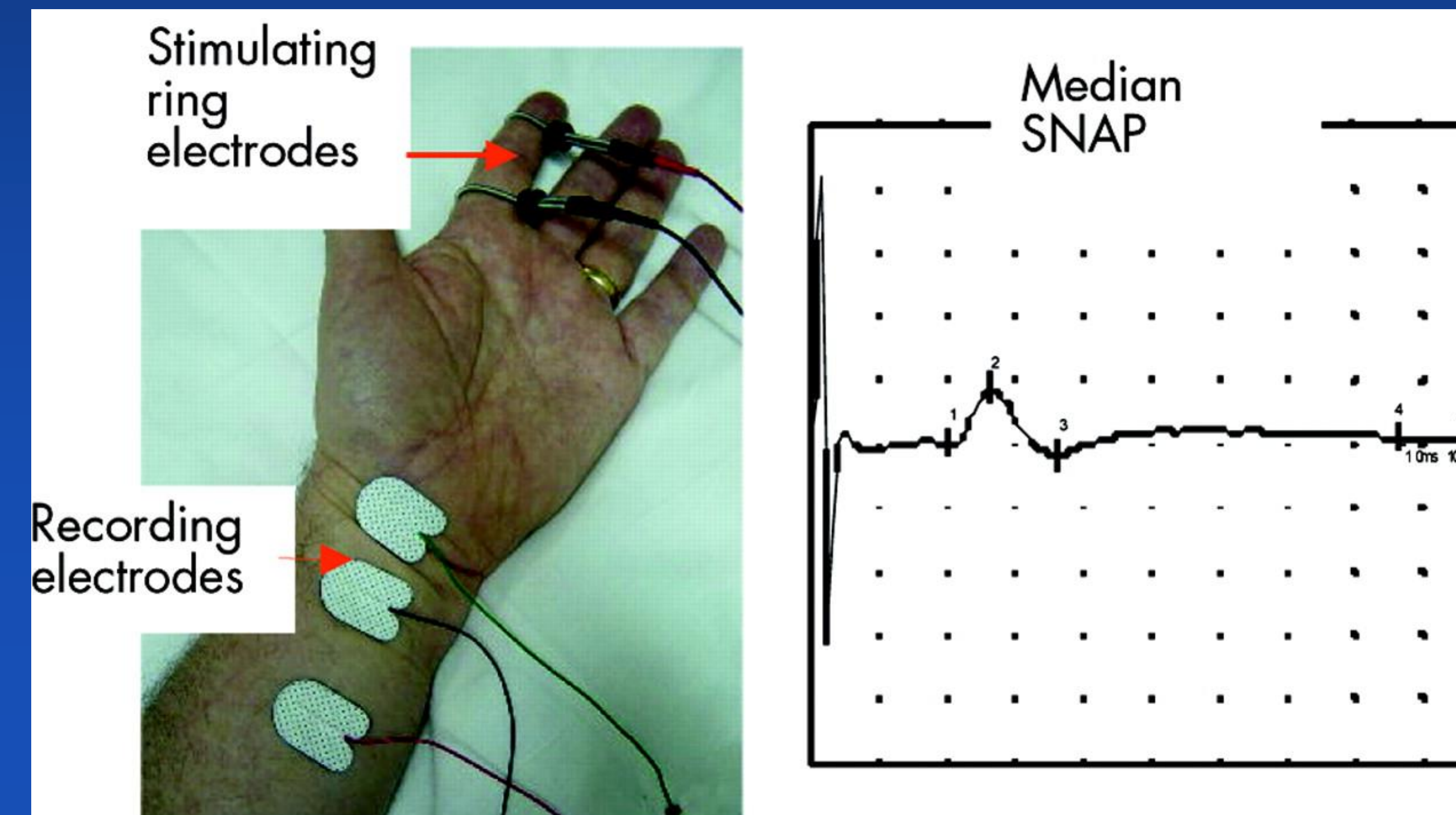


Figure taken from Mallik & Weir, 2005

Figure 2



Conclusions

Incorporating troubleshooting techniques helps save time by allowing for quicker yield for information especially in the novice electromyographer. We utilized 2 novel technique in helping obtain medial sensory antidromic study

References

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