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Presenter: Sanjeev Nandedkar, Ph.D.

Normal values for electrodiagnostic studies



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"Normal Values for Electrodiagnostic Studies"

Normal values are required to interpret measurements from electrodiagnostic studies. The normal values are often derived from studies performed in subjects presumed 'normal'. Hence, we prefer to call them 'reference values'. The patient measurements are influenced by demographic factors: age, height, gender, body mass index, etc. These should be included in defining the upper and lower reference limits. This will increase the diagnostic sensitivity of the procedure. I will describe various strategies used in nerve conduction studies of adult and pediatric subjects that have been implemented in Natus systems.

Generating reference values using control subjects is tedious, and sometimes not possible due to ethical reasons, e.g. pediatric subjects. Reference values from one region of the world may not be suitable for another region. It is not possible for each laboratory to develop their own "reference values" using control subjects. I will describe the 'E-Ref' and 'E-Norm' methods to estimate reference values using the patient data recorded at the laboratory. This can provide for reference values in a time and cost saving manner.

Sanjeev D Nandedkar, Ph.D.

With over 30 years of experience, Sanjeev is an award winning author, editor and reviewer, researcher, instrument design engineer, teacher, and clinical expert in the EMG field. He has delivered lectures, workshops and seminars in over 25 countries at universities, hospitals and EMG conferences. As an editor, Sanjeev started the "EMG on DVD" series. In collaboration with other clinicians, he developed Motor Unit Number Index (MUNIX) along with Multi-motor unit Analysis (MMA) and Turns & Amplitude (TA) methods available on Natus EMG systems. His primary research interest is in Automatic analysis of EMG signals, Modeling EMG signals and Technical aspects of EMG waveforms. Sanjeev is currently a Senior Consultant at Natus.