

Beginning Medical Knowledge Expectations for Start of Junior EMG Rotation

EMG:

Know the innervation (root and peripheral nerve), method of activation, and electrode insertion site (using bony landmarks and a standard textbook) of the following muscles:

Upper limb muscles:

Infraspinatus
Supraspinatus
Rhomboids
Deltoid
Biceps
Brachioradialis
Pronator teres
Flexor carpi radialis
Extensor carpi radialis
Flexor carpi ulnaris
Extensor carpi ulnaris
Triceps
Extensor digitorum
Extensor indicis proprius
First dorsal interosseous
Abductor digiti minimi
Abductor pollicis brevis
Cervical paraspinals

Lower limb muscles:

Iliopsoas
Vastus medialis
Vastus lateralis
Adductor longus
Tibialis Posterior
Biceps Femoris (short and long heads)
Anterior tibialis
Fibularis longus
Medial gastrocnemius
Soleus
Extensor digitorum brevis
Tensor fascia lata
Gluteus maximus
Extensor hallucis longus
Abductor hallucis
Medial hamstrings
Lateral hamstrings
Gluteus medius
Lumbosacral paraspinals

NERVE CONDUCTION STUDIES:

Know the anatomy, normal values and sources of error for the following nerve conduction studies:

Median: motor, sensory, F waves, transcarpal (palmar stimulation)
Median-radial: sensory (thumb)
Ulnar: motor, including across elbow; sensory, F wave, and transcarpal
Median-ulnar: sensory (ring finger)
Radial: sensory
Tibial: motor, F wave
Fibular: motor, F wave
Sural: sensory
Superficial Fibular: Sensory
Medial and Lateral Plantar
H wave
Axillary Motor
Facial
Spinal Accessory
Medial and Lateral Antebrachial Cutaneous
Dorsal Ulnar Cutaneous

Basic EMG Minimonographs and Articles to Review

Needle Electromyography (Daube)
Electrodiagnosis of CTS (Robinson)
Traumatic Neuropathy (Robinson)
Radiculopathy (Aminoff and Wilbourn)
H and F waves (Fisher)
Ulnar Neuropathy at the Elbow (Kincaid)
Peripheral Polyneuropathy (Donofrio)

More Advanced EMG Minimonographs and Articles to Review

Neuromuscular Junction Transmission (Keesey)
Anomalous Innervation (Guttman)
Basic Concepts of Electricity (Barry)
Temperature (Denys)