PNS Examination

The Art of the Virtual Consultation

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Objectives

- Develop a focussed virtual neuro exam of limbs
- Learn when to refer for EMG
- Recognize limitations of virtual exam

Disclosures

- None

Telemedicine-Challenges

- Disabilities (Cognitive, Vision, Hearing)
- Language barrier
- Technological skill of pt
- iPhone, ipad, or laptop
- Setting (car, home, shopping mall)

Telemedicine-Challenges

- Patients: Lack of access to technology (further marginalization)
- Over-reliance on virtual exam

3 Common Referrals

- Pain/Numbness/weakness of arm
- Pain/numbness/weakness of leg
- Nerve trauma

Triage

- Neuro?
- Ortho?
- (Vascular?)

Common Neuro Etiologies

- Root
- Plexus
- PN (compressive)
- (CRPS)

Virtual Limb Exam

- OBSERVATION: Wasting, Skin Colour, Texture (harder to see)
- ROM
- FUNCTIONAL Tests
- SENSORY Loss (distinct from sensory symptoms)

Virtual Arm Exam

- Wasting, Winging
- ROM shoulders, elbows, wrists, fist, tuck
- ROM C-spine + Spurlings
- Phalen's
- Drift, finger/thumb tap
- Functional: Incline pushup
- Draw out area of sensory loss

Leg exam

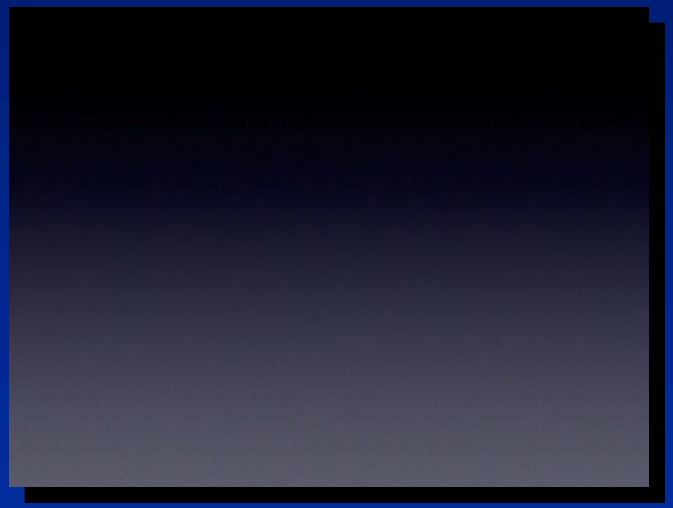
- Wasting
- ROM (lift knee, F/E Knee and ankle)
- Seated SLR
- Functional: Squat, Heel/Toe walk or raises, Hop
- Draw out sensory loss
- Gait

Motor

Gait

- Camera size/Setup an issue
- Usually need an assistant

Gait



Nerve Trauma

Lacerations, Crush, Traction, Compartment Syndrome

- Always a referral for NCS/EMG
- Usually urgent
- 6 month window for nerve repair
- Expedited referral possible-Call

EMG
When to refer?

- Specific but not sensitive
- Poor screening test for limb pain
- 50% sensitive for radics
- Better if weakness/numbness
- Better for plexus, nerve, muscle
- Complements clinical exam and imaging

EMG
When to refer?

- Limb Weakness/Numbness-Yes
- Suspected Plexopathy, Compressive mononeuropathy, myopathy
- Suspected polyneuropathy
- Nerve Trauma

EMG
When NOT to refer?

- Undifferentiated Limb Pain Only-No
- Spine Pain Only-No
- Radiculopathies with pain only-low yield
- CRPS

Virtual Blind Spots

- LMN vs UMN (cervical myelopathy)
- Reflexes, tone, clonus, Hoffman's/Babinski
- Muscle disease (PMR, FM, rarer)
- Neuromuscular junction (MG)

Red Flags

- Acute onset weakness, non-ambulatory
- Bilateral weakness
- Proximal weakness
- Bowel/Bladder
- Lhermittes
- Severe wasting
- Fasics
- Cramps

Investigate

- Low threshold for F2F exam
- Selective Imaging (Spine)
- Selective NCS/EMG

History
the most important task

- Diagnosis reached in ¾ of cases
- Be systematic- just as you would in person
- Don’t forget about medications, etc
- Ask about test results, other consults
- Assess reliability of history
- Involve family

Thankyou