

ATAXIA & ALTERED MENTAL STATUS

Peripheral Nerve & Neuromuscular Disorders

ACUTE PERIPHERAL NEUROPATHIES

* Bell's Palsy

- Unilateral facial paralysis that INCLUDES the forehead wrinkles - caused by CN VII neuropathy (HSV, Lyme, EBV, Mumps)
- Always rule out CVA $\Rightarrow$ forehead wrinkles are SPARED.
- Tx: prednisone 1mg/kg PO for 1 week, plus eye patch & lubricant. Ophthalmology f/u required. *Note: antivirals are not helpful*

* Ramsay-Hunt Syndrome

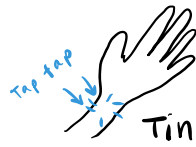
- Same symptoms as Bell's Palsy + vesicular rash on face and/or ear.
- If CN VIII is involved, pt may also have vertigo, nausea, and hearing loss. If the vesicular rash is on the tip of the nose, be concerned about ophthalmic involvement of zoster, which warrants emergent ophthalmologic consult.
- Tx: Valacyclovir 1g PO 3x/day for 1 week, plus prednisone.

* Guillain-Barré Syndrome

- Caused by myelin sheath destruction (autoimmune), but usually 2-4 weeks after an infection.
- Progressive, ASCENDING, mostly symmetric muscle weakness or paralysis w/ absent or depressed deep tendon reflexes.
- Tx: IVIG or plasmapheresis. *Steroids have no benefit & may be harmful.

* Median Nerve Mononeuropathy = Carpal Tunnel

- Check using Tinel's Sign or Phalen's Sign



Tinel's



Phalen's

* Ulnar Nerve = Cubital Tunnel

- Check using Froment's Sign $\Rightarrow$



Normal



Froment Positive

$\hookrightarrow$ when you try to pull the paper away from the pt, they may be too weak to hold the paper or they may flex thumb to try to compensate for weakness.

* Radial Nerve = aka "Saturday Night Palsy"

* Meralgia Paresthetica

- Pts presenting w/ numbness & pain on the anterolateral thigh may be experiencing entrapment of the lateral femoral cutaneous nerve in the inguinal canal.
- The pelvic compression test can be diagnostic: lay pt on side, compress pelvis laterally & if symptoms are improved after 30 seconds, that is a positive test.
- Tx: avoid tight fitting clothes or work on weight reduction. NSAIDs can help.

NEUROMUSCULAR JUNCTION DISORDERS

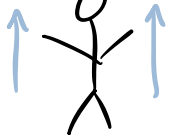
* Myasthenia Gravis

- Muscle weakness that worsens w/ repeated firing of the muscle (fatigable)
 - Ocular symptoms: ptosis, double vision, blurred vision
 - Dysphagia, dysarthria, dyspnea, dysphonia $\Rightarrow$ eventually respiratory failure
- Dx/tx: edrophonium (if they get better, great. If not, there's something else wrong).
 - Ice bag test: put ice on eye to test for improvement of eye problems.
 - Plasmapheresis, IVIG, and neuro consult.

* Botulism

- Caused by *Clostridium botulinum* $\Rightarrow$ found in improper canned foods and honey (fatal in infants).
- Infants present as lethargic and "floppy", and have diminished oral intake.
- In adults, appears like acute gastroenteritis w/ nausea, vomiting, abdominal pain, $\frac{1}{2}$ diarrhea, plus **DESCENDING**, symmetric paralysis w/ double vision, difficulty speaking, difficulty swallowing, blurred vision, and normal or diminished DTRs.

Myasthenia
Gravis



Botulism



PEDIATRIC HEAD TRAUMA

* PECARNS Rules:

- In Ages < 2 - you should get a head CT if...

- Current AMS (GCS of ≤ 14 , agitation, somnolence, slow responses, repetitive questioning).

$\leftarrow$ * 2. Palpable skull fracture.

* In ages ≥ 2 , #2 is sign of basilar skull fracture.

Sedation Pearls for CT

- < 6 months: swaddle, glucose water, acetaminophen
- > 6 months - 3-4 years:
 - Ketamine 4 mg/kg IM
 - Pentobarbital 1-2 mg/kg IV
 - Methohexital 25 mg/kg PR
- Over 4 years - Talk them through it/parent with lead in CT suite. Pain control and anxiolysis as needed

- It is not necessary for children to be routinely woken at home if they meet discharge criteria. If you are that concerned, you better admit them for observation.
- A negative initial head CT makes it very, very unlikely that that patient will develop a subsequent injury ($< 0.05\%$)
- Children with a brief post-traumatic seizure, a normal head CT, and otherwise normal neurological exam can be discharged after brief observation. AED's are not needed and there is a very low likelihood of further seizure activity or neurological sequelae
- Post-concussive syndrome is rarer in children in adults. If symptoms persist more than 2-3 weeks then more formal evaluation should be sought.

Potpourri of other guidelines

- Other high risk factors
 - Focal neuro deficits
 - Seizures
 - Bulging fontanels
 - Persistent vomiting
 - Suspicion of child abuse
 - Predisposition to bleeding
- Other intermediate risk factors:
 - Unwitnessed trauma
 - Vomiting delayed several hours
 - < 3 mo with trivial trauma