MOVEMENT DISORDERS

Essential Tremor

Phenomenology

Always involves upper extremities, presenting as kinetic and postural tremor that is typically symmetric or slightly asymmetric; in approximately 50% of patients, the tremor demonstrates worsening on approaching a target (eg. finger nose finger testing). May or may not also involve the head and/or voice.

DDx

- Enhanced physiologic tremor: typically lower amplitude and higher frequency. Can be seen with anxiety, certain medications/substances (stimulants, caffeine, corticosteroids, beta-agonists, lithium, etc). If bothersome, can be treated with non-selective beta blockers such as propranolol.
- Dystonic tremor: isolated head tremor (no extremity involvement) almost always represents cervical dystonia with dystonic tremor rather than essential tremor. Dystonic tremor can also effect the limbs.

Workup

- TSH with reflex
- In patients under age 50, could consider screening for Wilson disease (ceruloplasmin and 24 hour urine copper)

Treatment

1st Line - Propranolol. Start at a dose of 60mg of the long acting formulation. As long as this is well tolerated, continuing to increase this in 60mg increments as frequently as every two weeks. If no significant benefit is seen at a dose of 240mg, further uptitration is unlikely to be helpful. Side effects to look out for include bradycardia/hypotension, exercise intolerance, and bronchoconstriction.

Alternative 1st line - Primidone. Starting dose of 25mg QHS. Increase in 25mg increments as needed as frequently as every two weeks. If no benefit is seen at 300mg QHS, further increases are unlikely to be of benefit. Side effects to look out for include hypersomnolence, cognitive blunting, and imbalance.

2nd Line - Topiramate. Start at 25mg daily and increased in 25mg increments every 1-2 weeks. If improvements are not seen at a dose of 150mg BID, further increases are unlikely to be helpful. Side effects to look out for include cognitive blunting, weight loss, parasthesias, and nephrolithiasis.

Note: If incomplete benefit is seen with one medication, it can be kept on board, and a second medication added.

Non-medication interventions include wrist weights, weighted utensils, Liftware (a computerized utensil), and the Cala Trio bracelet – these last two options are quite expensive however and are unfortunately not covered by insurance. As of the writing of this guideline these devices can be tried for free and returned if not effective.

If a satisfactory response is not seen with the above interventions, some patients may be a candidate for surgical intervention such as deep brain stimulation or focused ultrasound.

When to refer

While essential tremor can often be managed by primary care, if there is any question in the diagnosis, a referral to establish this is always appropriate. A referral should also be considered in medication-refractory patients.

Parkinson Disease

Phenomenology

- Resting tremor: typically unilateral or asymmetric. May involve upper extremities, lower extremities, and/or chin. Upper extremity tremor may or may not have a pill rolling quality. Often can be brought out by distraction (eg. getting the patient to count backwards by 7s), excitement, or anxiety. 30% of Parkinson's patients have no tremor.

- Bradykinesia and gait changes: slow movements that tend to decrement (eg. repetitive finger or foot tapping). Can also be seen in gait which is typically narrow based but slow with decreased stride with or without shuffling. Other features seen on gait testing include kyphotic posture (camptocormia) and asymmetrically decreased arm swing.
- Rigidity: resistance to passive motion at a joint. Best appreciated at the wrists. Brought out by competing maneuvers (eg. getting patient to draw circles in the air with the opposite hand). If there is overriding tremor, rigidity can take on a cogwheeling quality.
- Postural instability: Can predispose to falls. Typically a later feature of Parkinson disease.

DDx

- Drug-induced Parkinsonism, Parkinson plus syndromes, vascular Parkinsonism, normal pressure hydrocephalus

Workup

Typically a clinical diagnosis. A thorough review of medications is important to make sure patients are not on (or have recently been on) dopamine blocking medications such as antipsychotics (including aripiprazole) and most nausea medications (prochlorperazine, promethazine, metoclopramide, etc) – effects of such medications can persist for up to a year after discontinuation.

When to refer

When a Parkinsonian disorder is suspected, a referral should be made to neurology for evaluation/ management.

Restless Leg Syndrome

Symptoms

Restless feeling in legs associated with urge for and relief from movement. Typically worse in the evening.

DDx

- Periodic limb movements of sleep: often occur in patients of RLS but if not causing symptoms of restlessness or disturbing sleep do not require treatment.
- Akathisia: similar to RLS but diffuse. Can be associated with certain medications (eg. neuroleptics, serotonergic agents).
- Other involuntary movements: some lower extremity movements (eg. chorea) may look like restless legs but are not associated with an urge to move.

Workup

- Iron panel with ferritin (supplement ferritin to >100ug/L), basic metabolic panel

Treatment

- A-2 Delta Calcium Channel Ligands
  - Gabapentin: start 100-300mg QHS. May increase in up to 300mg increments weekly as high as 1200mg QHS in patients with normal renal function. For patients with daytime symptoms, can include additional doses up to total daily dose of 3600mg.
  - Pregabalin: start 50-75mg QHS. May increase in up to 75mg increments as high as 300mg QHS in patients with normal renal function. For patients with daytime symptoms, can include additional doses up to total daily dose of 600mg.
- Low Dose Opioids: For patient with symptoms refractory to iron supplementation and a-2 delta calcium channel ligands, low dose opioids can be effective. Examples include methadone (2.5-10mg) and buprenorphine (1/4 – 2 of 75mcg buccal film OR 5-15mcg/hr patch).
- Try to avoid dopamine agonists and carbidopa/levodopa which can lead to augmentation – worsening of RLS symptoms over time in terms of severity, frequency, and/or distribution.

When to refer

Generally can be successfully diagnosed and managed by primary care.