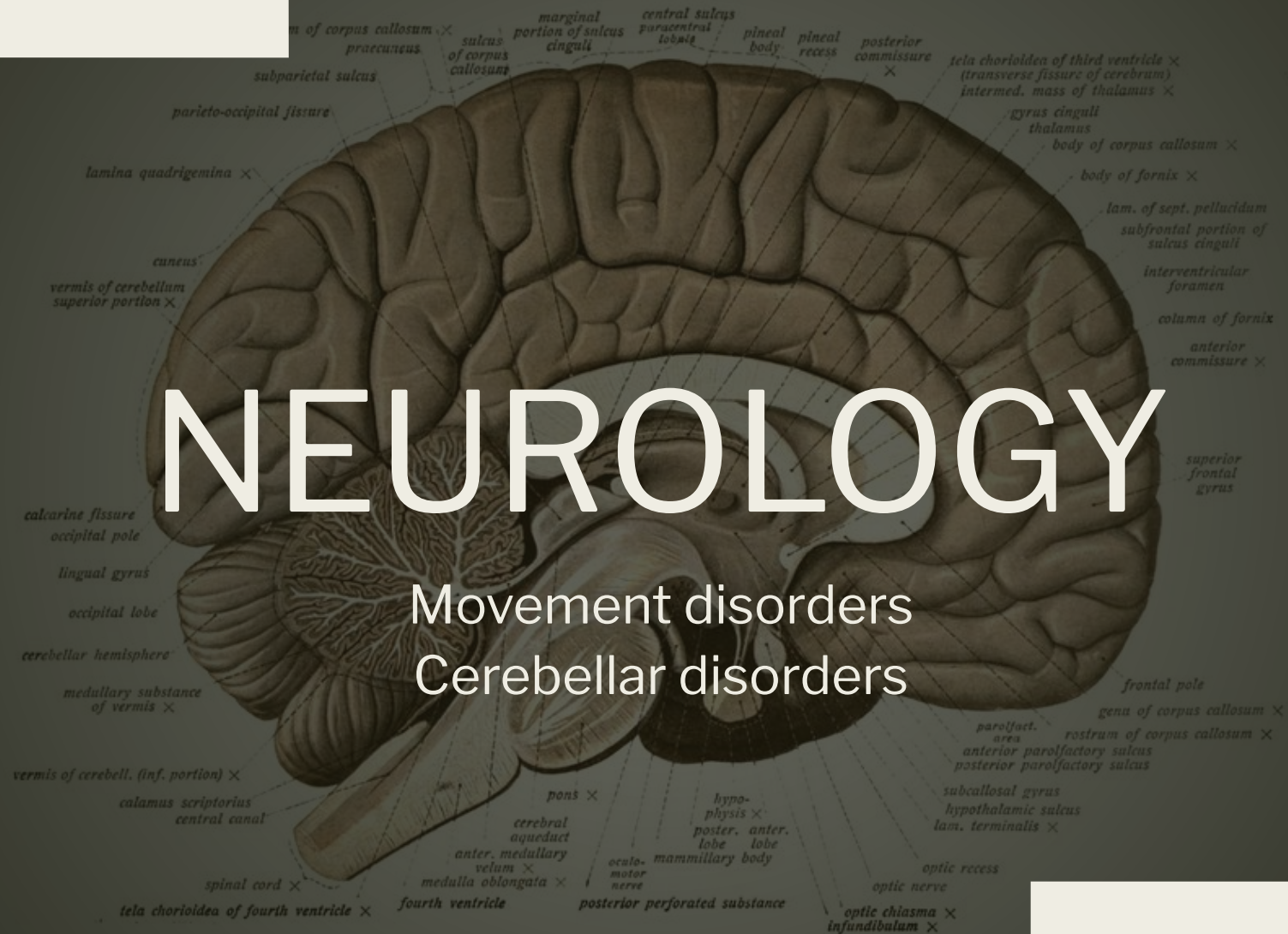
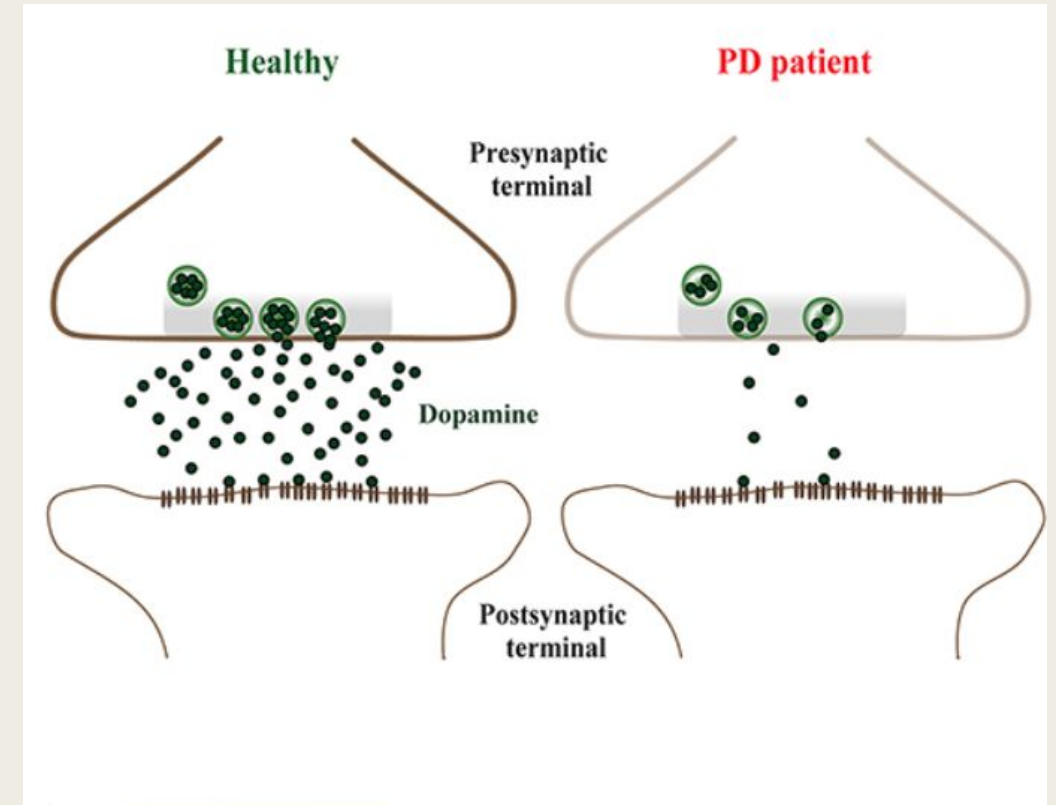
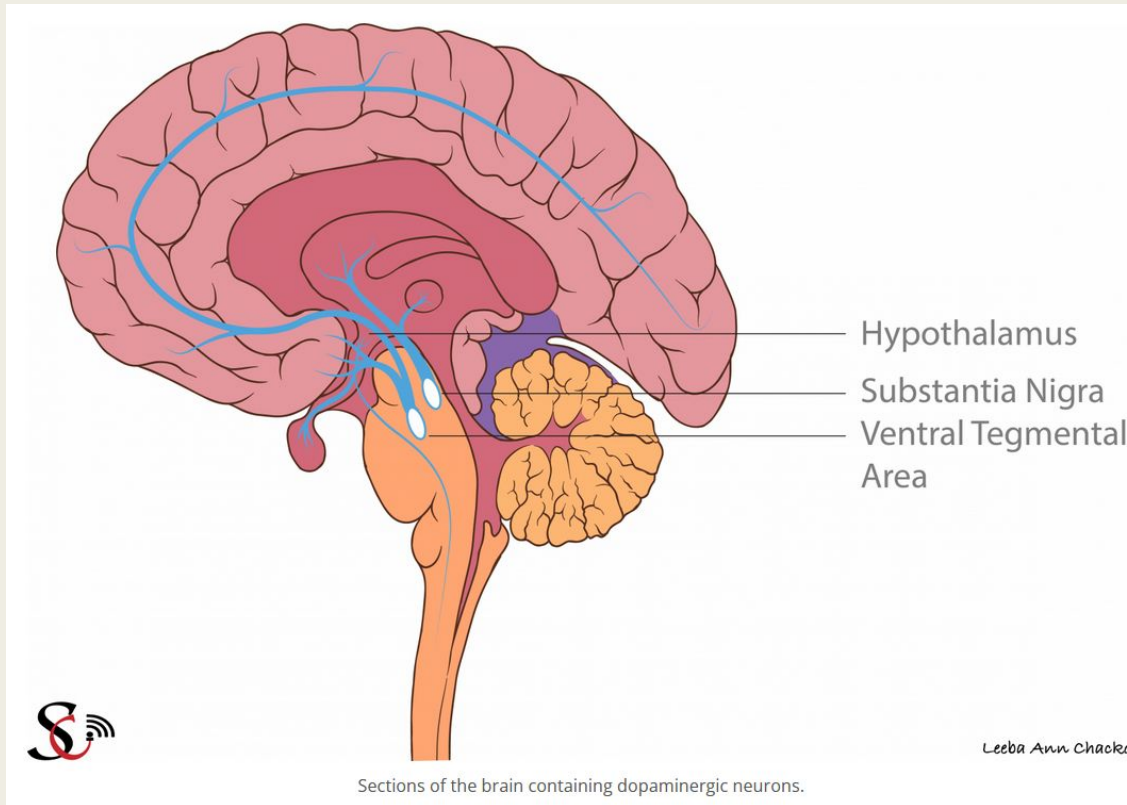


NEUROLOGY

Movement disorders
Cerebellar disorders



Parkinson's disease



Parkinson's disease



The classic quintet of PD

- 1. tremor (at rest)
 - 2. rigidity
 - 3. bradykinesia
 - 4. postural instability
 - 5. gait freezing
-
- ≥ 2 signs = Parkinson disease

Parkinson's disease

- Pill-rolling

- *Tremor of fingers and hand*

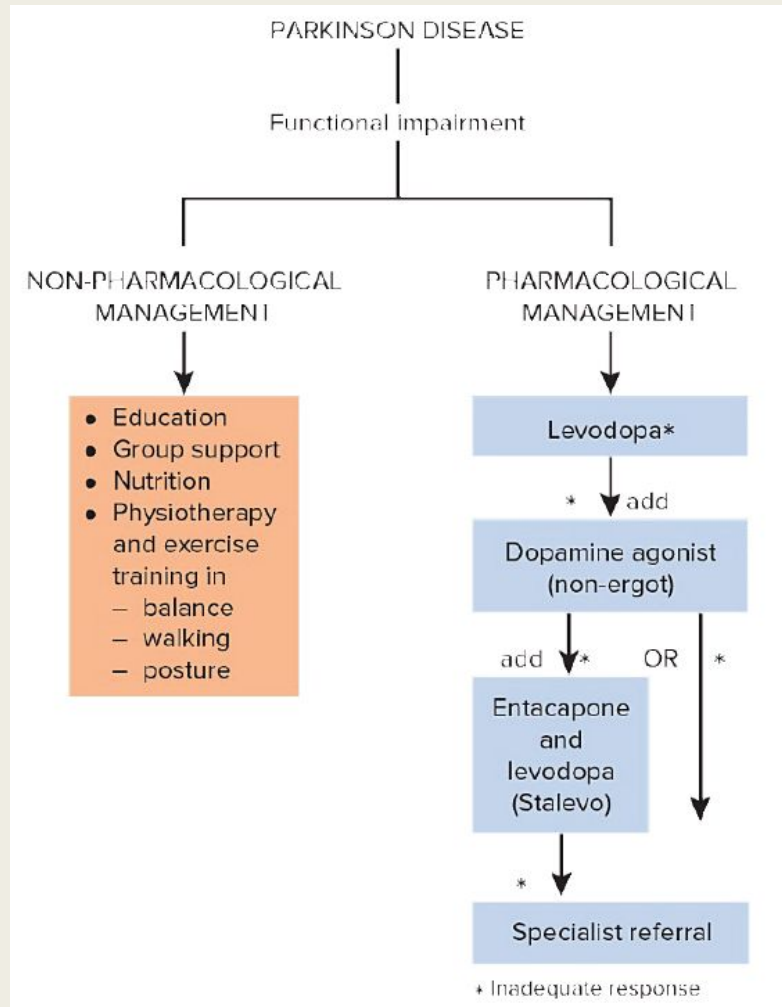


- Cogwheel rigidity

- *Moving arms passively toward body*



Parkinson's disease

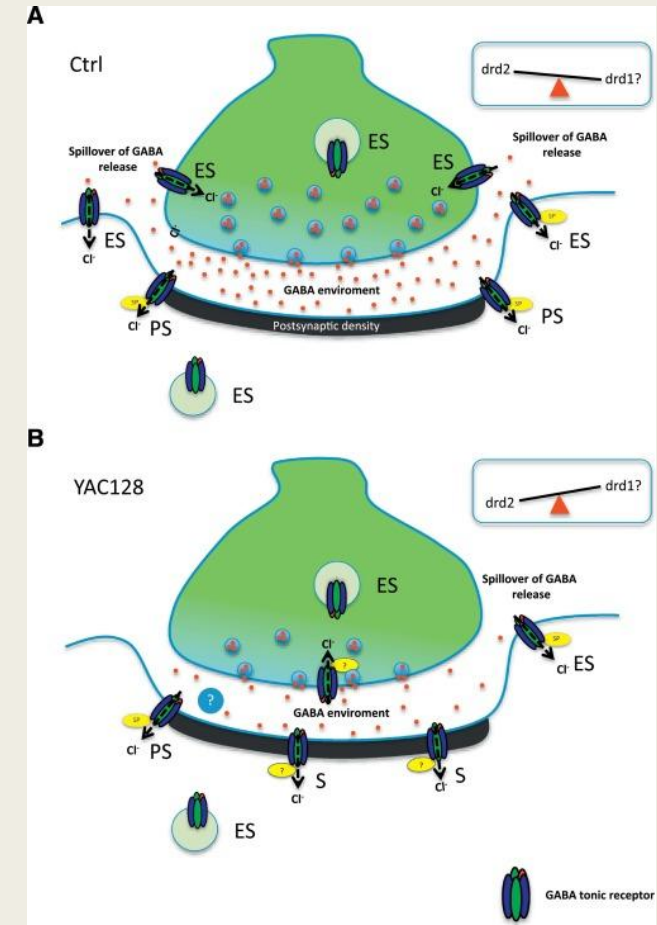
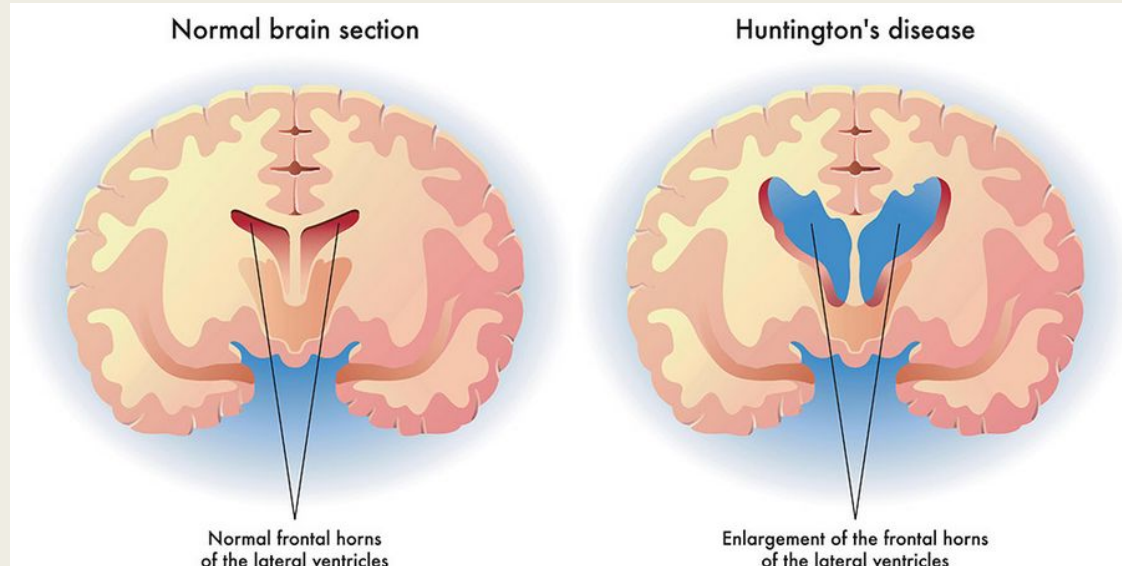


- Levodopa + Carbidopa
 - Add more dopamine to brain
 - Don't take with: MAO-B inhibitors, vitamins B6, protein food
- Ropinirole
 - Dopamine agonist
 - SE: drowsiness
- Amantadine
 - Stimulate dopaminergic activity in CNS
- Anticholinergic
 - Not for patient's with Glaucoma
 - Don't quit taking suddenly

Parkinson's disease

- MAO Inhibiter Type B
 - *Increase dopamine by stopping MAO activity*
 - *Foods with Tyramine*
- COMT Inhibiter
 - *Blocks COMT enzyme*
- Surgery
 - *Deep brain Stimulation*

Huntington's disease



Huntington's disease

- Insidious onset and progression of chorea
- Onset most often between 35 and 55 years
- Mental changes—change in behavior, intellectual deterioration leading to dementia
- Family history present in the majority
- Motor symptoms: flicking movements of arms, lilted gait, facial grimacing, ataxia, dystonia
- Usually a fatal outcome 15–20 years from onset

- **DxT** chorea + abnormal behavior + dementia + family

Treatment

- There is no cure or specific treatment
- Supportive treatment with agents such as haloperidol

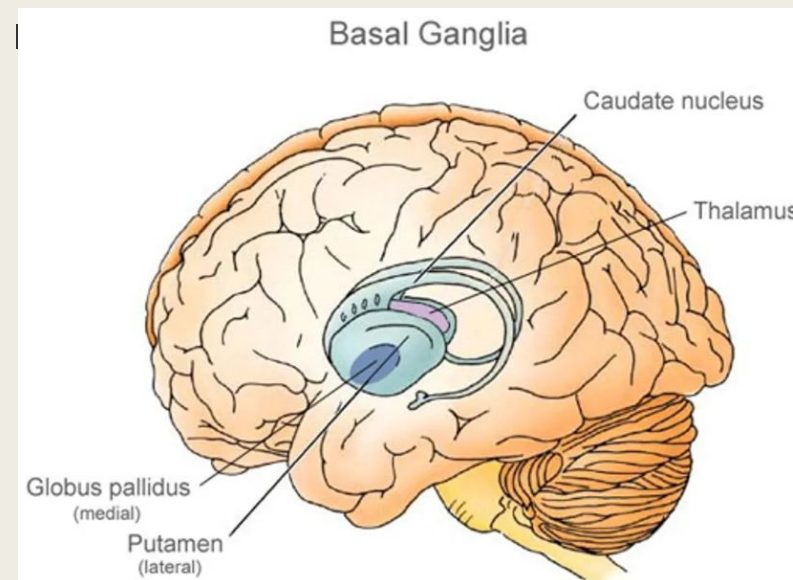
Dystonia

Dystonias are sustained or intermittent abnormal repetitive movements or postures resulting from alterations in muscle tone.

There are different types of dystonia

May be painful or uncomfortable

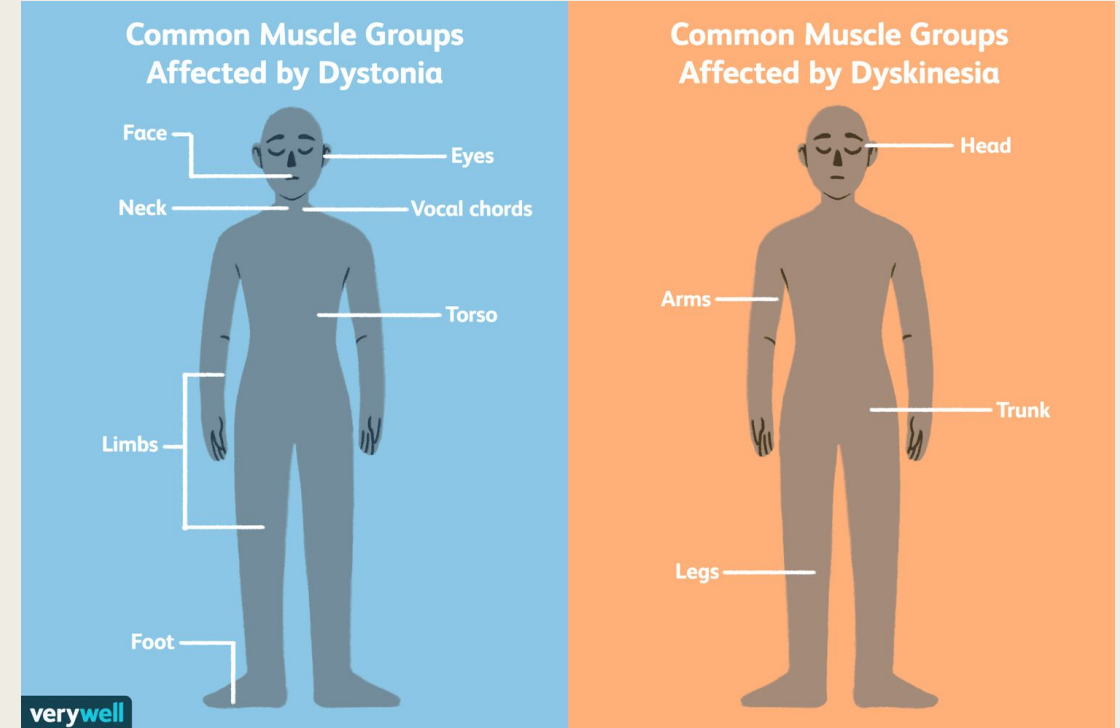
- The cause of most cases is unknown but sometimes are linked to genetic causes



Dystonia

Clinical characteristics:

- Age of the patient when they start experiencing dystonia
- Part of the body
 - *Focal* – one part of the body
 - *Segmental / generalized* – multiply parts of the body
- Temporal course
- Cause of dystonia (Parkinson's disease, medications)



Dystonia

Management

- Medication
 - Dopamine agents: *levodopa*
 - Anticholinergics: *trihexyphenidyl*
 - Benzodiazepines: *clonazepam*
 - Muscle relaxants: *baclofen*
- Injectable biologics
 - *Botulinum toxin*
- Physical, occupational and speech therapy
- Complementary therapies (acupuncture, massage)
- Deep brain stimulation

Tremor

Resting tremor—Parkinsonian

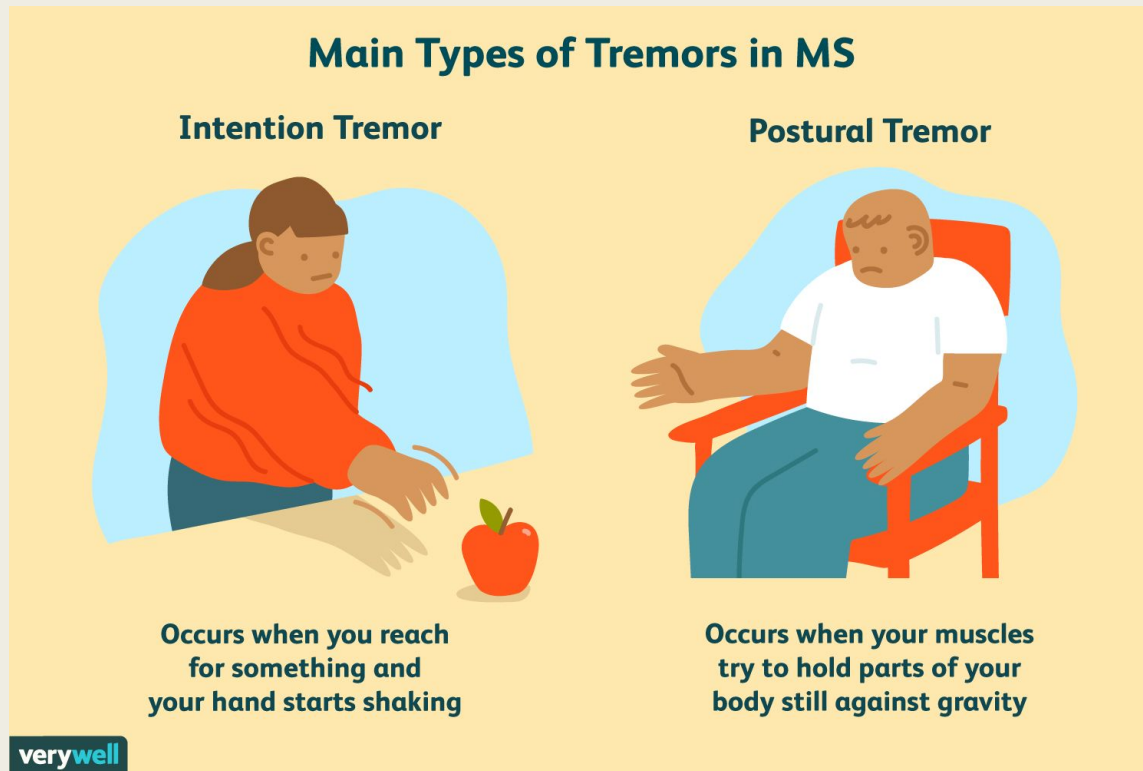
- The tremor of PD is present at rest.
- How to test
 - *focusing attention on the left hand with a view to ‘examining’ the right hand or by asking the patient to turn the head from side to side*
- Worse with rest
- Eases with activity
- “pill rolling tremor”

PARKINSONIAN TREMOR



- * MORE EVIDENT at REST
- * ASSOCIATED with PARKINSON DISEASE

Tremor



Postural tremor

- Worse with a posture
- This fine tremor is noted by examining the patient with the arms outstretched and the fingers apart
- Treatment: Salbutamol
- Caused by hyperthyroid, encephalopathy

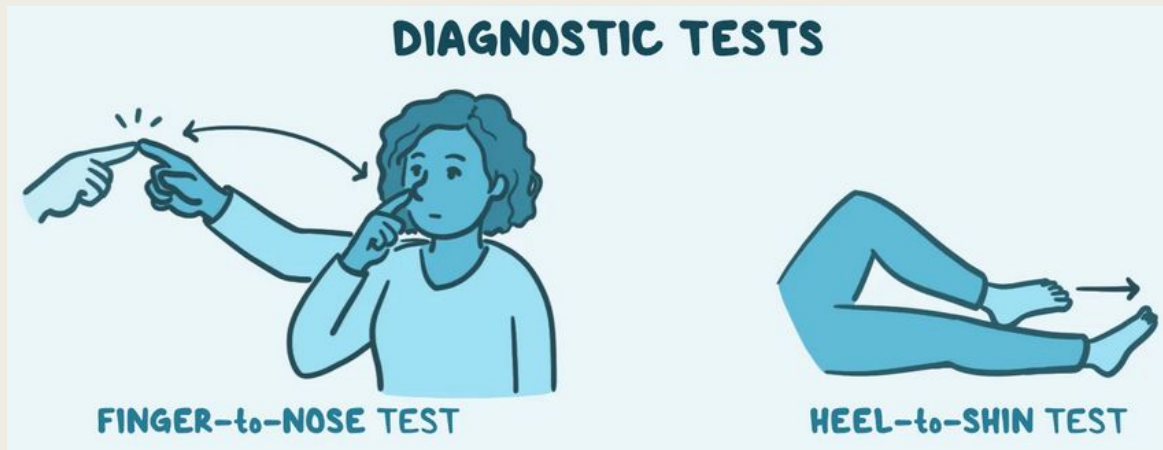
Intention tremor (cerebellar disease)

- Worse with "intension" (voluntary movement)
- It is tested by 'finger-nose-finger' touching or running the heel down the opposite shin, and past pointing of the nose is a feature

Tremor

Flapping (metabolic tremor)

- A flapping or 'wing-beating' tremor is observed when the arms are
- Extended with hyperextension of the wrists.



Essential tremor

- No underlying cause
- Increasing age
- Treatment: Beta-blockers is the first line
- Triad of features
 - Positive family history
 - Tremor with little disability
 - Normal gait

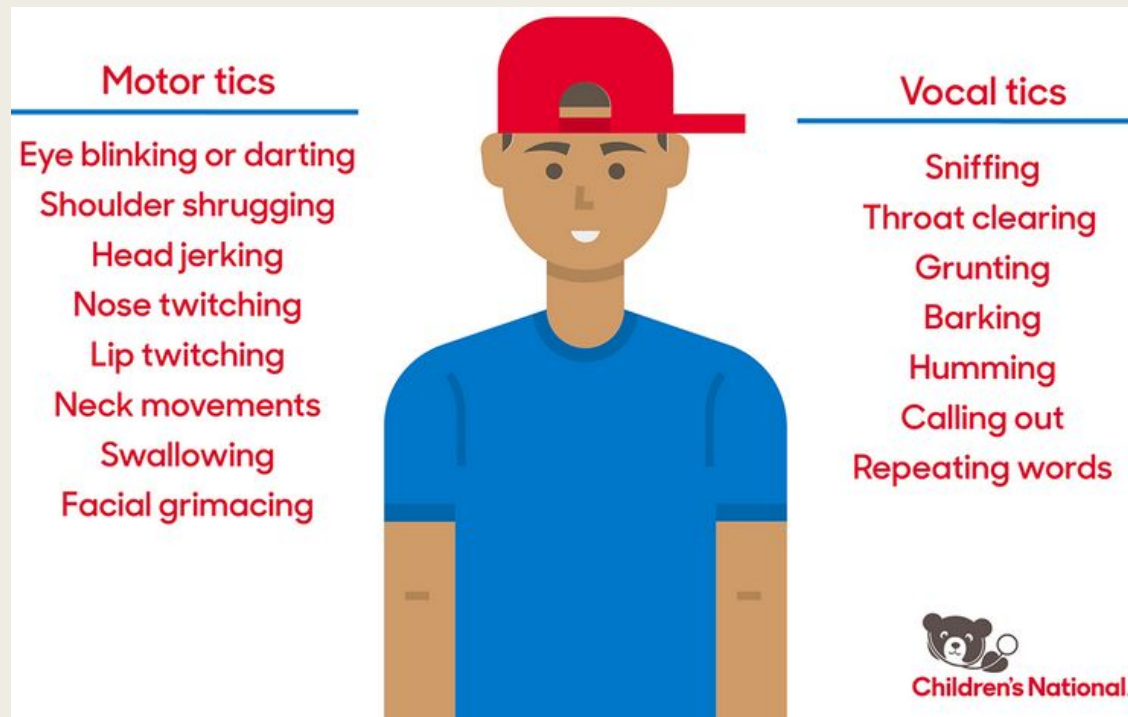
ESSENTIAL TREMOR



- * CAN OCCUR without INTENTIONAL MOVEMENT
- * CAN BE WORSENERD with ANXIETY or INTENTIONAL MOVEMENT

Tourette syndrome

Tourette syndrome is a neurological disorder characterized by sudden, repetitive, rapid, and unwanted movements or vocal sounds called tics



Tic

- Quick, nonrhythmic movements or vocalizations
- Happen over and over
- Not cause

Diagnostic criteria

- 2 distinct motor tics and 1 vocal tic
- Present for at least 1 year
- Before age 18

Tourette syndrome

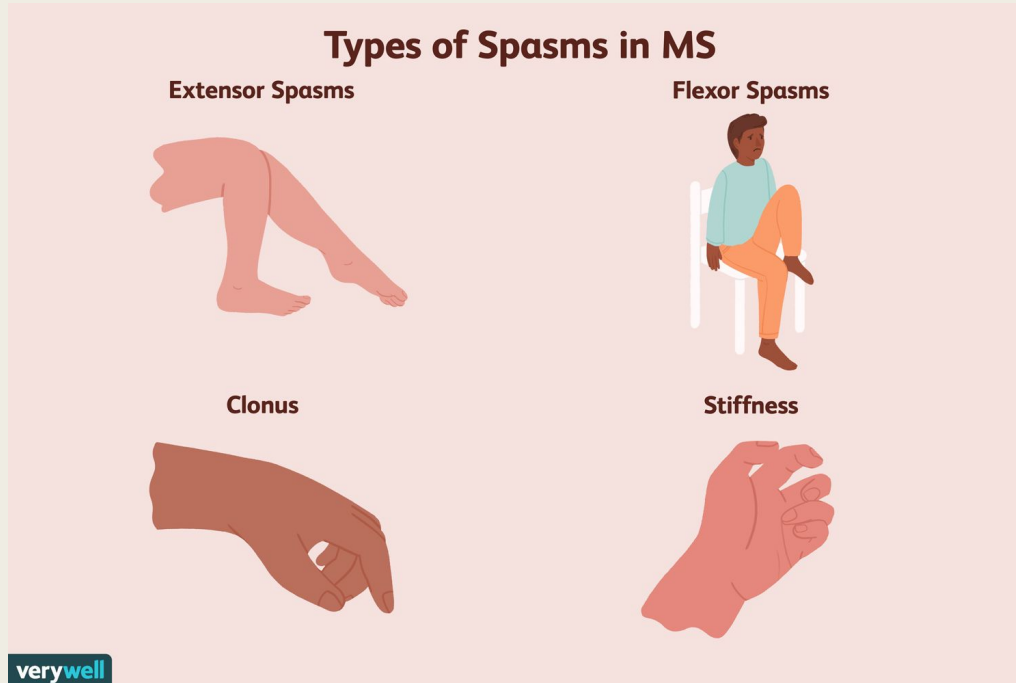
Most severe

- Before puberty (10-12)
- During periods of anxiety, excitement, or exhaustion

Management

- Therapy
 - *Cognitive behavior therapy*
 - *Habit reversal training*
 - *Reduce anxiety & depression*
- Medication
 - *Anty-psychotics*
 - *Epilepsy medication*
 - *ADHD medication*
 - *Botox injection*

Spasticity



- Diffuse and focal
- Affect the brain and/or spinal cord
- Cerebral palsy, traumatic brain injury, stroke, spinal cord injury and multiple sclerosis
- Increase muscle tone, involuntary movements (spasm, involuntary muscle contraction, clonus), pain or discomfort, less ability to function, abnormal posture, contracture, bone and joint deformities

Spasticity

- Diagnosis: history, clinical, MRI

Treatment

- Not require
- To stretch daily
- **Centrally Acting Drugs**
 - *Baclofen*
 - *Alpha-2 Agonists*
 - *Anticonvulsants:*
Benzodiazepines,
Gabapentin

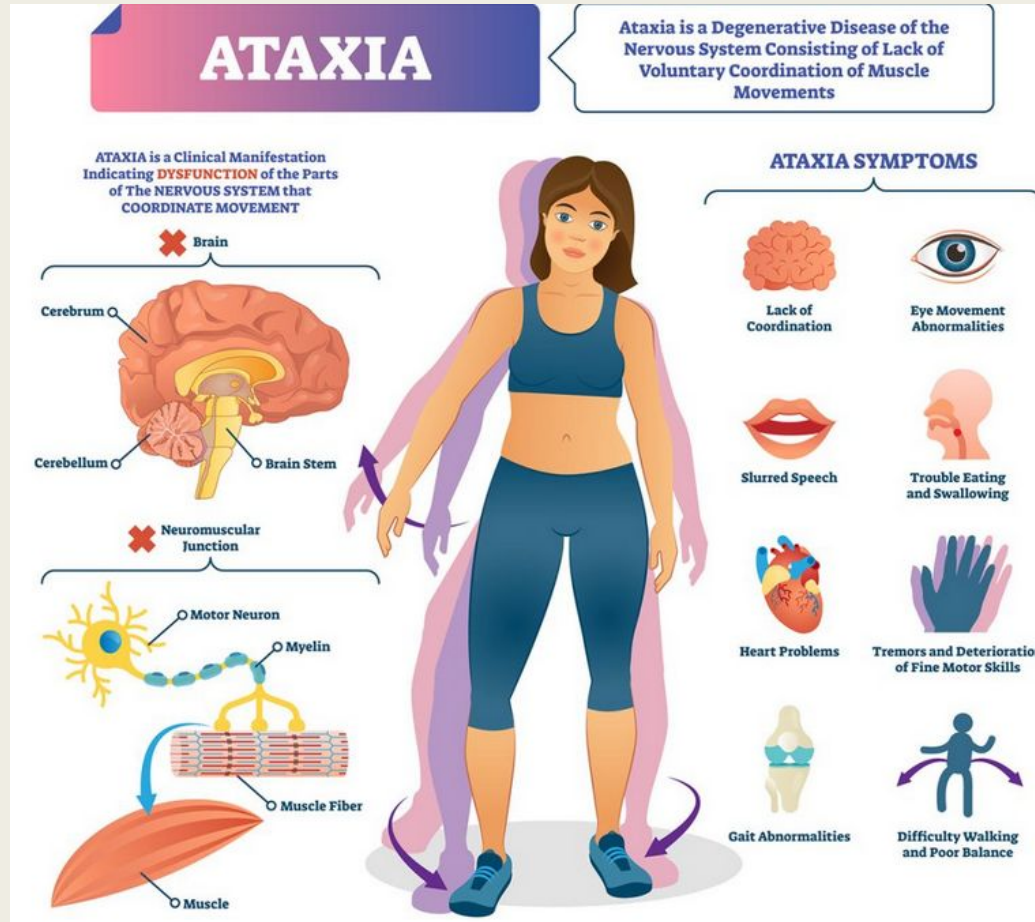
- **Peripherally Acting Drugs**

- *Dantrolene Sodium*

- **Interventional Treatments**

- *Intrathecal Baclofen*
- *Botulinum Toxin Injection*
- *Phenol/Alcohol Injection*

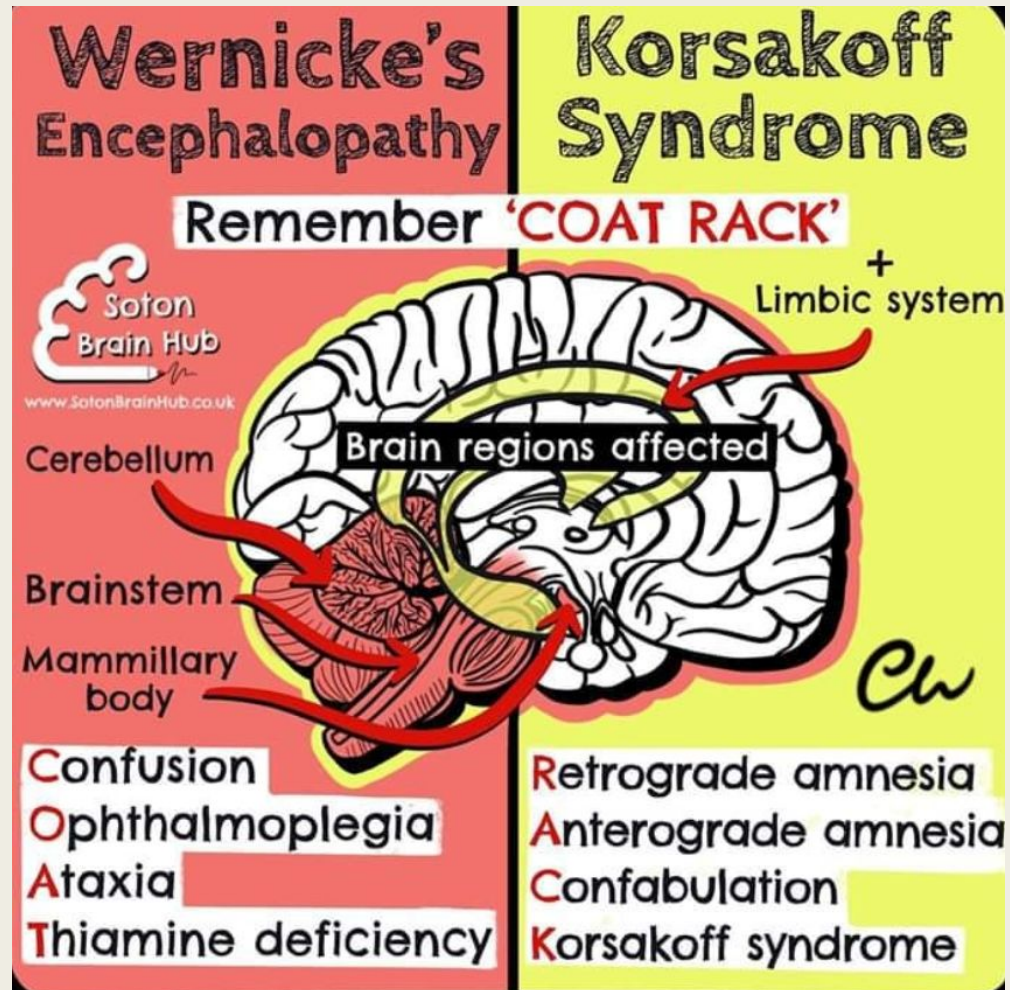
Cerebellar syndrome



Incoordination

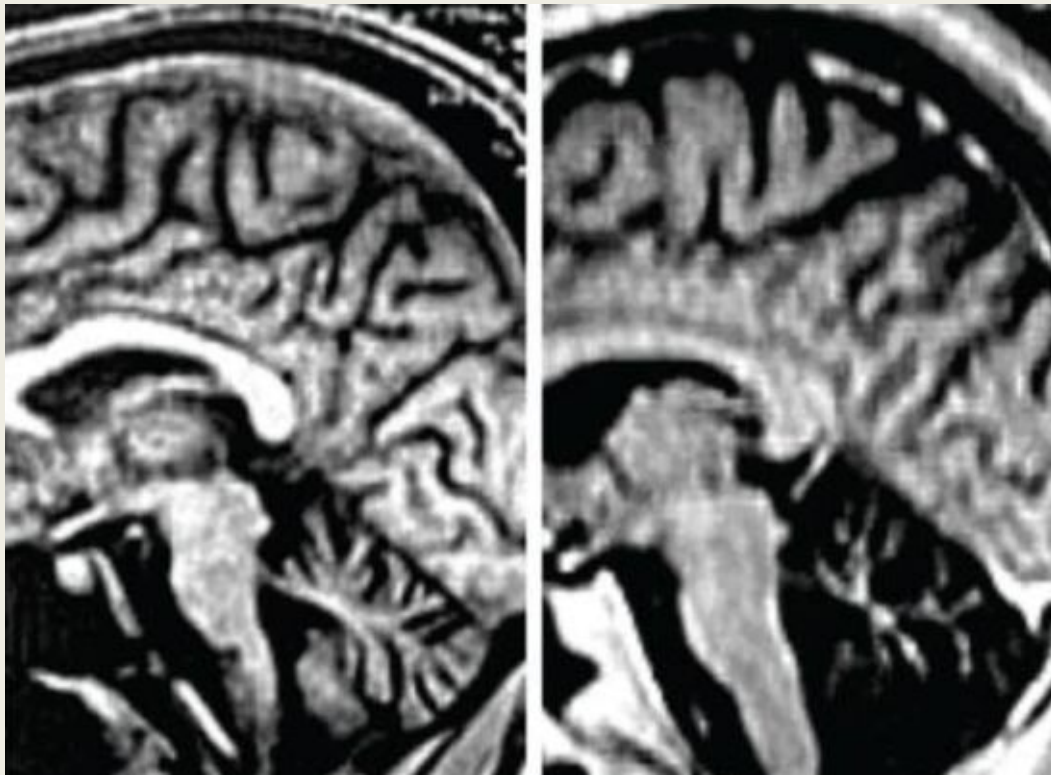
- Walking
- Limb
- Speech
- Eyes

Wernicke encephalopathy and Korsakoff syndrome



- Is a brain disorder due to thiamine deficiency (vitamin B1)
 - *including inadequate thiamine intake reduced thiamine absorption and reduced storage due to liver damage*
- Usually caused by long-term alcohol dependency
- Diagnosis: clinical, toxicology screen or liver function test
- Treatment: a diet rich in thymine

Spino-cerebellar ataxia



- Progressive neurodegenerative diseases of genetic origin
- Present of any age
- Progressive loss of coordination of hands, speech, walking, eye movements

Diagnosis: neuroimaging and genetic sequencing

Treatment mostly supportive

The background is a dark, moody photograph of a person wearing a bright red coat, standing next to a light-colored suitcase with dark brown leather straps and buckles. The person's hand is visible, resting on the suitcase. The overall tone is professional and elegant.

СПАСИБО ЗА ВНИМАНИЕ!

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