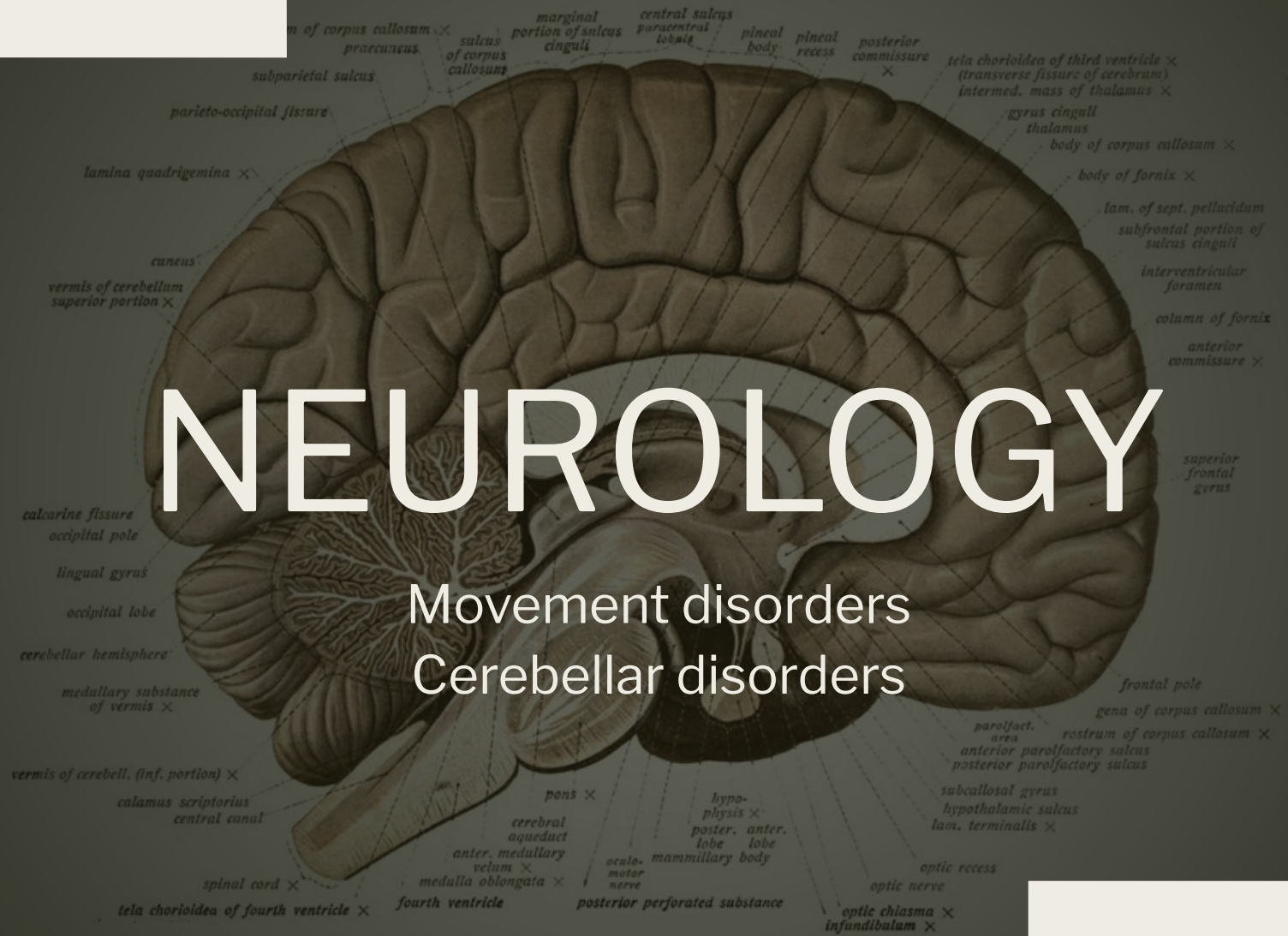
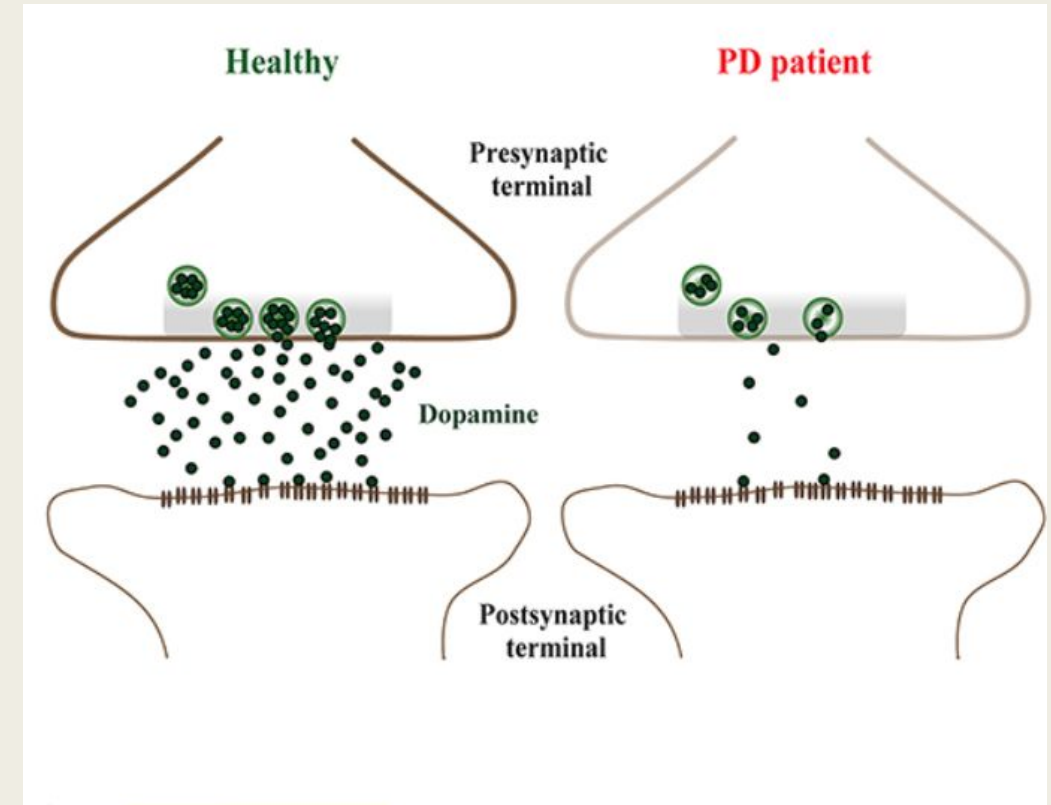
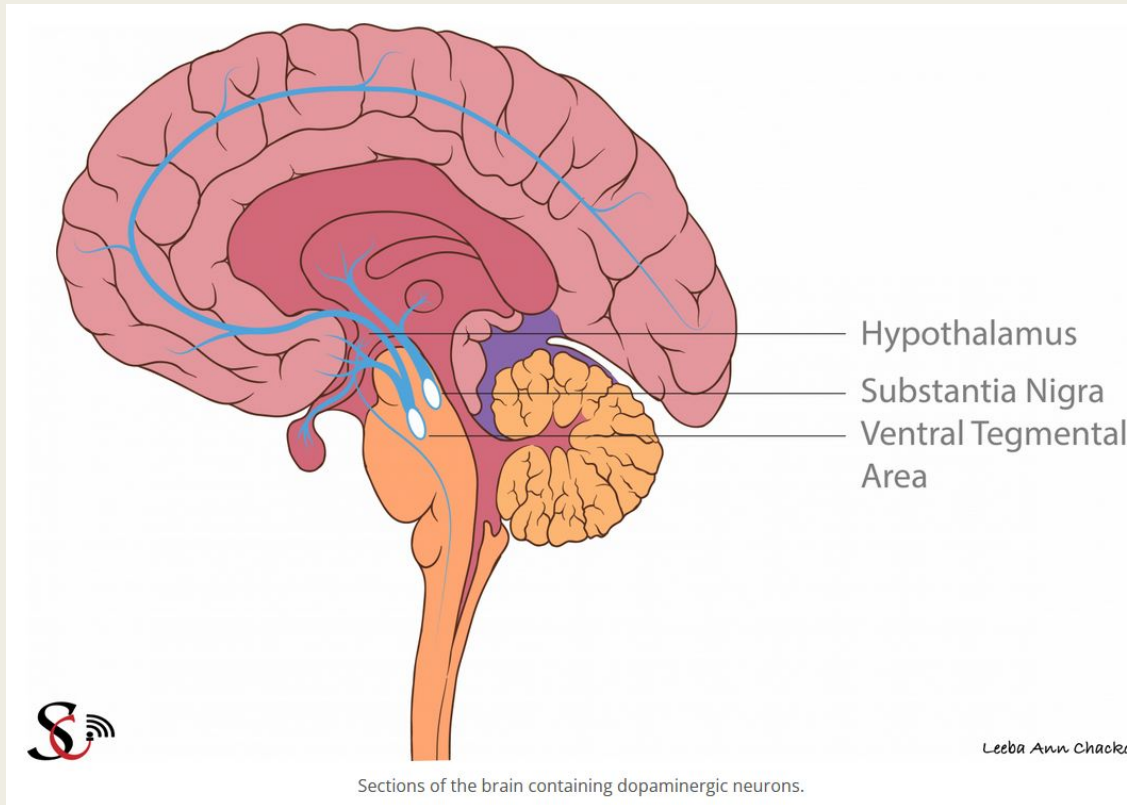


# NEUROLOGY

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
- 
- $\geq 2$  signs = Parkinson disease

# Parkinson's disease

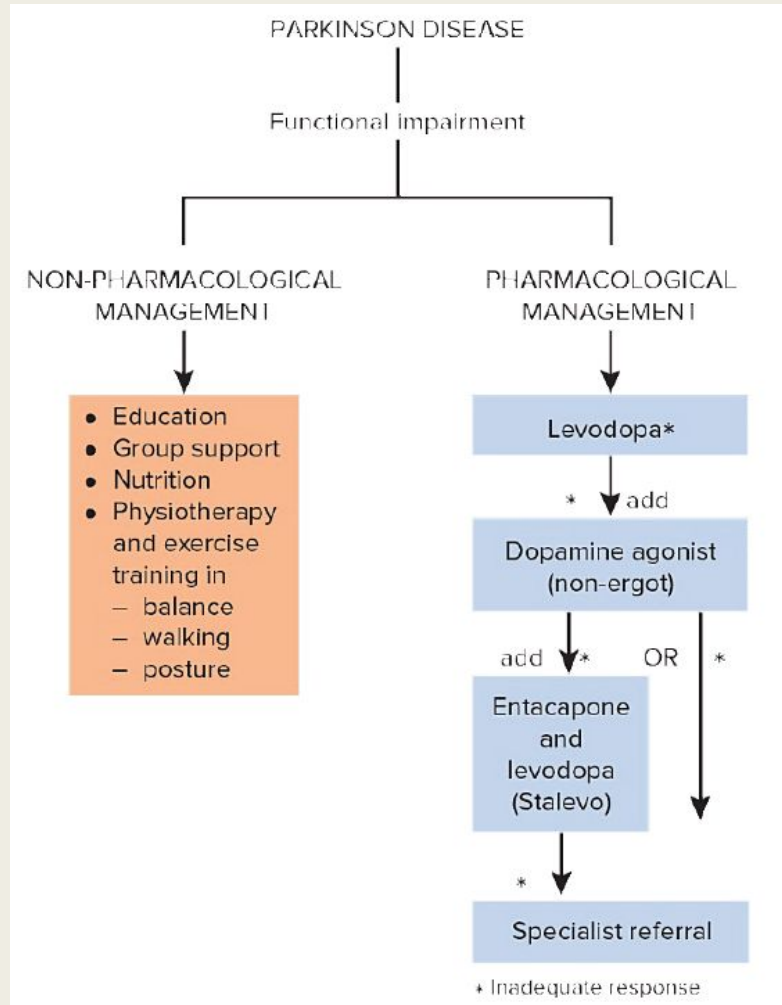
- Pill-rolling
  - *Tremor of fingers and hand*



- Cogwheel rigidity
  - *Moving arms passively toward body*



# Parkinson's disease

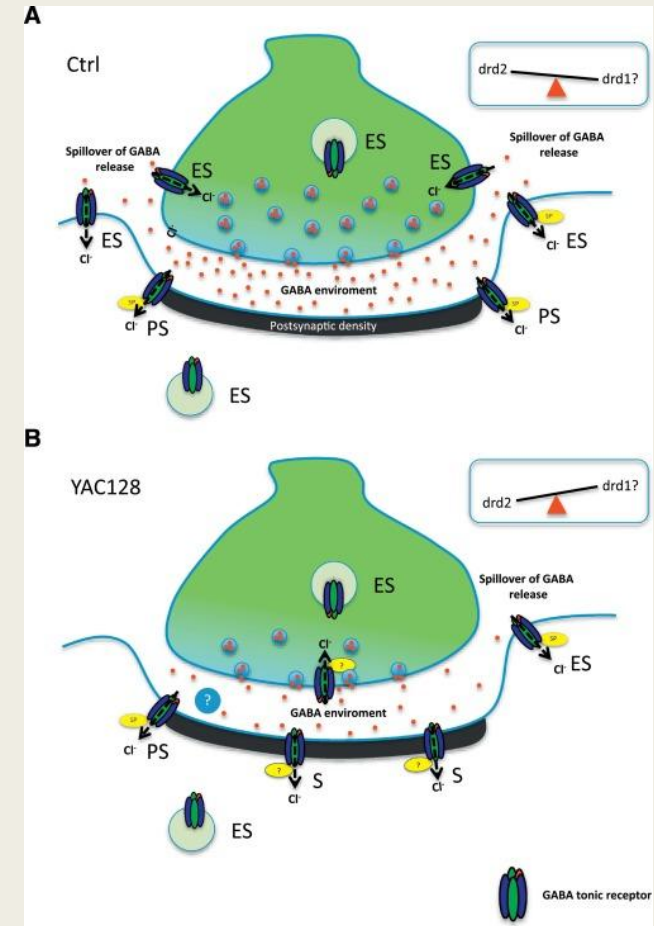
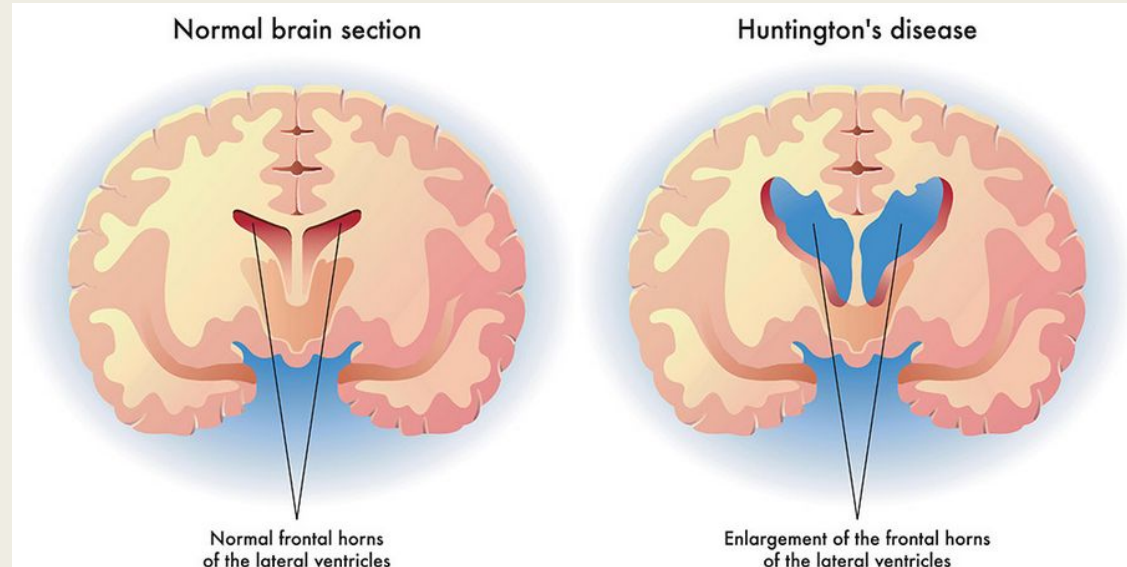


- Levodopa + Carbidopa
  - Add more dopamine to brain
  - Don't take with: MAO-Binhibitors, vitamins B6, protein food
- Ropinirole
  - Dopamine agonist
  - SE: drowsiness
- Amantadine
  - Stimulate dopaminergic activity in CNS
- Anticholinergic
  - Not for patient's with Glaucoma
  - Don't quit taking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



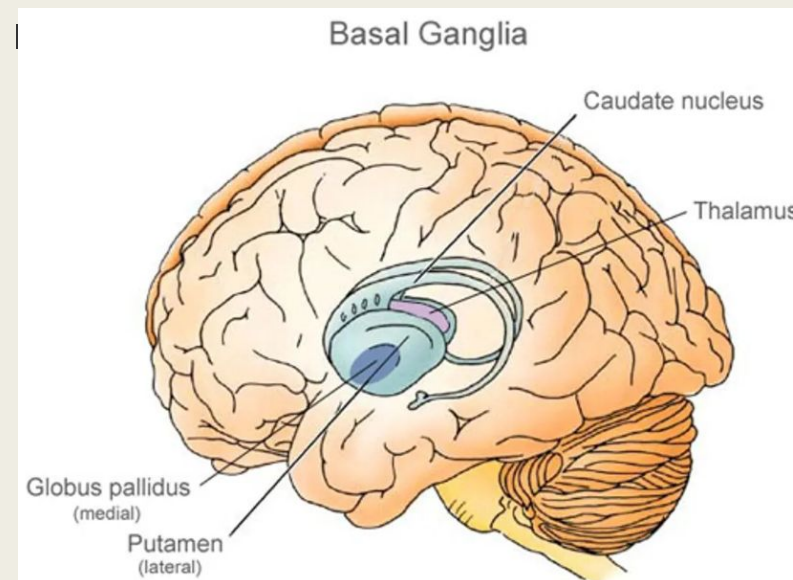
# Dystonia

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

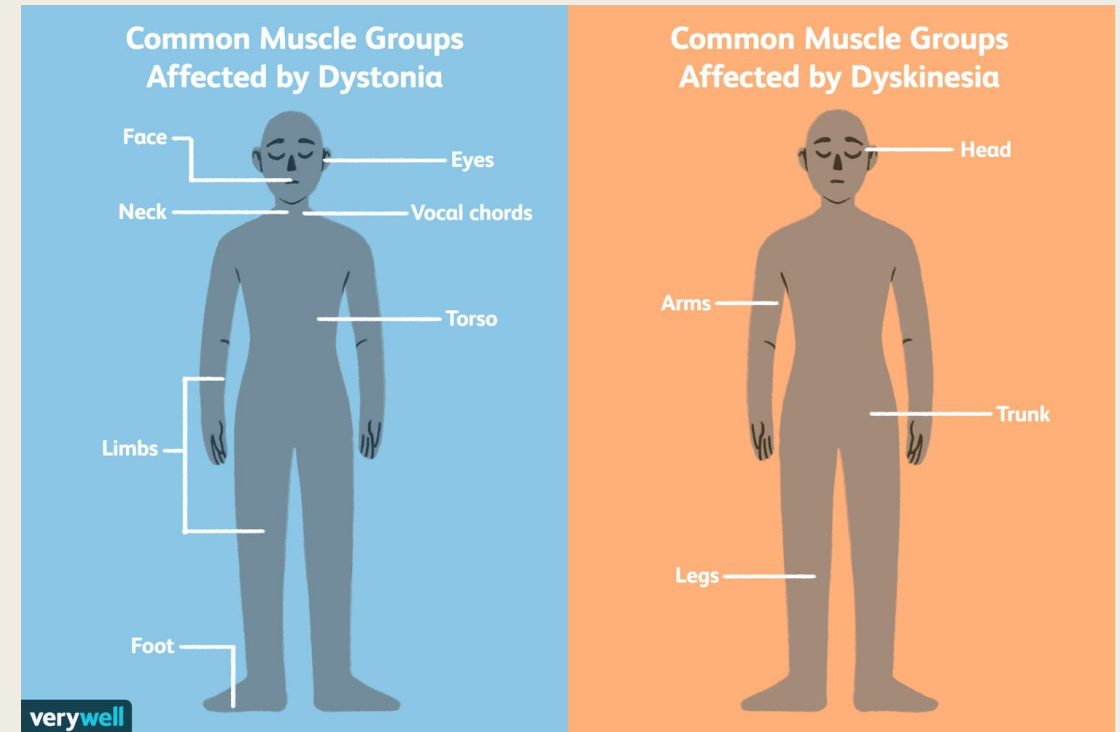
- The cause of most cases is unknown but sometimes are linked to genetic causes



# 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

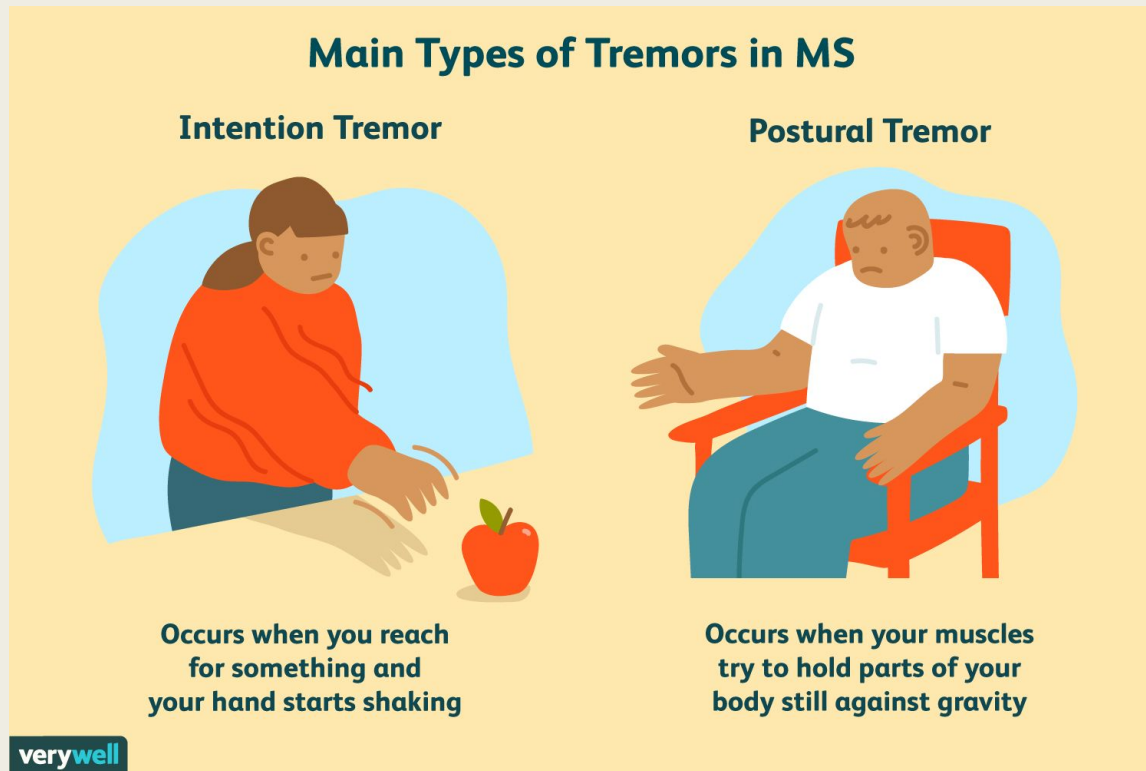
- The tremor of PD is present at rest.
- How to test
  - *focusing attention on the left hand with a view to ‘examining’ the right hand or by asking the patient to turn the head from side to side*
- Worse with rest
- Eases with activity
- “pill rolling tremor”

### 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

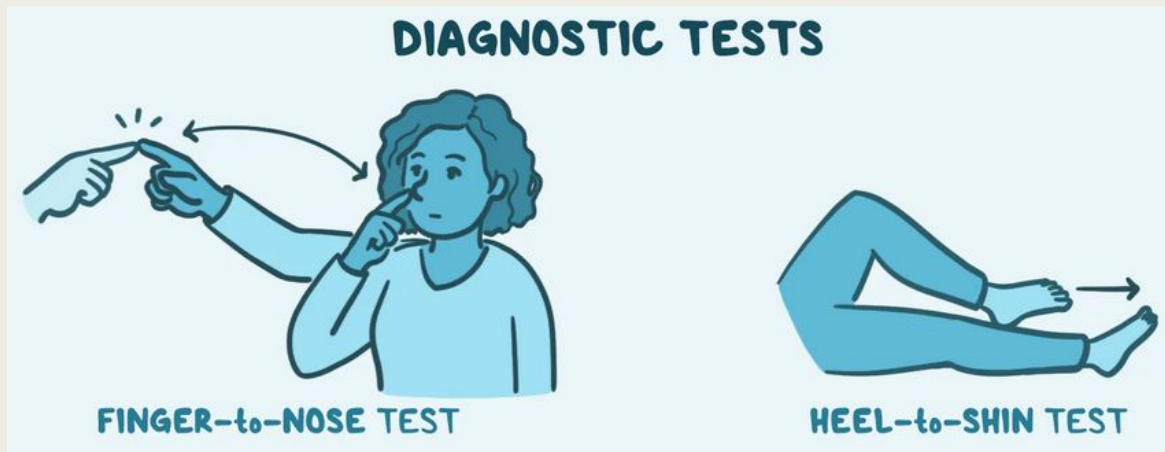
## Intention tremor (cerebellar disease)

- 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.



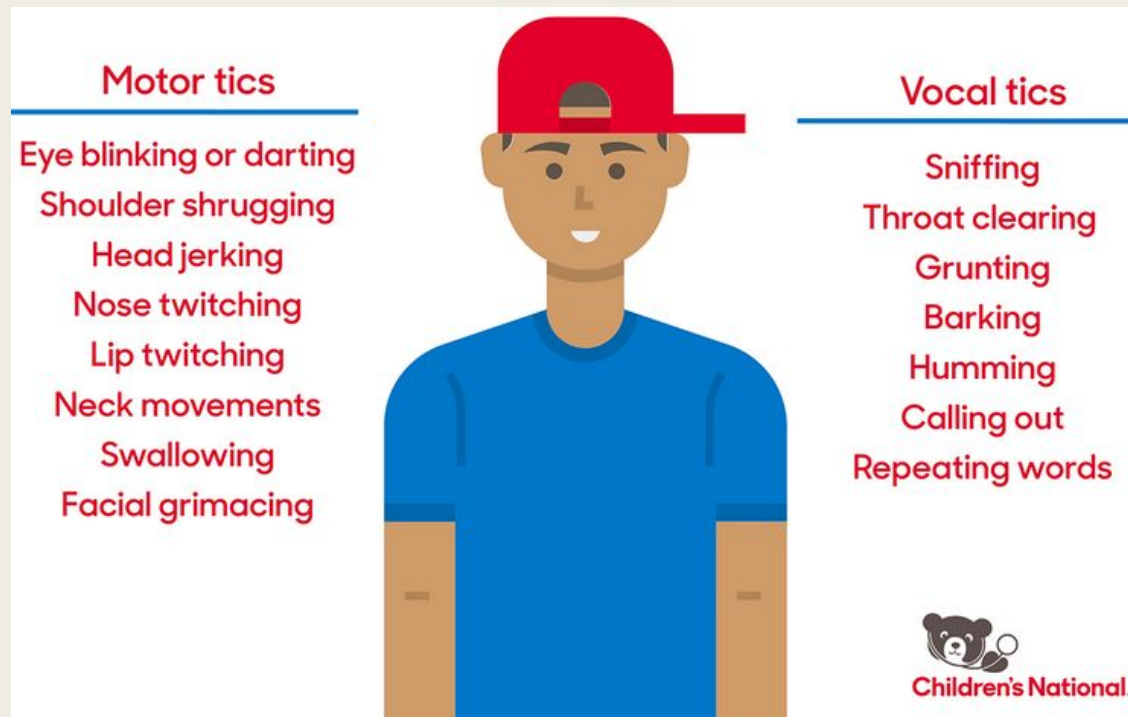
## Essential tremor

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



# 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

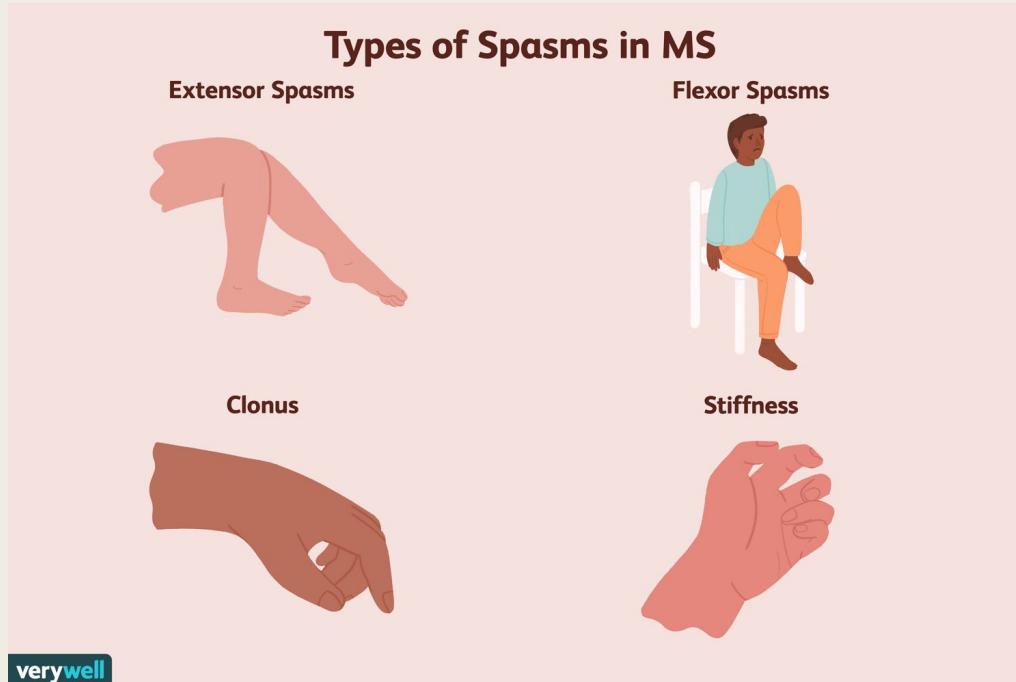
- Before puberty (10-12)
- During periods of anxiety, excitement, or exhaustion

## 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*

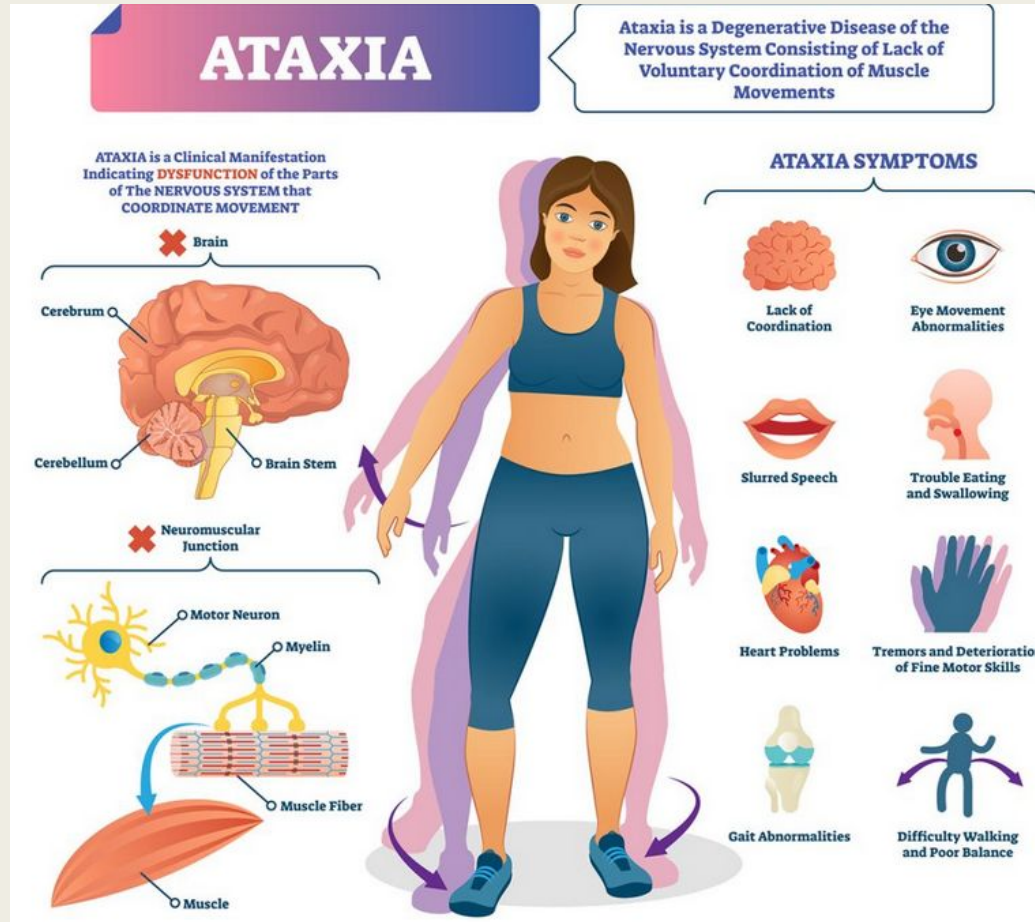
- **Peripherally Acting Drugs**

- *Dantrolene Sodium*

- **Interventional Treatments**

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

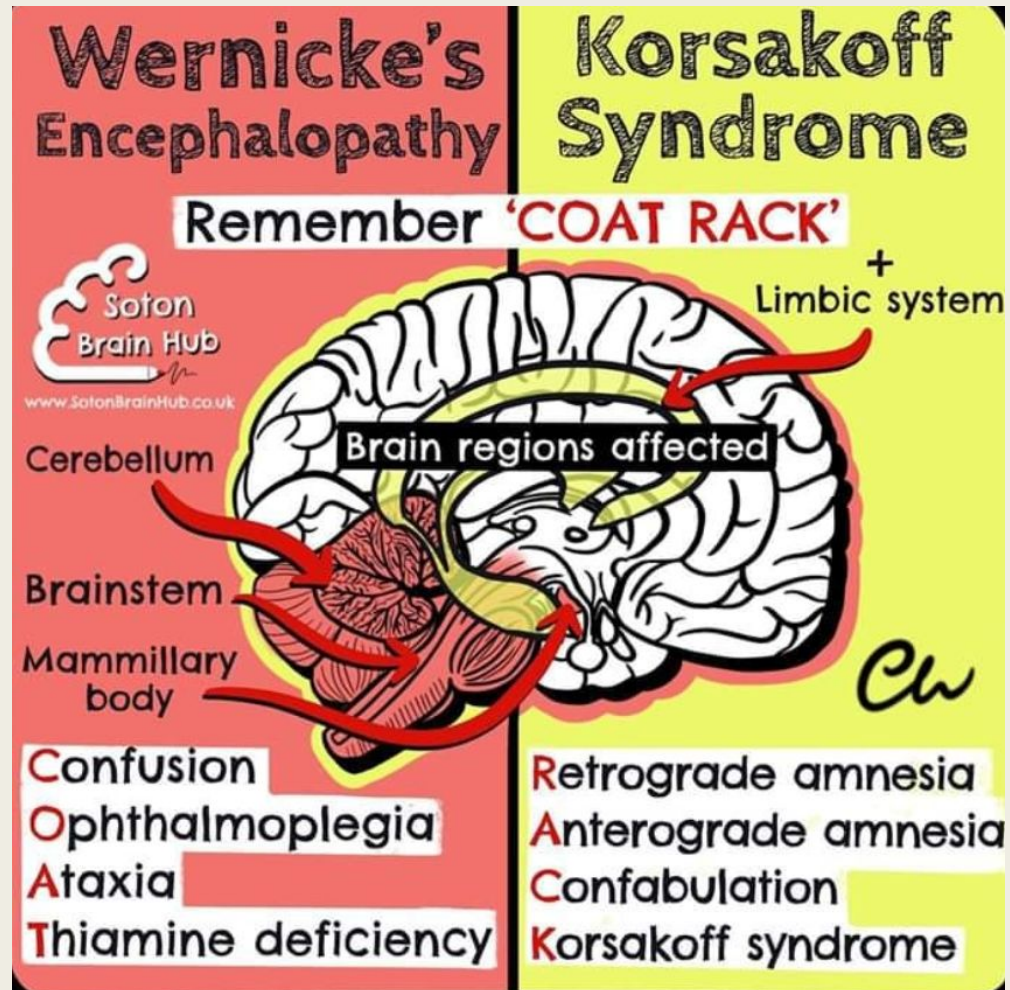
# Cerebellar syndrome



## Incoordination

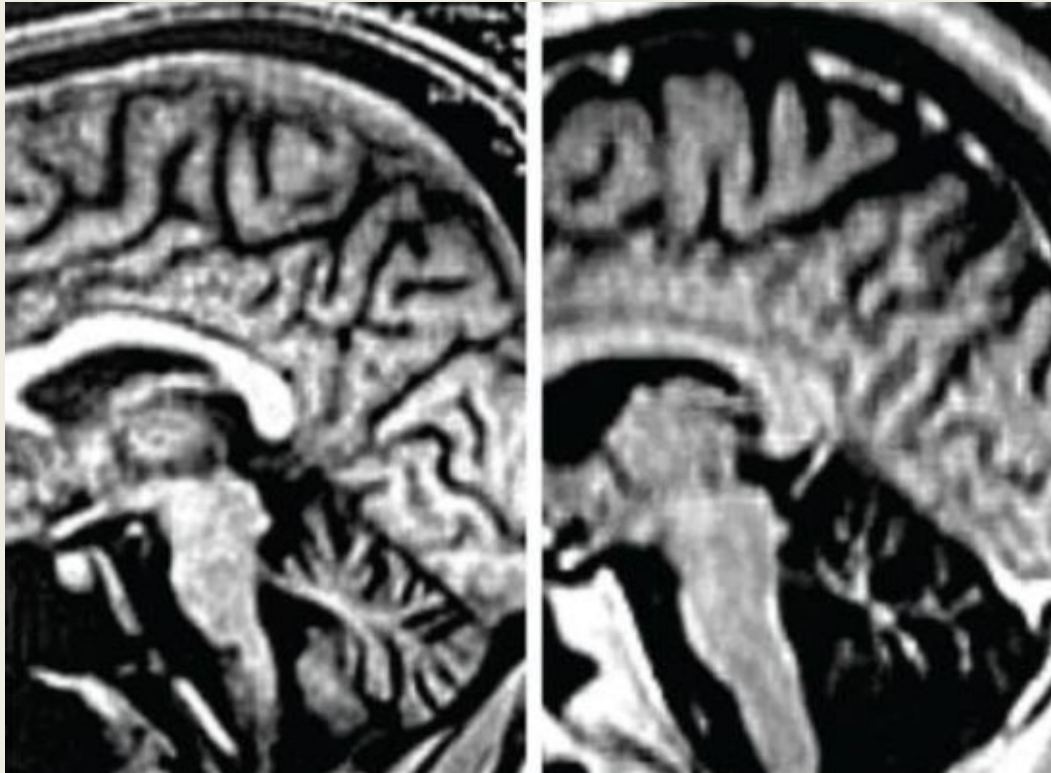
- Walking
- Limb
- Speech
- Eyes

# 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 thiamine

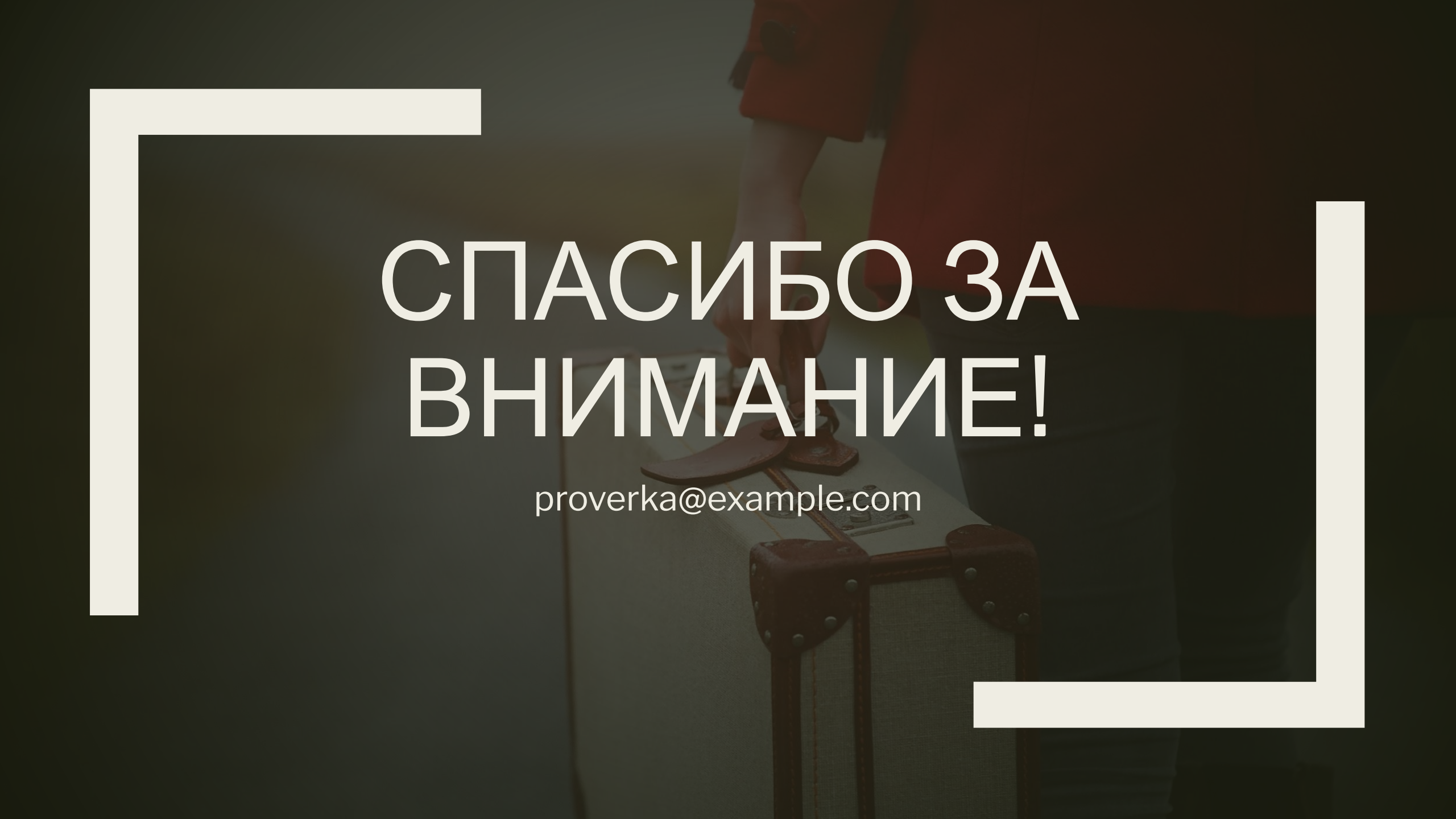
# Spino-cerebellar ataxia



- 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



СПАСИБО ЗА  
ВНИМАНИЕ!

[proverka@example.com](mailto:proverka@example.com)