Chapter 8: Control of Movement

General Principles of Motor Behavior

Skeletal Muscle Anatomy and Physiology

Proprioception and Reflexes

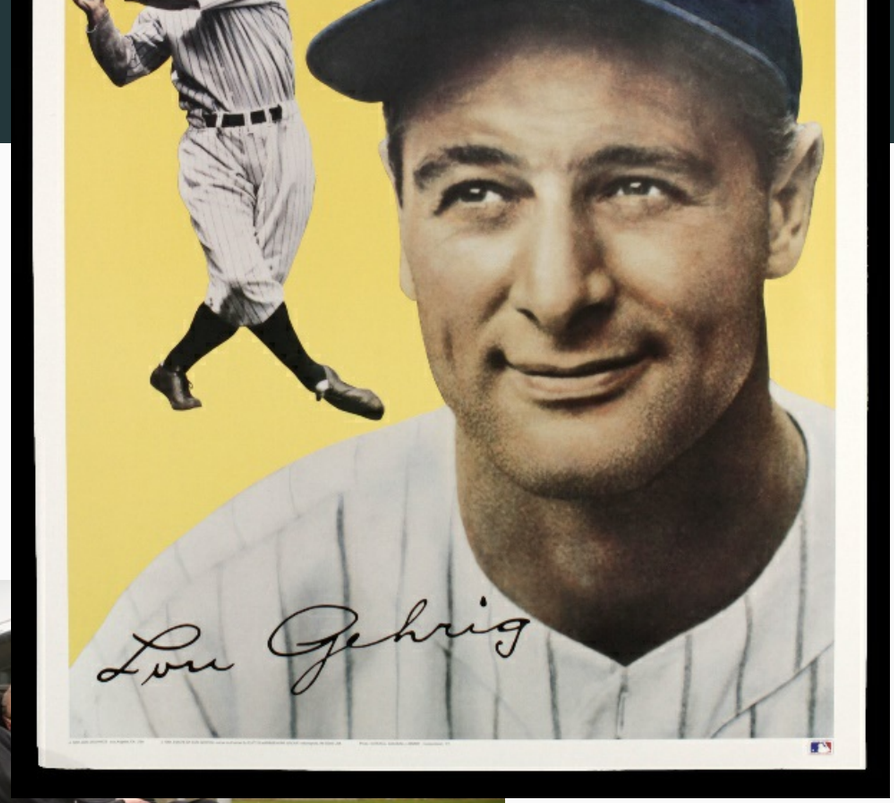
Control of Movement by the Brain

Movement Disorders

Movement Disorders

Amyotrophic Lateral Sclerosis.

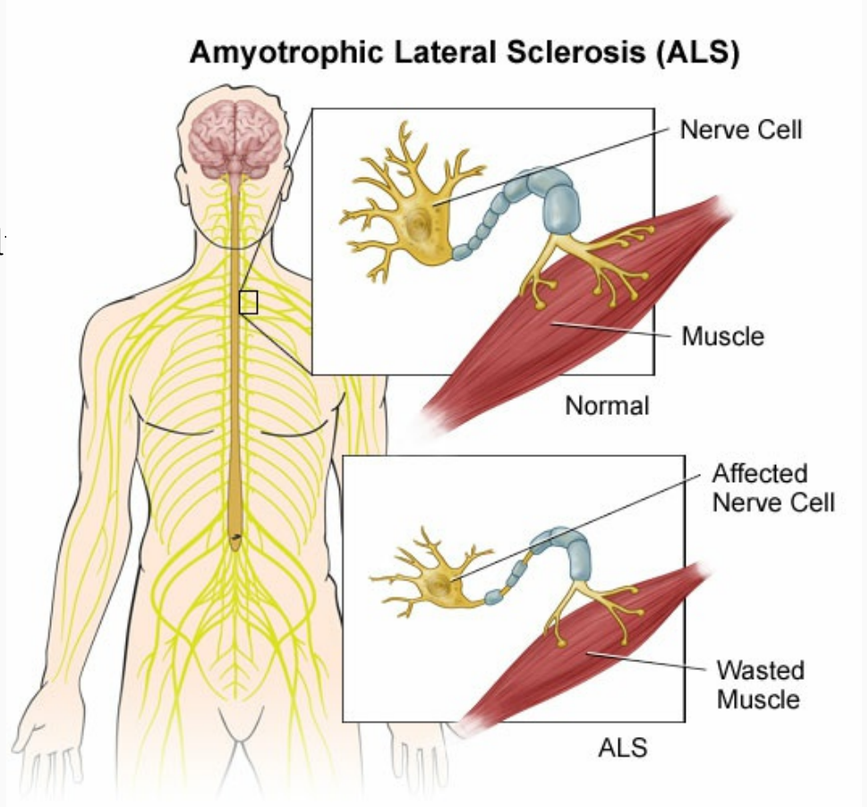
- rapidly progressive, fatal disorder
- destruction of CNS and PNS motor neurons
- one of most common neuromuscular diseases
- 90-95% sporadic, but some familial, due to genetic error
- death typically from respiratory failure in 3-5 years



Movement Disorders

Amyotrophic Lateral Sclerosis.

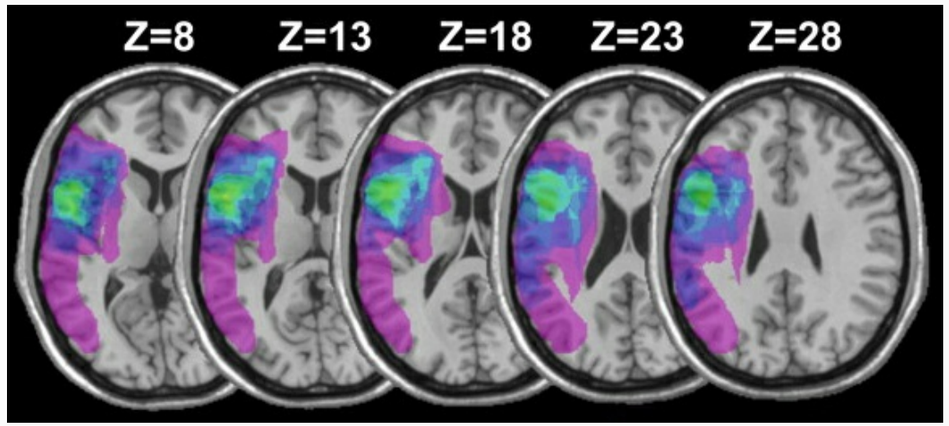
- wasting of skeletal muscle
- no sensory impairment
- no cognitive decline, but may exhibit depression and al



Movement Disorders

Apraxias.

- acquired disorder of motor planning
- not incoordination, or sensory or comprehension deficit
- ideomotor apraxia: incorrect organization or sequencing of movement; left frontal or parietal lesions

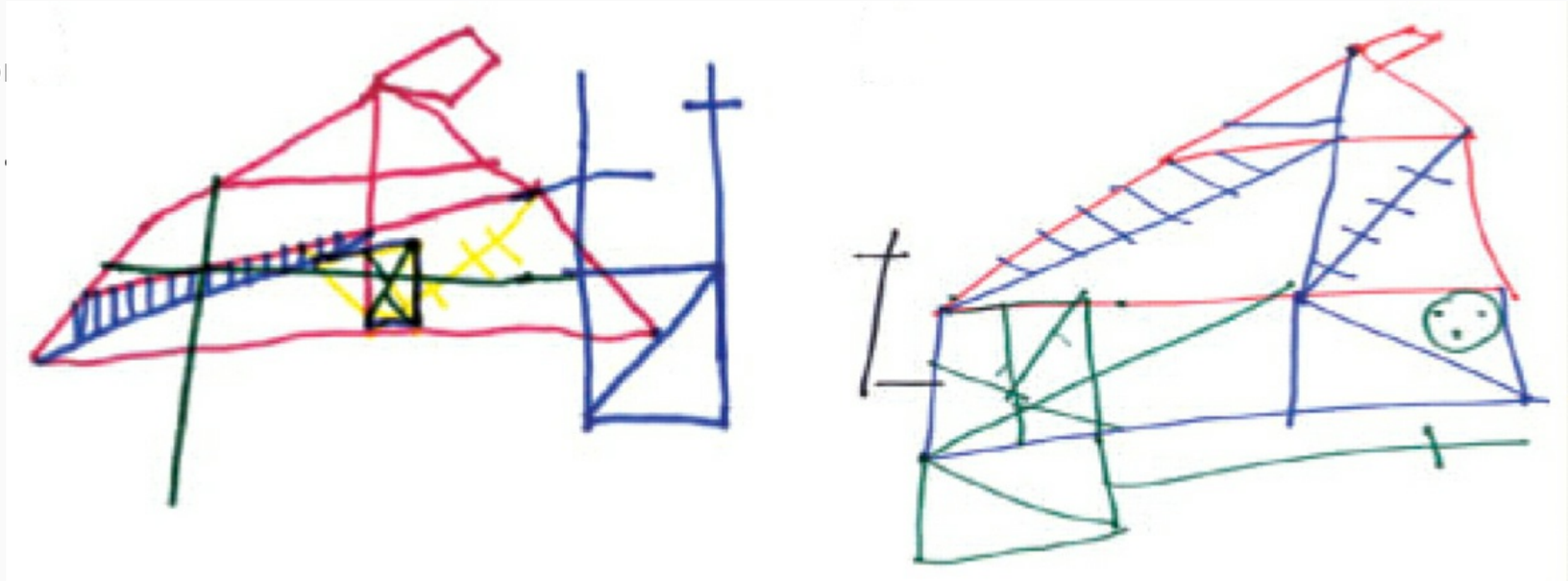


Movement Disorders

Apraxias.

- acquired disorder of motor planning
- not incoordination, or sensory or compr

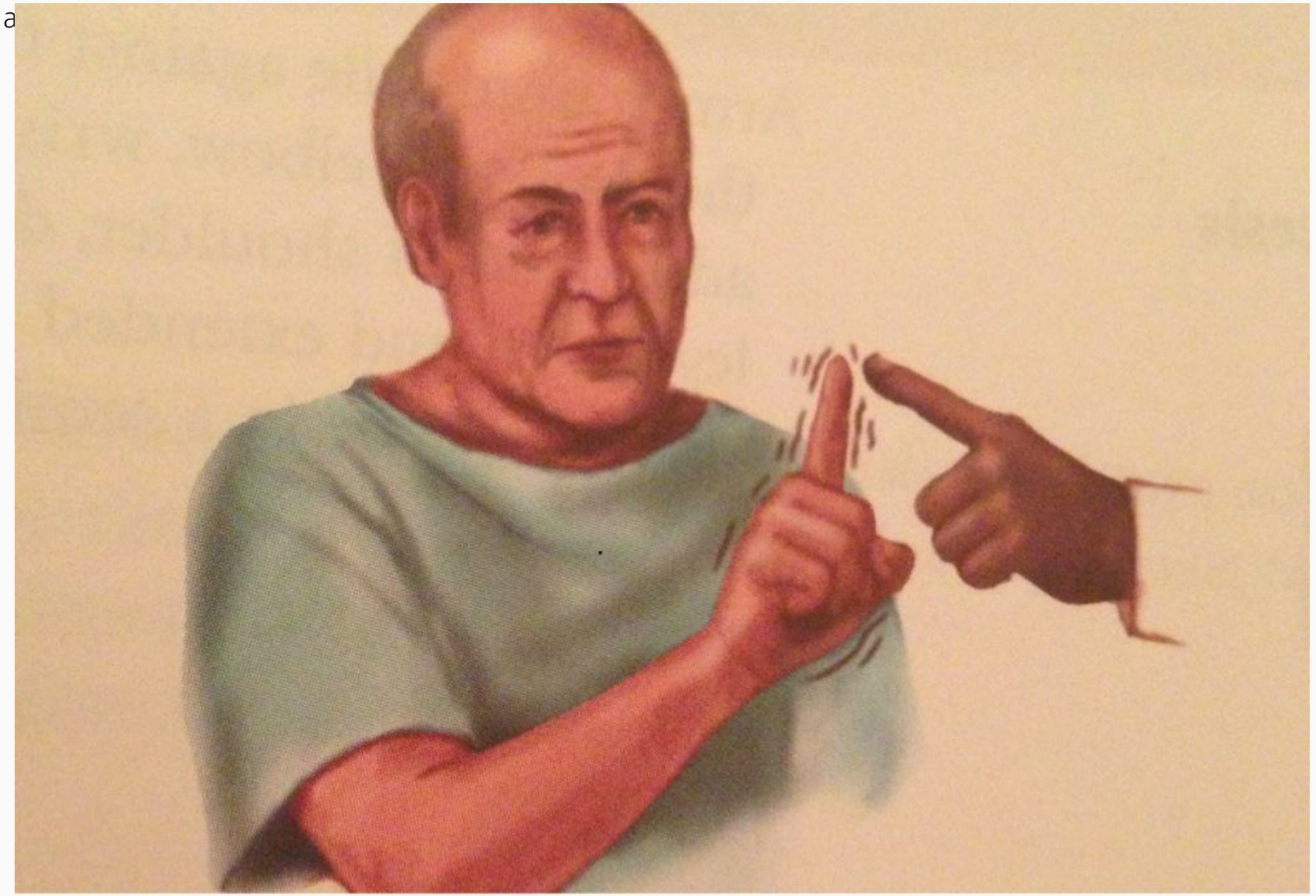
"constructional apraxia: skilled movements



Movement Disorders

Cerebellar Ataxia.

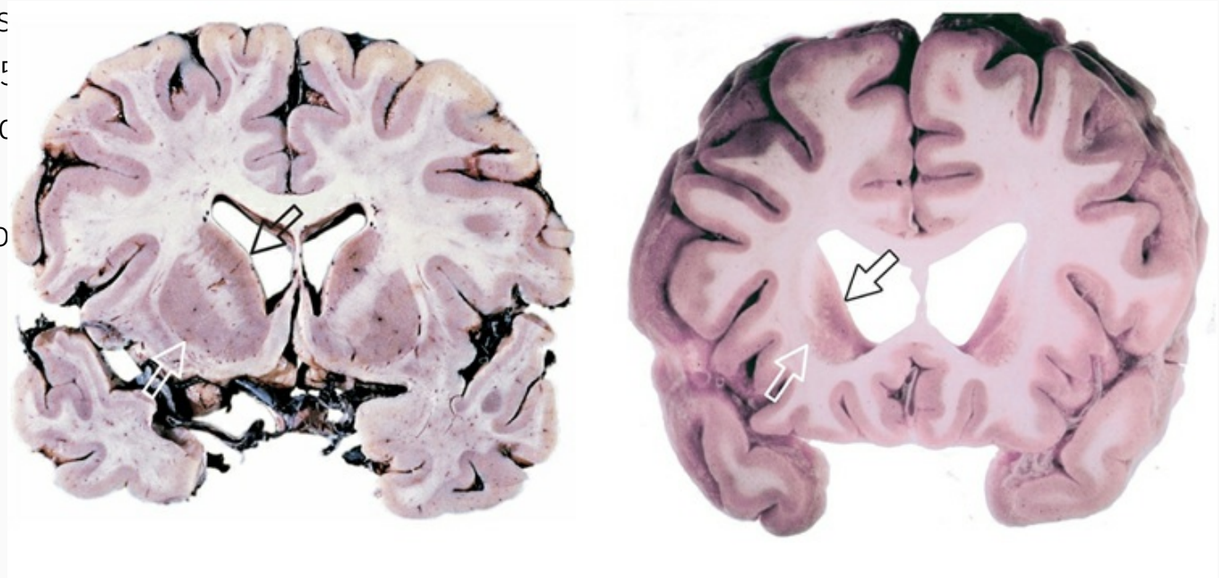
- cerebellar disease or damage causing a



Movement Disorders

Huntington’s Disease.

- autosomal dominant disorder, chromos
- usually onsets in early-middle age (35-5
- loss of striatal neurons, atrophy of cauc
- characteristic boxcar ventricles
- generally characterized by choreoid mo

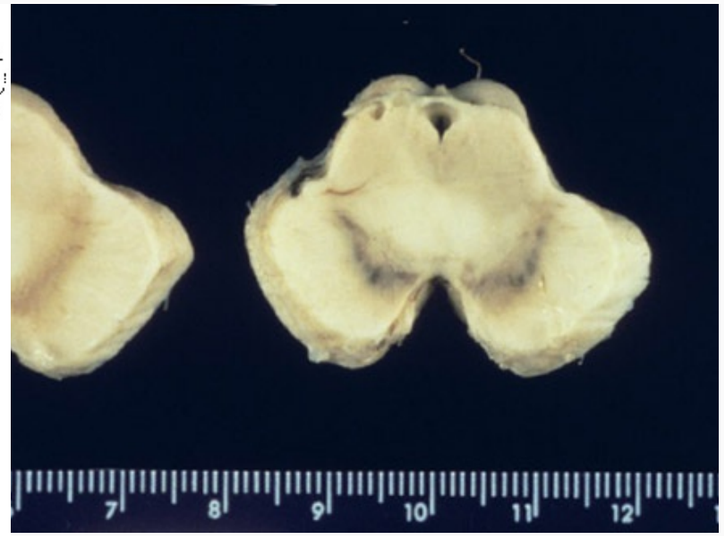


normal Huntington’s disease

Movement Disorders

Parkinson’s Disease.

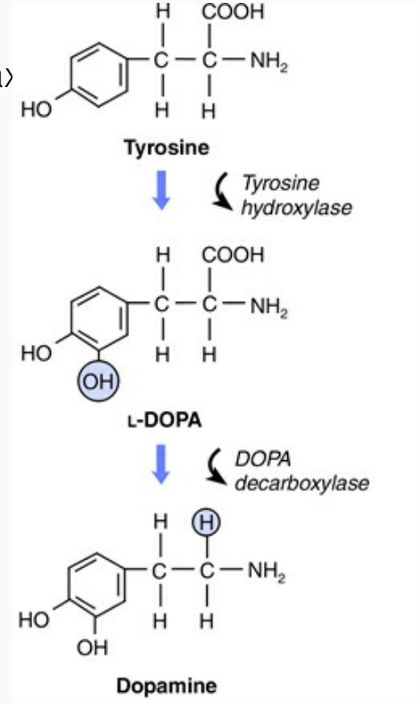
- destruction of dopaminergic neurons o
- loss of more than 70% of neurons
- cause unknown, genetics + toxicity?
- Tremor
- Rigidity
- Akinesia/Bradykinesia
- Postural Instability



Movement Disorders

Parkinson’s Disease - Treatments.

- levodopa (l-dopa) + carbidopa
- converted to dopamine by remaining a›
- selegiline (deprenyl)
- MAO-B inhibitor
- deep brain stimulation



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