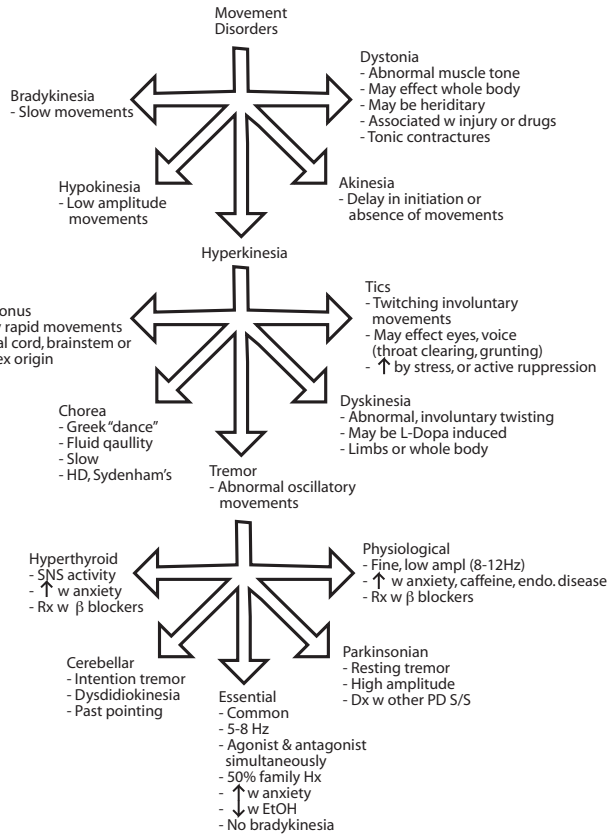
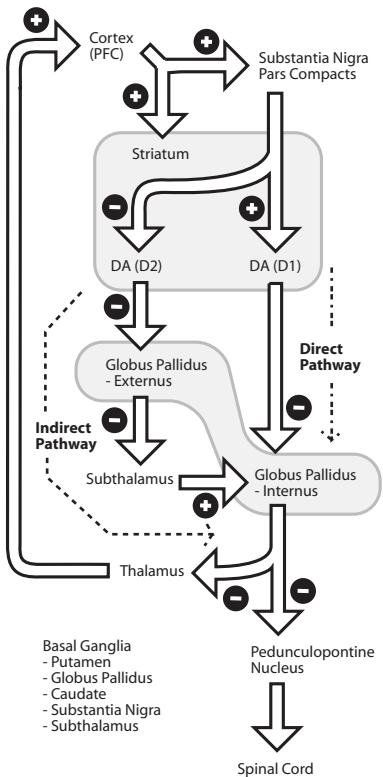


Problem 6.07

PD



- HD - Huntington's Disease
- PSP - Progressive Supranuclear Palsy
- MSA - Multiple Systems Atrophy
- PD - Parkinson's Disease
- COMT - Catechol-O-Methyltransferase
- DLB - Dimentai w Lewy Bodies
- AD - Alzheimer's Disease
- SN - Substantia Nigra
- SNPc - SN Pars Compacts
- SNPr - SN Pars Reticulata



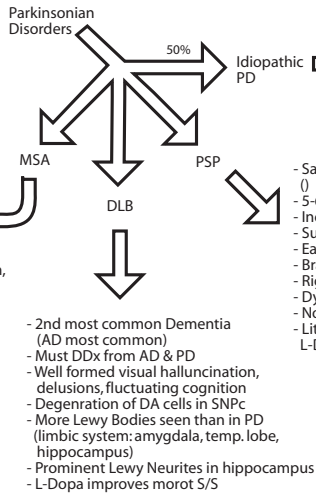
DA in Striatum

Caudate + Putamen = (Neo) Striatum
Putamen + Globus Pallidus = Lentiform Nucleus

- Substantia Nigra Pars Compacts**
- Stimulates Direct pathway to allow cortex to activate cord
 - Inhibits Indirect pathway to inhibit other areas of cord
 - Therefore refines movement/action
- Subthalamus**
- Stimulates GPi to inhibit movements
 - Tonically active
 - Requires inhibition from GPe to stop its inhibitob

- Overactivity of Indirect Pathway**
- Stimulation of Spiny Cells
 - Inhibits GPe
 - Stimulates Subthalamus
 - Stimulates GPi
 - Inhibits PPN, Thalamus & Cortex

- Olivopontocerebellar Atrophy
- Striatonigral Degeneration
- Akinesia, rigidity, ANS dysfunction
- Dystonia, ataxia, dysmetria
- Postural hypotension
- May have Lewy Bodies
- Oligodendral inclusions (Synuclein +ve)
- Basal ganglia, olives, pons, cerebellum, brainstem nuclei (ANS S/S)
- No improvement w L-Dopa
- Loss of Substantia Nigra DA n.



- Idiopathic PD**
- No antemortem Dx test
 - Clinical Dx w >2 of:
 - Resting tremor
 - Bradykinesia
 - Rigidity
 - Postural instability
 - Mostly nonsymmetrical
 - Improves w L-Dopa
 - 25% pts w Dx actually have another disorder @ autopsy
 - Often Comorbid w anxiety, depression

- PSP**
- Same age as PD
 - 5-6 yrs duration
 - Incidence 1:100,000
 - Supranuclear Gaze Palsy
 - Early falls a feature
 - Bradykinesia
 - Rigidity
 - Dysarthria/dysphagia
 - No Tremor
 - Little/no improvement w L-Dopa

- Tau +ve Astrocytes
- Neurofibrillary Tangles in n. & glia
- Widespread degeneration of basal ganglia, pons & thalamus

- PD Staging**
- (1) S/S unilateral, mild
 - (2) Bilateral involvement
 - (3) Slowing & disequilibrium
 - (4) Severe S/S
 - (5) Cachectic

- S/S if Present Think DDX**
- Early falls (PSP)
 - Supranuclear Gaze Palsy (PSP)
 - Dementia @ onset of motor S/S (DLB)
 - Early prominent ANS S/S (MSA)

- Lewy Body Formation**
- Depigmentation of SGpc
 - Neuronal Loss
 - Locus coeruleus
 - Median raphe
 - DMX
 - PPN
- Lewy Bodies**
- Found in PD, DLB, MSA

- Thalamic Stimulation**

- Rx**
- L-Dopa
 - DA Agonists
 - COMT Inhibitors
 - Anticholinergics
 - Amanatadine
 - Antidepressants/Anxiolytics
 - Antipsychotics

- Side Effects of L-Dopa**
- Psychosis (common w Parkin gene)
 - Dyskinesia (5-10 yrs)
 - "On-Off Phenomenon"
 - End of dose dystonia
 - Hypotension

Loss of DA cells of Substantia Nigra Pars Compacts