Motor Control and PD

Motor Control
- Somatosensory cortex: topical guide for sensory info
- Primary motor cortex: topical guide for motor control
- Supplementary motor cortex

Basal Ganglia
- Direct pathway: initiate
  - Sends signal to striatum, which activates thalamus (excitatory) and sends excitatory signals for movement
  - Indirect pathway: suppress
    - Thalamus (inhibitory) and suppress
    - Basal Ganglia

Functional Loops
- Regulation of movement input
- Parkinson's Disease
- What is it? Neuro disease that affects the CNS
- Discovered by James Parkinson in 1817 (now known as PD or PD)
- Cells in basal ganglia degenerate and die, which results in a decrease in dopamine (making storage)
- Cardinal symptoms used to diagnose:
  1. Tremor/shaking at rest
  2. Rigidity/stiffness when walking/shuffling
  3. Bradykinesia - slow movement (slowing)
  4. Akinesia - slowness in initiating movement (have many movements)
     - Not used in diagnosis b/c subcategory to Bradykinesia
     - If have Bradykinesia, must also have akinesia
  5. Postural Dysfunction - imbalance
- Other symptoms include soft speech, difficulty to swallow, loss sense of smell, depression, decreased social expression, micrographia