BASAL GANGLIA & CEREBELLUM

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Resources: TeachSheets Basal Ganglia and Cerebellum (Gruener)
Basal Ganglia and Cerebellum PPT (Gruener)
Look at this short video tutorial on the Basal ganglia http://www.neuroanatomy.ca/module_list.html
Look at this short video tutorial on the Cerebellum http://www.neuroanatomy.ca/module_list.html
(IE version 11, Chrome and Firefox work; need the adobe flash plugin).
Read/look at the diagrams/text in this reference (or another textbook that you like) for clarification:

KEY CONCEPTS & LEARNING OBJECTIVES (What you need to demonstrate on an exam in order to pass the test!)

I. Demonstrate the ability to:
   a.) Define and identify the major divisions of the basal ganglia
   b.) Identify the basal ganglia on CT/MRI or brainstem sections
   c.) List the components of the basal ganglia functional “circuitry” and associated neurotransmitters
   d.) List the major basal ganglia functional loops and roles
   e.) Describe the direct and indirect motor pathways and relevance/role of the substantia nigra compacta

II. Demonstrate the ability to:
   a.) Outline the major organizational divisions of the cerebellum (transverse and longitudinal)
   b.) Identify the cerebellar peduncles and deep nuclei
   c.) List the afferent and efferent contributions to each cerebellar peduncle
   d.) Define the origins of the mossy and climbing fibers
   e.) Describe the “wiring diagram” of the cerebellum
   f.) Describe the functional components of the cerebellum
   g.) Describe and define the clinical relevance of the somatotopic maps of the cerebellum

III. As your education progresses you will begin to demonstrate the integration of your knowledge by:
   a.) Suggest a site of dysfunction that would explain signs and symptoms in a clinical case presentation
   b.) Based on a clinical presentation identify the (expected) site of abnormality on an MRI (or CT) scan of the brain
   c.) Develop 2-3 potential diagnoses, appropriate to the patients’ clinical scenario, course and medical history, which would explain the etiology of their difficulty

Additional resources for those who are really (we mean really) interested!
Benarroch EE. Intrinsic circuits of the striatum: Complexity and clinical correlations. Neurology 2016;86:1531-1542