

- **Hydrocephalus**
  - Dilation of the ventricular system
  - Types (based upon location of obstruction to CSF flow)
    - Communicating (usually adult)
      - Definition: CSF cannot drain from the subarachnoid granulations into the dural sinuses
      - Causes: meningitis, SAH
    - Non-communicating (usually pediatric)
      - Definition: obstruction exists somewhere within the ventricular system not allowing CSF from ventricles into subarachnoid space
      - Causes: a tumor in the third ventricle, or one which obstructs the foramen of Munro; a tumor of the cerebral aqueduct; malformed or stenotic aqueduct in infants, Arnold-Chiari Malformation (cerebellar herniation), Dandy-Walker Syndrome (roof of 4<sup>th</sup> ventricle fails to form w/ agenesis of corpus callosum)
    - Hydrocephalus ex vacuo (usually elderly)
      - Definition: not true hydrocephalus; a compensatory dilation of the ventricles in response to loss of cerebral parenchyma
      - Causes: Alzheimer's disease
    - Overproduction by Choroid Plexus Tumor
  - Complications: increased ICP and herniation
  - Tx: LP tap, diamox/furosemide, VP shunt
- **Increased ICP** (refer to ALF notes)
- **Epidural/Subdural/Subarachnoid/Intraventricular Hemorrhage** (refer)
- **Skull Fracture**
  - Post Base Fx = Battle Sign (periorbital hematoma)
  - Ant Base Fx = Raccoon Sign (postauricular hematoma)
  - Cribriform Fx = Rhinorrhea
  - Petrous Ridge Fx = Hemtympanum
- **Wallerian Degeneration**
  - Def: degeneration of axon distal to injury
- **Shaken Baby Syndrome**
  - S/S: retinal hemorrhage, subdural/subarachnoid hemorrhage, brainstem/spinal cord injury
- **Concussion**
  - Def: contusion to midbrain resulting in brief LOC and then AMS
  - If you have one you are very likely to have another
- **Contusion**
  - Def: brain bruise
  - Types
    - Coup (contusion occurring at the point of impact from a blow to the head)
    - Contrecoup (contusion on the side of the brain opposite the point of impact from a fall in which the head strikes the ground, most commonly due to fall on back on head by alcoholics)
  - Complications: Seizures, Post-traumatic intracerebral hemorrhage
- **Diffuse Axonal Injury - DAI**
  - Def: tearing of the axons by acceleration/deceleration forces
  - Truly a post mortem Dx but is often clinically implemented in a pt's coma
  - Locations: white matter connecting cortex to brainstem
  - CT often negative but occasionally you can see tiny petechial hemorrhages, MRI is more sensitive
  - Complications: death, persistent vegetative state
  - Morphology: punctate hemorrhages in the corpus callosum or dorsolateral brainstem
- **SIADH**
- **DI**