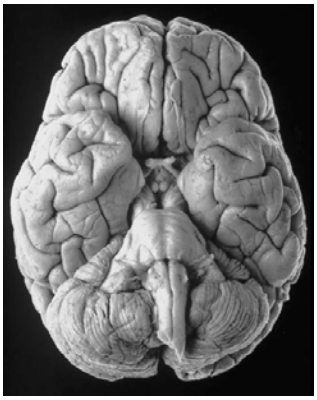
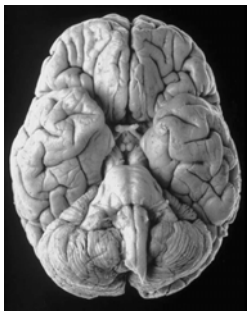
Posterior System
Vertebral
  Ant. Spinal
  PICA
Basilar
  AICA
  Sup Cerebellar
  Post Cerebral
Post Communicating
Anterior System
Internal Carotid
Middle Cerebral
Anterior Cerebral
  Ant Communicating





Posterior System

Medulla: Vertebral, Ant Spinal, PICA

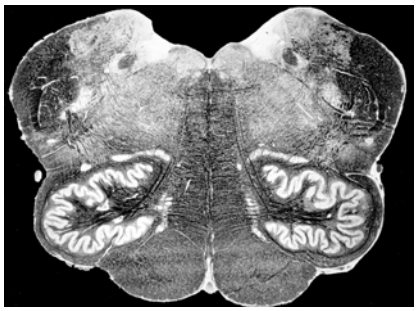
Pons: Basilar, AICA, Sup Cerebellar

Cerebellum: PICA, AICA, Sup Cerebellar

Midbrain: Sup Cerebellar Post Cerebral

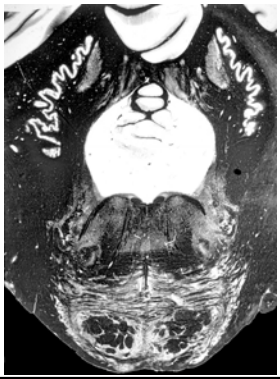
X 20

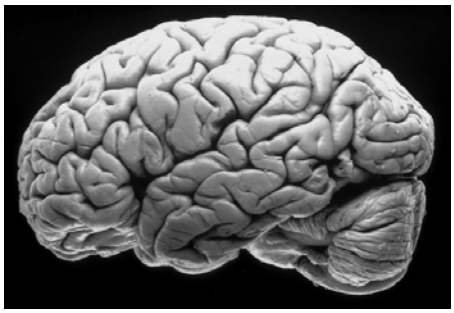
Mid Medulla
Pyramid
Medial Lemniscus
Inferior Olivary Nuc
Inf Cerebellar Ped
IVth Ventricle
Cranial Nerve Nuc
Reticular Form
PICA & Vertebral

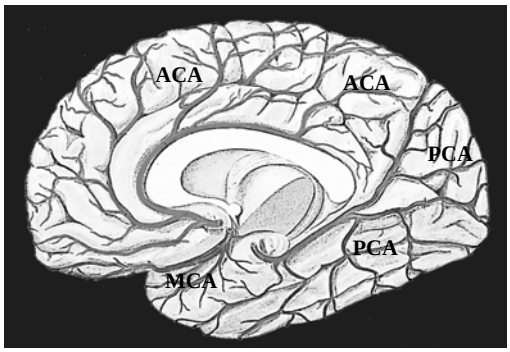


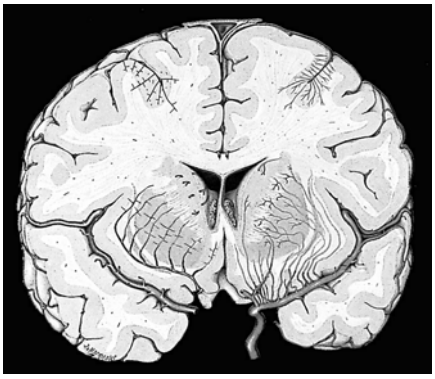
X 30

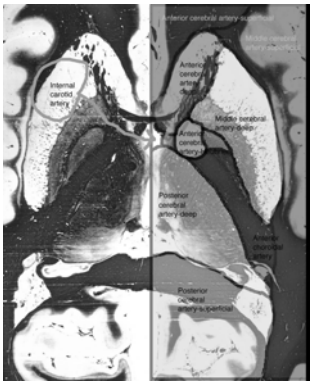
Mid Pons
Pontine Nuc
Corticospinal & Corticobulbar Tr
Medial Lemniscus
Reticular Formation
Facial Colliculus
Cranial Nerve Nuclei
IVth Ventricle
Cerebellum
Cerebellar Peduncles
Deep Cerebellar Nuclei
Basilar & AICA





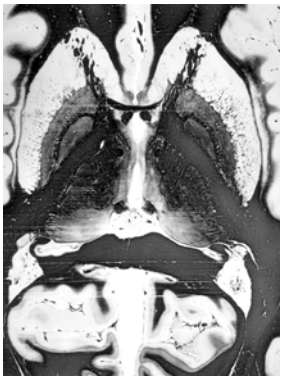






X 120

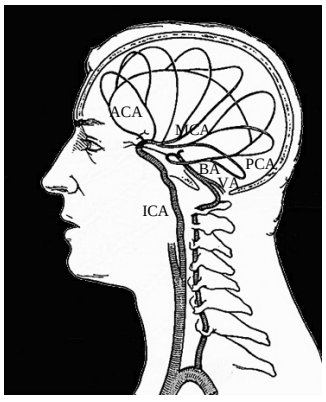
Anterior Comm
Fornix
IIIrd Ventricle
Thalamus & Pulvinar
Corpus Callosum
Lateral Ventricle (Atrium)
Optic Radiations
Primary Visual Cortex
Caudate Nuc (2X)
Internal Cap (AL, Genu, PL)
Putamen
Globus Pallidus (Ext & Int)
External & Extreme Cap
Claustrum
Insular Cortex



ACA

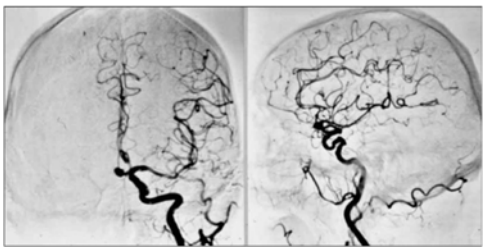
MCA

PCA

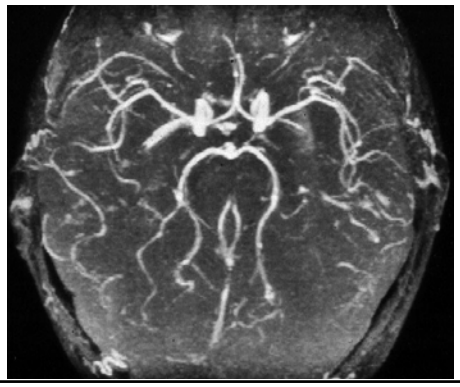


Posterior Circulation Angiogram

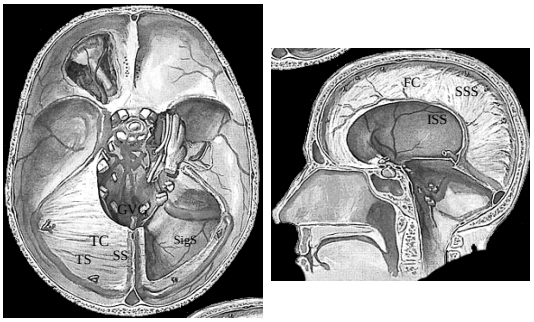
Anterior System

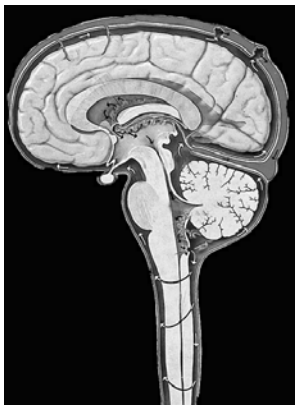


Magnetic Resonance Angiography

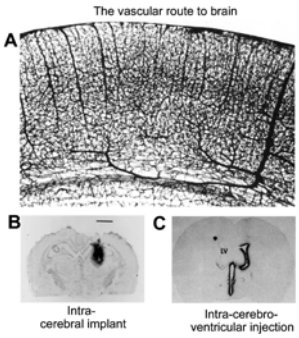


Cerebral Veins & Dural Sinuses



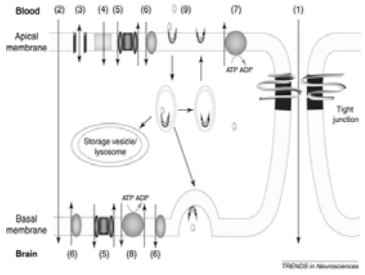


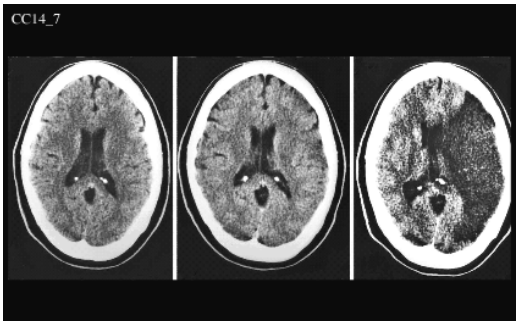
Blood-Brain Barrier is Major Impediment to Diffusion of Molecules



Transport Mechanisms at the Blood-Brain Barrier

1. **Paracellular Diffusion**
2. **Transcellular Diffusion**
3. **Cation Channels**
4. **Ion Symports**
5. **Ion Antiports**
6. **Facilitated Diffusion Active Transport**
7. **Active Transport**
8. **Active Antiport Transport**
9. **Receptor-Mediated Endocytosis**





Anterior System