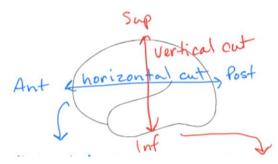
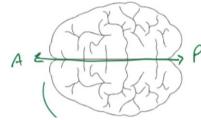
# NEUROANATOMY FOR LESION TRACING

#### NAVIGATING THE BRAIN

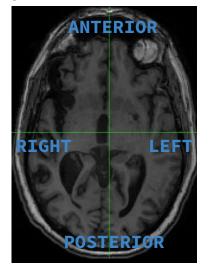


#### ANTERIOR=ROSTRAL

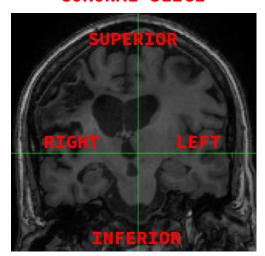
#### POSTERIOR=CAUDAL



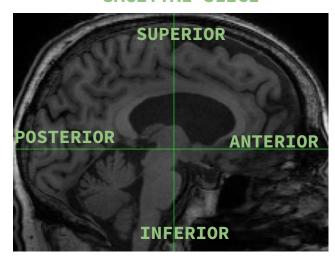
AXIAL/HORIZONTAL SLICE



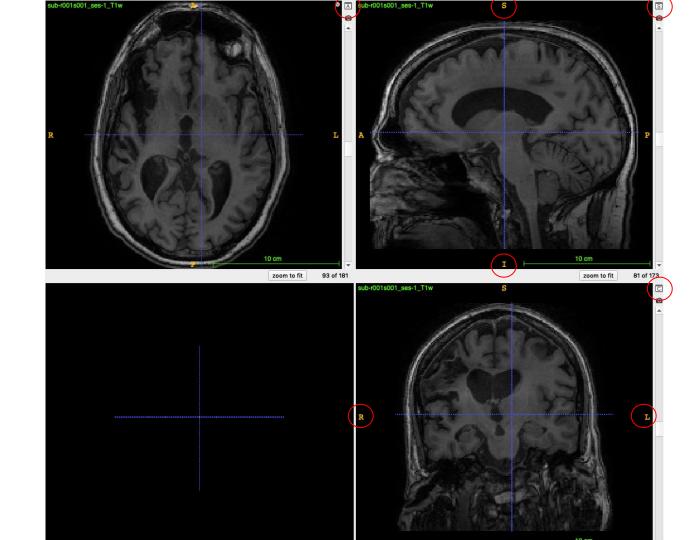
**CORONAL SLICE** 



SAGITTAL SLICE



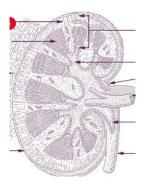
ITK-SNAP LETS YOU KNOW!



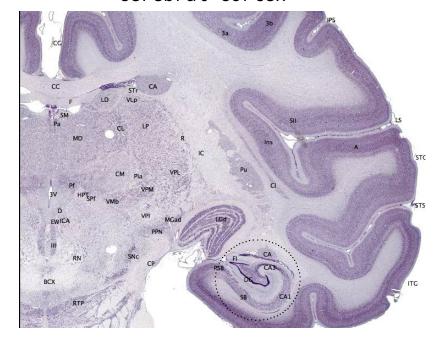
#### CORTEX - THE OUTER MOST LAYER OF AN ORGAN

Lots of organs have well defined cortical layers

Kidney

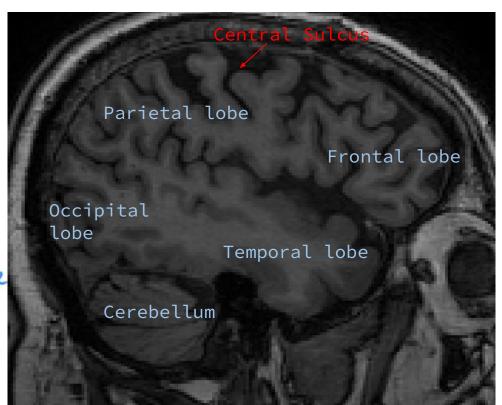


#### Cerebral Cortex



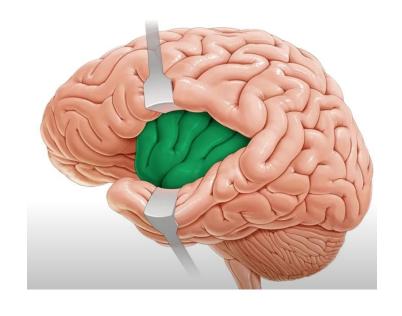
### CORTICAL LOBES

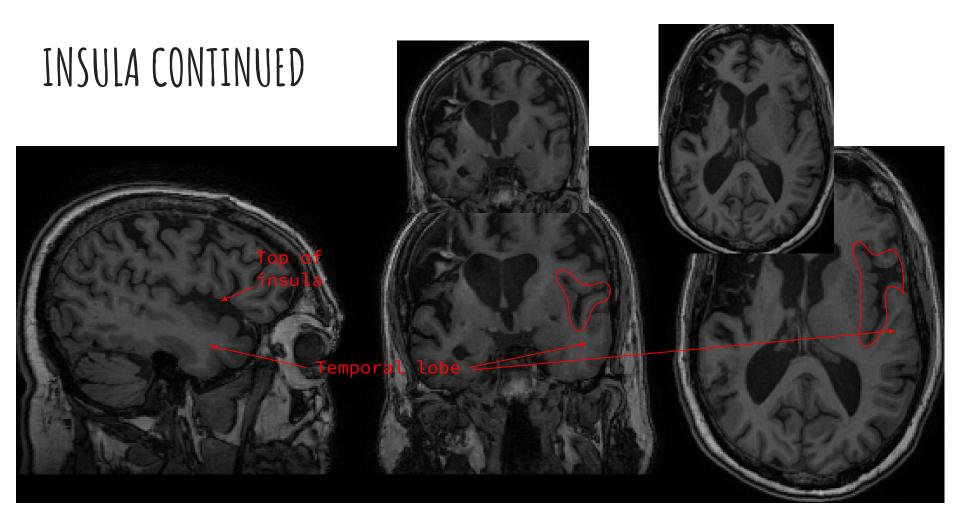
Central Sulcus Parietal Lobe Temporal



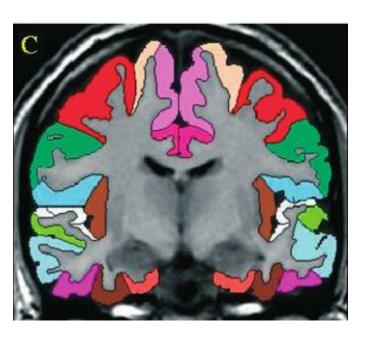
#### INSULA- AN IMPORTANT CONFUSING CORTICAL REGION



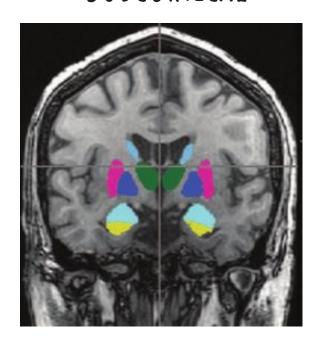




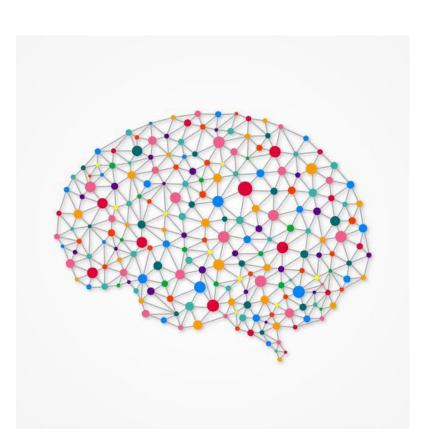
# CORTICAL

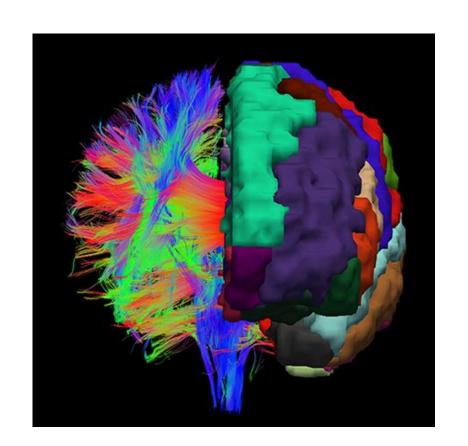


# SUBCORTICAL



#### BRAIN IS A NETWORK OF CORTICAL AND SUBCORTICAL CONNECTIONS





### WHITE MATTER VS GRAY MATTER

#### **Gray Matter**

- Consists mostly of neuron cell bodies that cluster together
- Appears "gray"
   because it
   contains very
   few myelinated
   axons

#### White Matter

 Composed of axons that cluster together to form brain pathways

Dendrites.

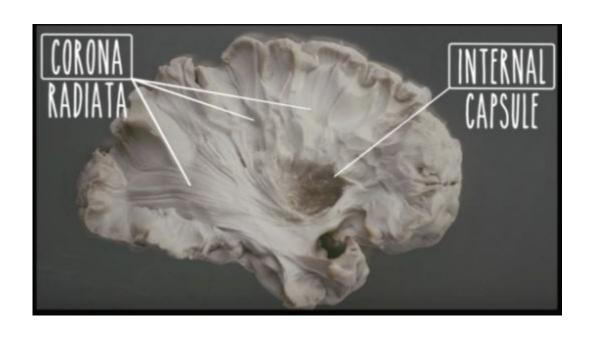
Cell Body

Axon

Myelin Sheath

 Unsainted, white matter appears white because they are myelinated

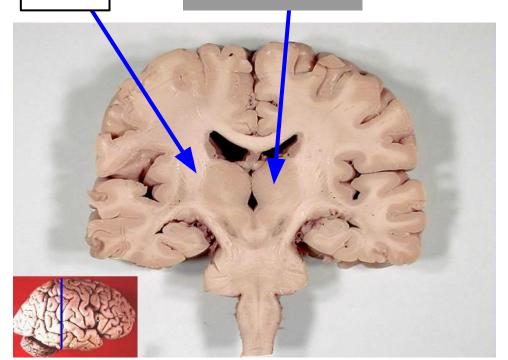
# WHITE MATTER ACTUALLY LOOKS LIKE LITTLE PATHWAYS!

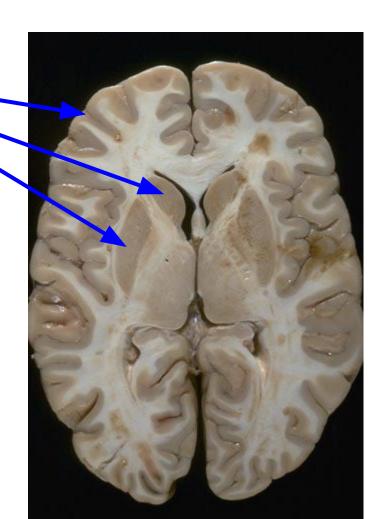


### ACTUAL BRAIN SPECIMENS

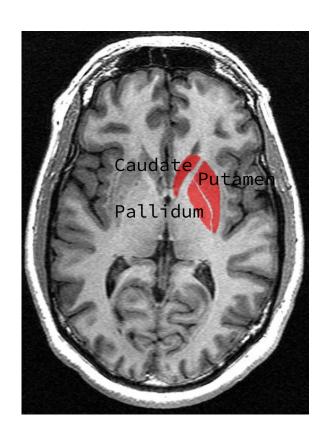
White Matter Mostly gray but also some white!

Gray Matter





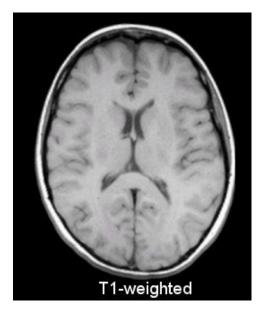
#### BASAL GANGLIA - SUPER IMPORTANT GRAY MATTER REGIONS



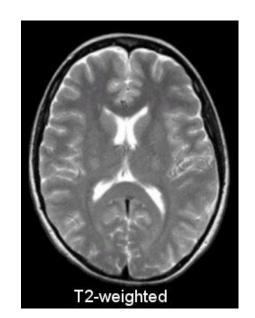
Gray matter so appear dark

Consist of caudate, putamen,
pallidum

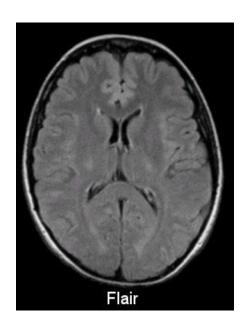
### MRI AS A REFLECTION OF TISSUE PROPERTIES



- Gray matter=dark
- White matter= light
- Cerebrospinal fluid=black
- Lesion=black

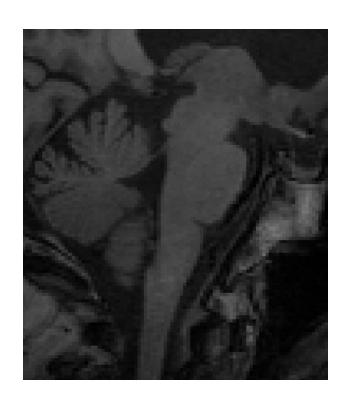


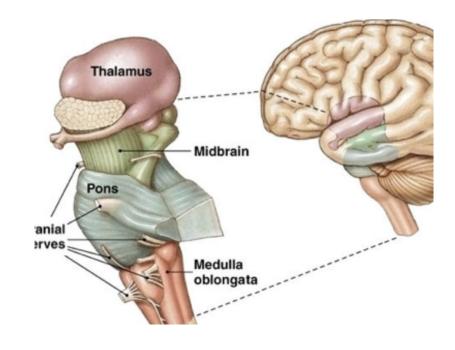
- Gray matter=light
- White matter= dark
- Cerebrospinal fluid=white
- Lesion=white



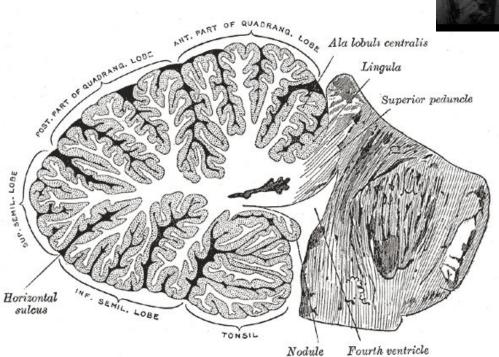
- Gray matter=light
- White matter= dark
- Cerebrospinal fluid=dark
- Lesion=white

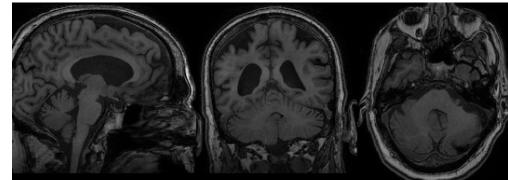
# BRAINSTEM

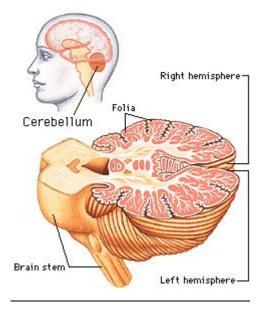




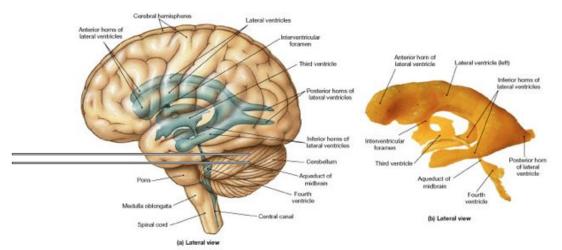
# CEREBELLUM







### VENTRICLES

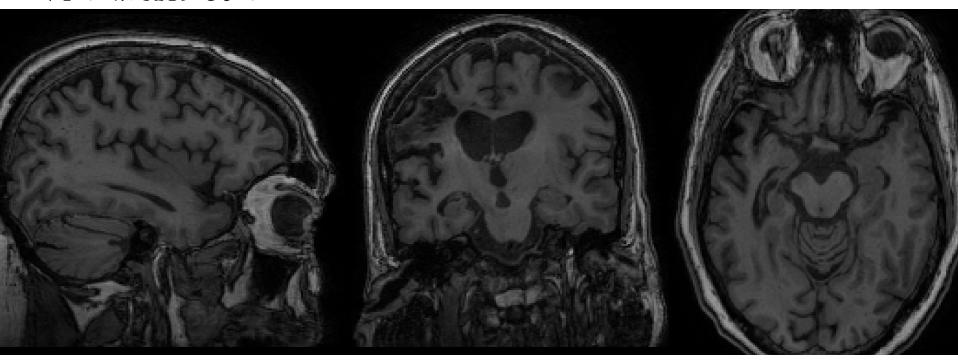


Lateral ventricles Lateral ventricles in Longitudinal fissure cerebral hemispheres Interventricular foramen Interventricular foramon Third ventricle Third . ventricle Inferior homs of Aqueduct of lateral ventricles. Septum pollucidum midbrain Inferior horn of lateral ventricle Fourth Aqueduct of ventricle midbrain Cerebellum Fourth Central canal -Central canal oblongata ventricle

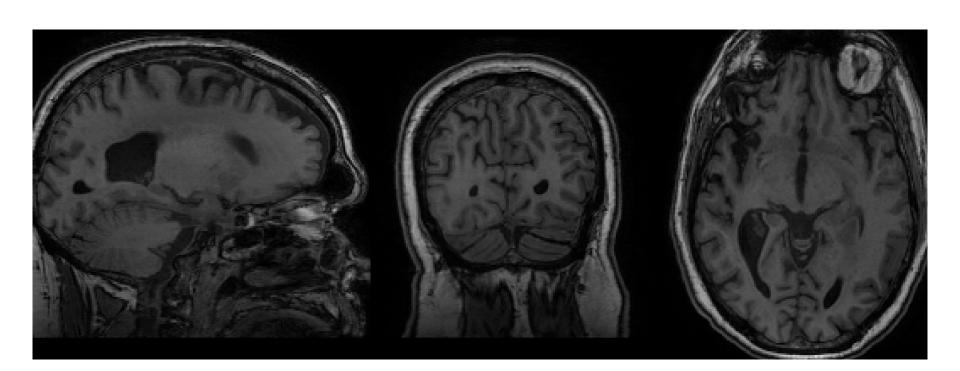
(c) Anterior view

(d) Coronal section

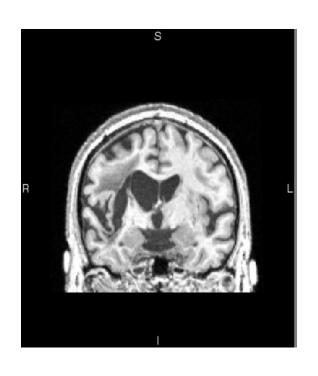
# VENTRICLES CONT

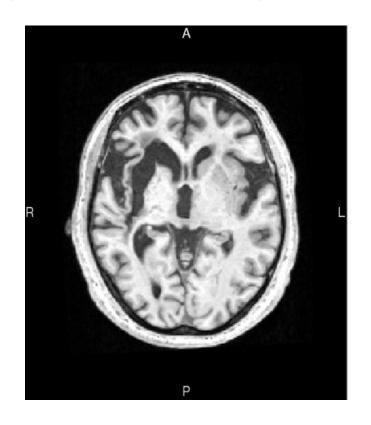


# VENTRICLES CONT.



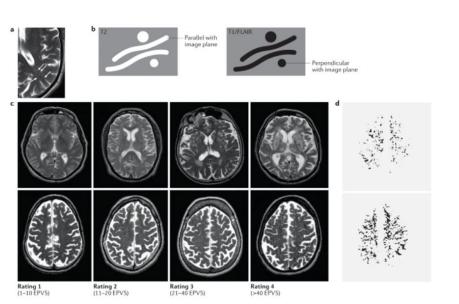
## VENTRICULAR ASYMMETRY - HYDROCEPHALUS EX VACUO

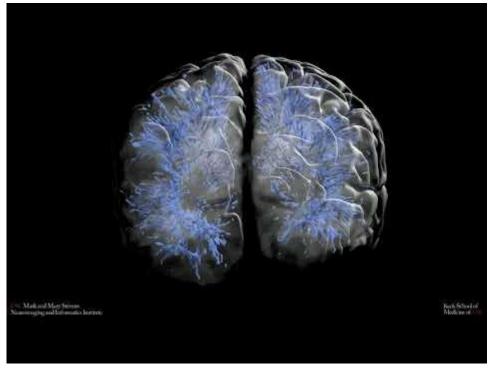




# PERIVASCULAR SPACES (PVS)

PVS is the space that
surrounds blood vessels
in the brain





Appear more and more with age
Possible indicator of
cardiovascular risk

# PVS COMMONLY APPEARS IN THE BASAL GANGLIA

