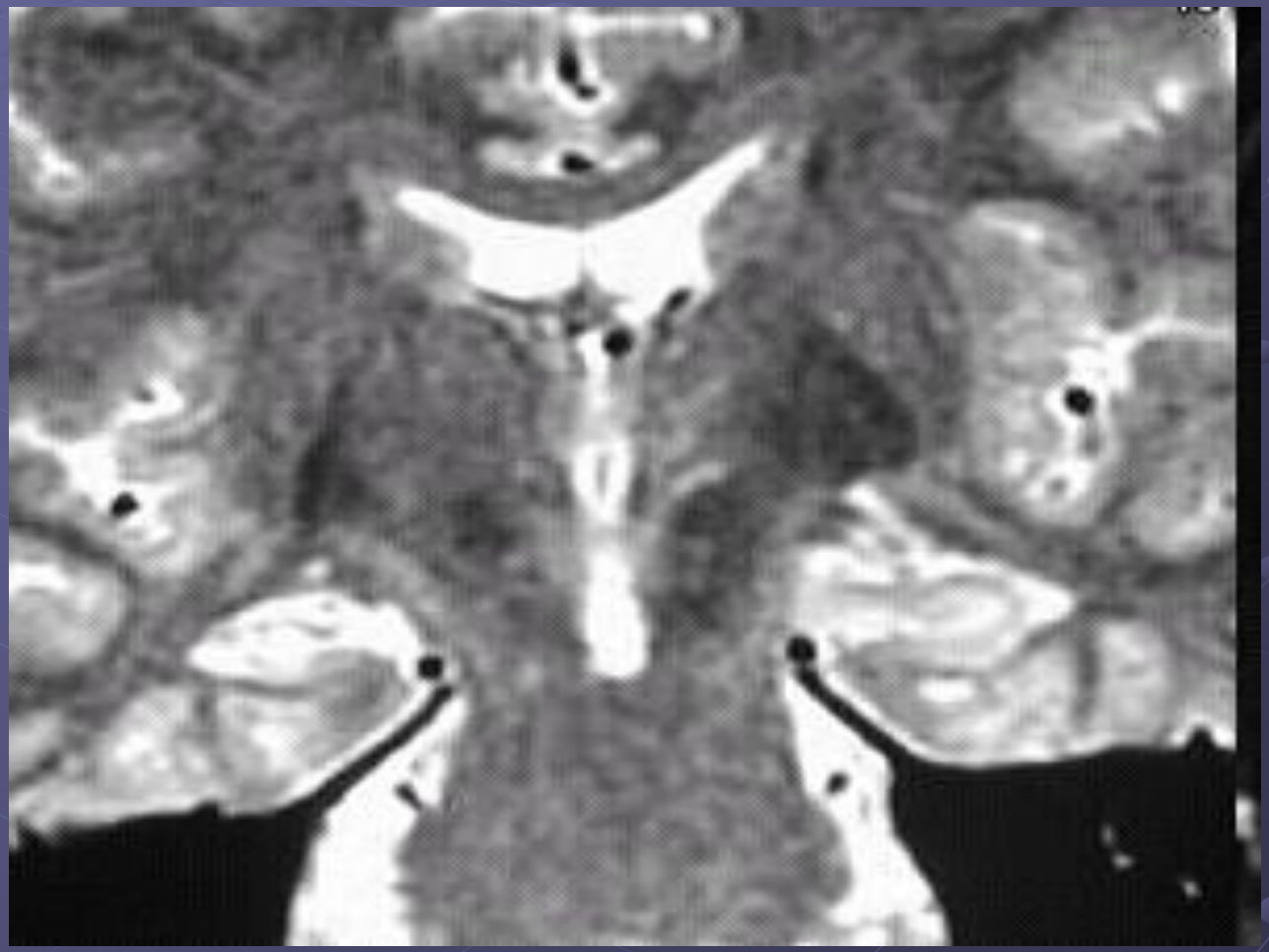
Mesial temporal sclerosis

- Secondary signs: ipsilateral Fornix, mamillary body atrophy, enlarged temporal horn of lateral ventricle
- Hippicampal head one cut in front of the interpeduncular cistern.
- Disease of older children, young adults

Mesial Temporal Sclerosis

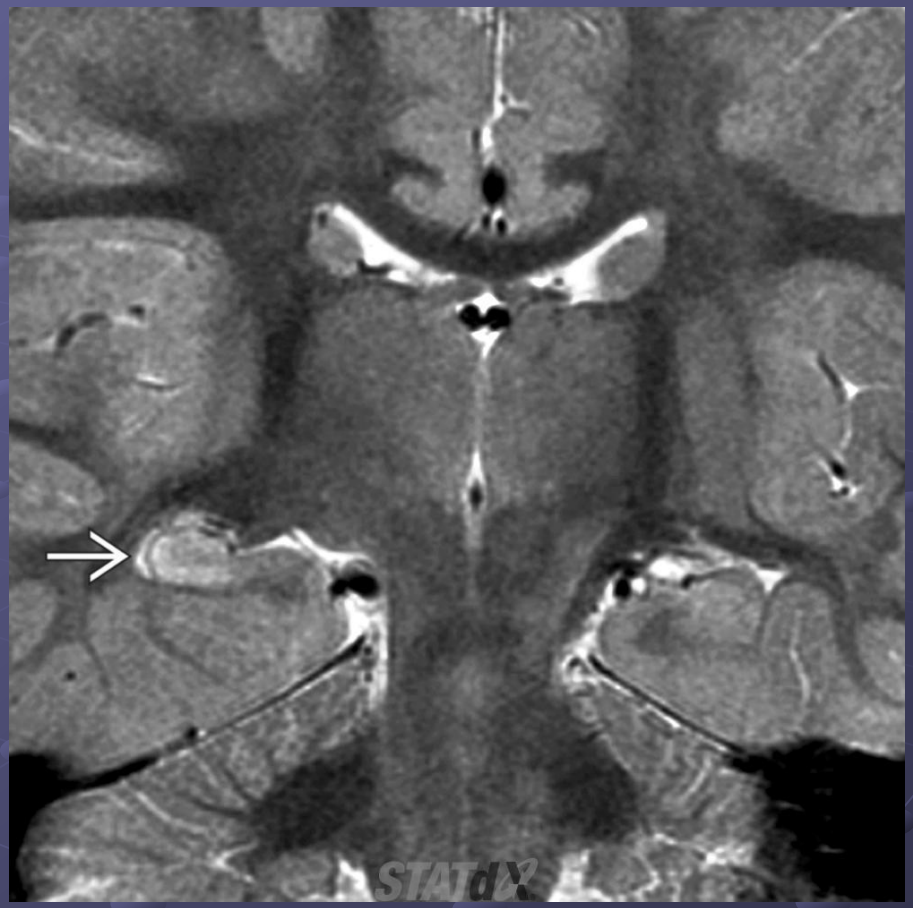
- Controversial whether acquired or developmental
  - Acquired: Follows complicated febrile seizures, status epilepticus, encephalitis
  - Developmental: 2nd developmental lesion identified in 15%
  - "Two-hit" hypothesis: 1st an initial precipitating injury (like complicated seizures), 2nd an increased vulnerability (such as genetic predisposition or developmental anomaly)
  - Most likely MTS represents common outcome of both acquired and developmental processes
- Febrile seizures (FS) most common childhood seizure disorder (2-5%)
  - Prolonged FS may produce acute hippocampal injury → subsequent atrophy

Mesial Temporal Sclerosis



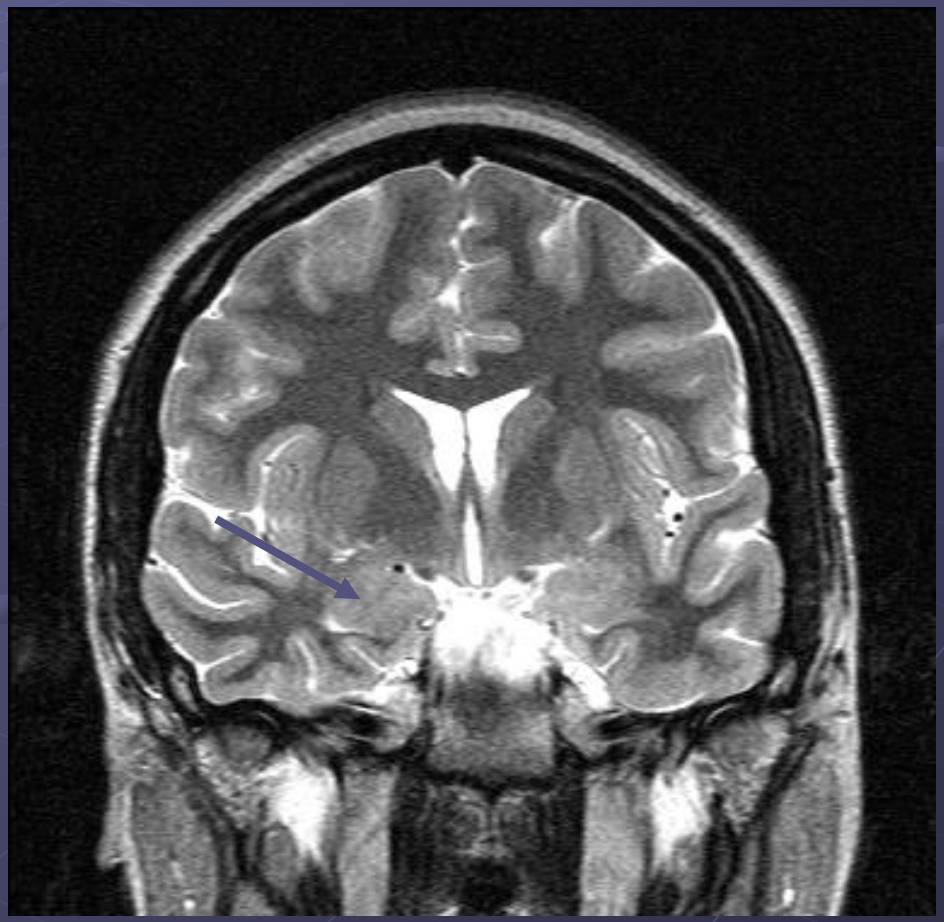
Coronal T2-weighted MR at 3.0 tesla in the same patient with right hippocampal sclerosis (HS) (white solid arrow) shows hippocampal volume loss and obscuration of normal internal architecture, but normal T2 signal intensity. FLAIR better shows the increase in signal intensity.

Coronal T2-weighted MR at 3.0 tesla in a patient with prolonged febrile seizure shows abnormal enlargement and T2 hyperintensity in the right hippocampus (white solid arrow). DWI (not shown) revealed reduced diffusion. The patient later developed hippocampal sclerosis.



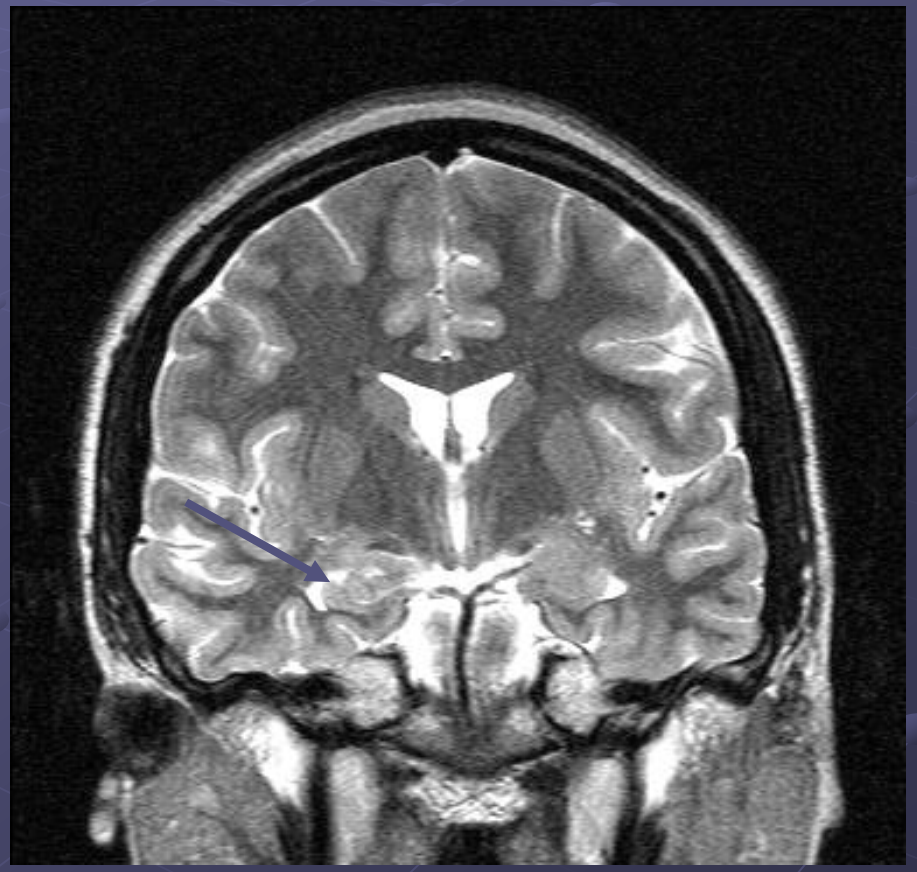
Amygdala

- Almond/blob in front of hippicampal head

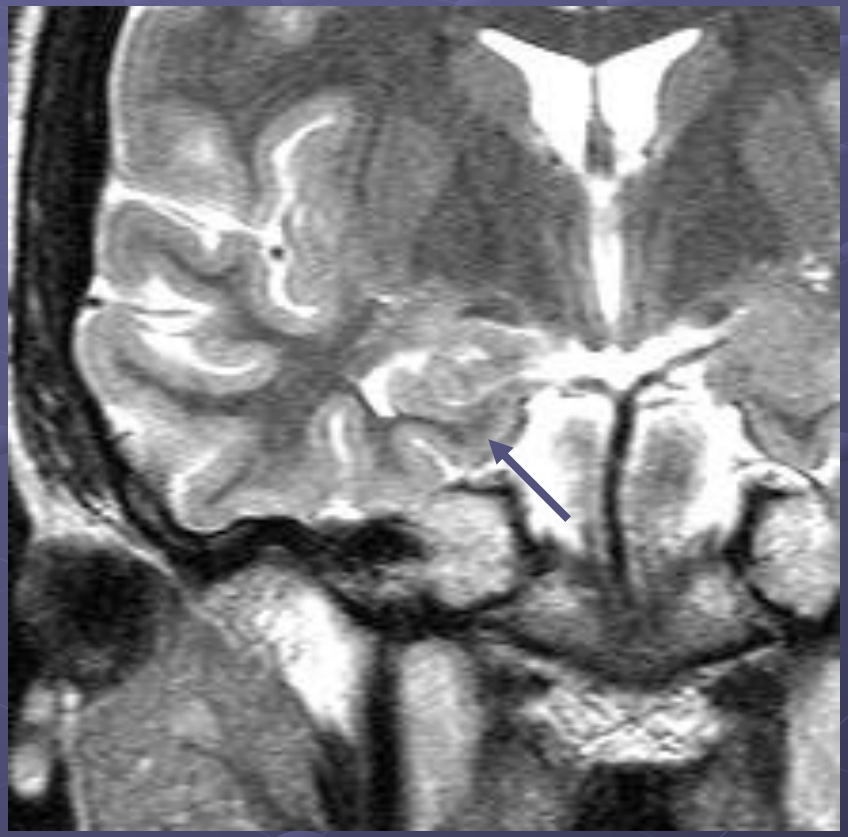


Hippicampal head

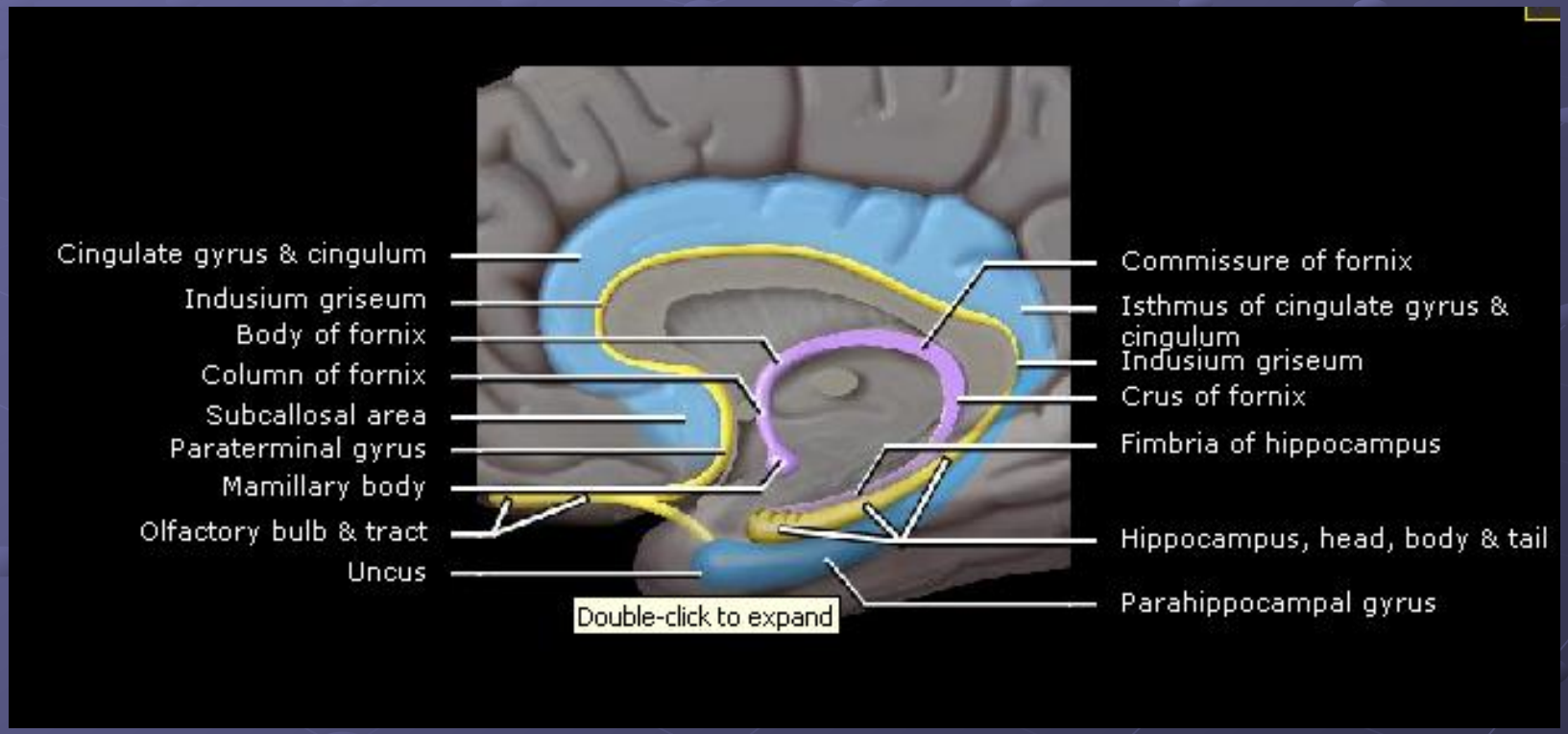
- Just posterior to amygdala



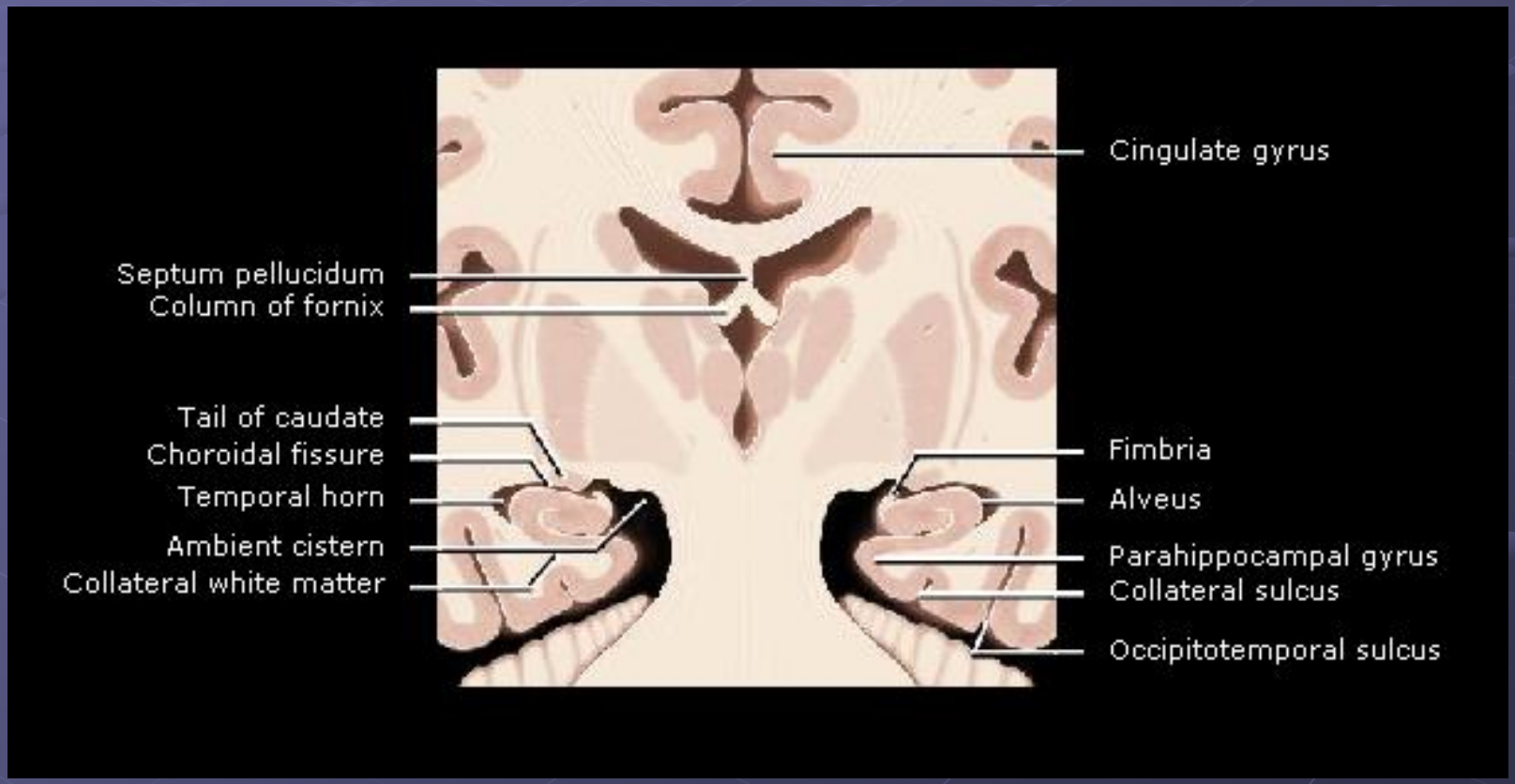
Parahippicampal gyrus



Limbic System



Limbic System



Limbic System