



## Pneumocephalus

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**Figure 1:** The reason tension pneumocephalus is sometimes said to have a “Mt. Fuji” sign on CT should be obvious on this image. The air layers anteriorly and exerts mass effect on the frontal lobes.

- Introduction of air inside the skull, secondary to fracture

or surgical interventions

- CT has a large advantage over MRI in the detection of pneumocephalus, as air will be very low density on CT and strikingly contrasted against the remainder of the surrounding structures (For additional images reference the [Skull Fractures](#) and [Traumatic Vascular Injuries](#) chapters)
- Pneumocephalus can be confused with intracranial fat (such as in a ruptured dermoid) on CT if the images are not windowed properly
- Air can be seen in the extra-axial (subarachnoid space, subdural and epidural spaces) or intra-axial spaces (brain parenchyma, vascular and ventricles)
- Air in the subarachnoid space often arises from fractures of posterior ethmoidal air cells and sphenoidal air cells
- Air in the subdural space follows fractures of frontal sinuses
- Tension pneumocephalus is a neurosurgical emergency in which the pneumocephalus causes mass effect on the brain, necessitating emergent decompression to alleviate pressure on the brain parenchyma
- Mount Fuji sign on CT head, presenting as bilateral subdural air collections causing collapsed frontal lobes with widening of the interhemispheric space between the lobar tips, helps differentiate tension from non-tension pneumocephalus (See Figure 1)

For more information, please see the corresponding chapter in [Radiopaedia](#).

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