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**Department of DPT 4th Semester.**

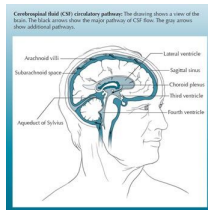
**Instructor: Ma'am Arooba.**

**ViVa Assignment Of Anatomy.**

**Q1; Write note on cerebrospinal fluid it's circulation and absorption?**

**Ans: Cerebrospinal Fluid: (CSF);**

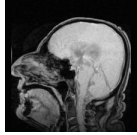
CSF is a clear, colourless body fluid found in the brain and spinal cord it's produced by specialized ependymal cells in the choroid plexuses of the ventricle of the brain, and absorbed in arachnoid granulation,



**CSF Circulation and absorption;**

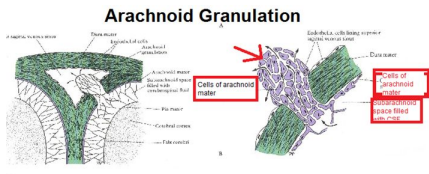
**Circulation:**

There is about 125–150 mL of CSF at any one time. This CSF circulates within the ventricular system of the brain. The ventricles are a series of cavities filled with CSF. The majority of CSF is produced from within the two lateral ventricles. From here, CSF passes through the interventricular foramina to the third ventricle, then the cerebral aqueduct to the fourth ventricle. From the fourth ventricle, the fluid passes into the subarachnoid space through four openings – the central canal of the spinal cord, the median aperture, and the two lateral apertures. CSF is present within the subarachnoid space, which covers the brain, spinal cord, and stretches below the end of the spinal cord to the sacrum. There is a connection from the subarachnoid space to the bony labyrinth of the inner ear making the cerebrospinal fluid continuous with the perilymph in 93% of people



MRI show pulsation of CSF.

## **Absorption of CSF:**

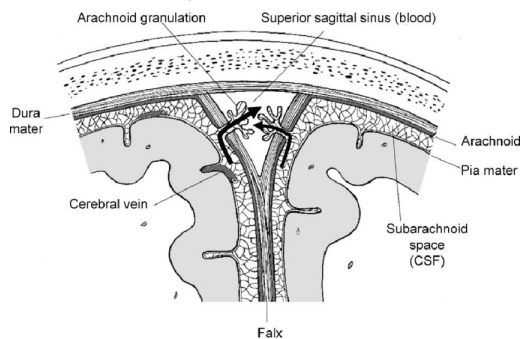


CSF is absorbed through blood vessels over the surface of brain back into the blood stream some absorption also occurs through the lymphatic system. Once in the blood stream it is carried away and filtered by our kidney and liver in the same way as are our other body fluids.

The main site for the absorption of CSF are the arachnoid villi that project into dural venous sinuses.

Especially the superior sagittal sinus

The arachnoid villi tend to be grouped together to form an elevation known as an arachnoid granulation.



Normal pressure hydrocephalus (NPH) is an abnormal accumulation of cerebrospinal fluid (CSF) that causes the ventricles in the brain to become enlarged, sometimes with little or no increase in intracranial pressure (ICP). With continuous pressure-recording techniques now available, we know that the phrase “normal pressure” is misleading, because many patients have fluctuations in CSF pressure ranging from high to normal to low.

## **Function of CSF :**

1. **Protection:** CSF protect the brain from damage by buffering the brain CSF act as a cushion a blow to the head and lessen the impact.
2. **Buoyancy:** Because of the brain is immersed in fluid the net weight of the brain is reduced from about 1400 GM to about 50gm therefore pressure at the base of the brain is rreduced.
3. **Excretion of waste products:** The one way flow from the CSF to blood taken potentially harmful metabolic drugs and other substance away from brain