

#DIBS BY NEXTILLO

DAILY INFORMATION BULLETIN SERVICE

CIRCUMVENTRICULAR ORGANS (CVO)



NEXTILLO.COM



#DIBSBYNEXTILLO

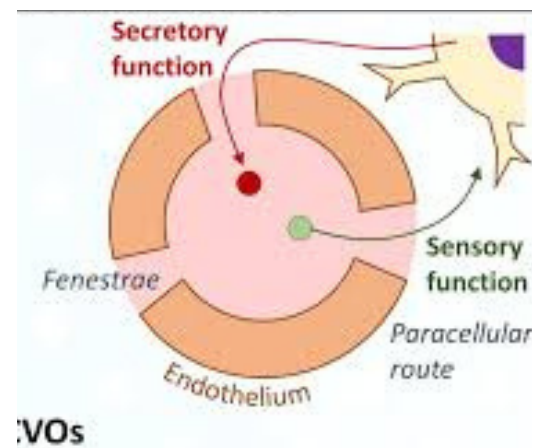
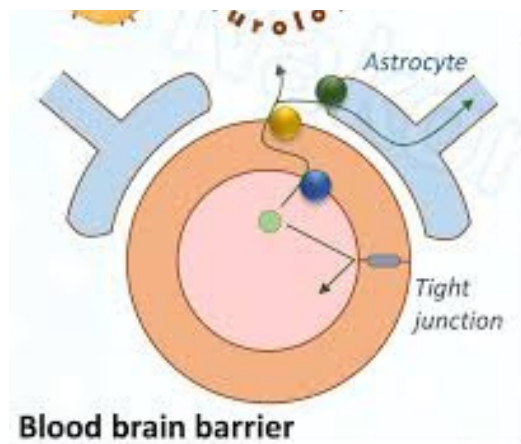
DAILY INFORMATION BULLETIN SERVICE

CIRCUMVENTRICULAR ORGANS (CVO)

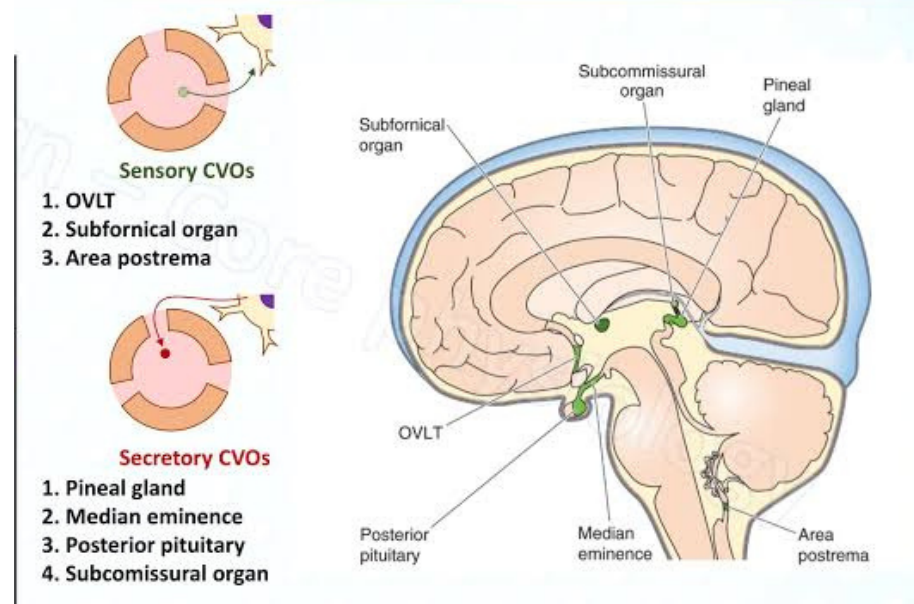
Understanding Circumventricular Organs (CVO) is essential for grasping their unique role in the brain, characterized by their permeable nature and distinct functions.



VISUAL REPRESENTATION



Circumventricular organ





OVERVIEW

- ***Definition and Location: CVOs are specialized structures located at certain points around the ventricles in the brain.***
- ***They lack the typical blood-brain barrier, allowing direct interaction with circulating substances in the blood.***
- ***Permeability and Capillaries: CVOs have fenestrated capillaries, making them more permeable. This allows for direct sensing of various substances in the bloodstream, including hormones and immune signals.***
- ***Functional Significance: CVOs play a crucial role in monitoring and responding to changes in the body's internal environment.***
- ***They act as sensory interfaces between the neural and systemic compartments.***





KEY CIRCUMVENTRICULAR ORGANS

- ***Pineal Gland: Located at the posterior end of the third ventricle.***
- ***Produces melatonin, influencing circadian rhythms and sleep-wake cycles.***
- ***Area Postrema: Positioned on the floor of the fourth ventricle.***
- ***Functions as a chemoreceptor trigger zone, inducing vomiting in response to toxins.***
- ***Subfornical Organ (SFO): Located near the fornix and third ventricle.***
- ***Involved in regulating thirst and fluid balance by sensing changes in blood osmolality.***





MCQ

QUESTION

Which circumventricular organ is involved in regulating thirst and fluid balance?

Pineal Gland

Area Postrema

Subfornical Organ

Hypothalamus

MCQ ANSWER: 3. Subfornical Organ

