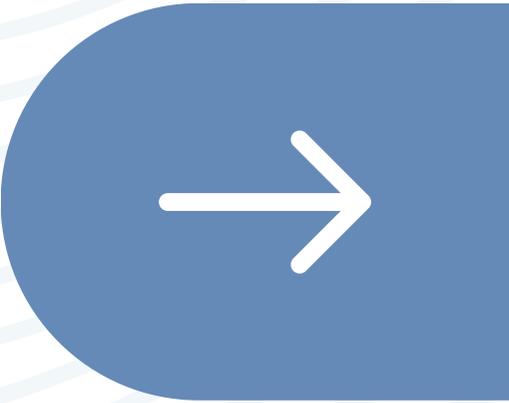




# #DIBS BY NEXTILLO

DAILY INFORMATION BULLETIN SERVICE

**CIRCLE OF WILLIS**





# #DIBSBYNEXTILLO

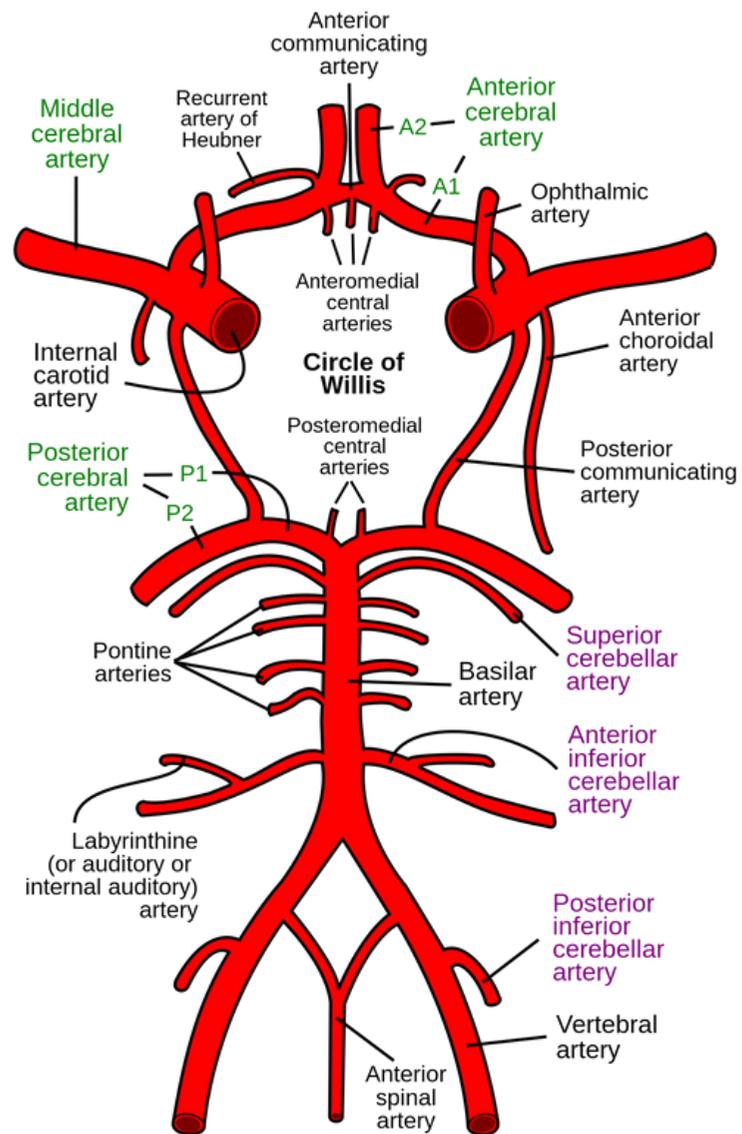
*DAILY INFORMATION BULLETIN SERVICE*

## CIRCLE OF WILLIS

Understanding the Circle of Willis is fundamental for comprehending the intricate vascular network in the brain, contributing to the cerebral blood supply and playing a vital role in maintaining blood flow.



# VISUAL REPRESENTATION





# CIRCLE OF WILLIS

## OVERVIEW OF CIRCLE OF WILLIS

- **Definition and Location:**
- *The Circle of Willis is a circulatory anastomosis that connects the major arteries supplying blood to the brain.*
- *Located at the base of the brain, encircling the optic chiasm and infundibulum of the pituitary gland.*
- **Function and Collateral Circulation:**
- *Serves as a safety mechanism, ensuring continuous blood supply to the brain.*
- *Allows for collateral circulation in case of blockages, helping to maintain cerebral perfusion.*
- **Clinical Significance:**
- *Disorders affecting the Circle of Willis, such as aneurysms or atherosclerosis, can have implications for blood flow and may lead to vascular events.*



# CIRCLE OF WILLIS

## MAJOR ARTERIAL COMPONENTS

- **Anterior Circulation:** *Comprises the anterior communicating artery and the two anterior cerebral arteries. Supplies blood to the frontal lobes and superior parts of the brain.*
- **Posterior Circulation** *Involves the posterior communicating arteries, posterior cerebral arteries, and the basilar artery.*
- *Supplies blood to the posterior parts of the brain, including the occipital lobes and cerebellum.*
- **Connecting Arteries:** *The anterior and posterior communicating arteries connect the anterior and posterior circulations. These connecting arteries play a critical role in maintaining blood flow balance.*

## CLINICAL APPLICATIONS

- **Vascular Imaging Techniques**
- *Magnetic resonance angiography (MRA) and computed tomography angiography (CTA) are employed to visualize the Circle of Willis.*
- *Essential for diagnosing vascular abnormalities and planning interventions.*
- **Ischemic Stroke and Collateral Flow:**
- *The Circle of Willis plays a pivotal role in determining the extent of collateral circulation during ischemic events.*



# MCQ

***Question: Which artery connects the anterior cerebral arteries in the Circle of Willis?***

- (A). Posterior Communicating Artery**
- (B). Anterior Communicating Artery**
- (C). Basilar Artery**
- (D). Posterior Cerebral Artery**

***Answer: (B) Anterior Communicating Artery***