

# Chambers of the Heart

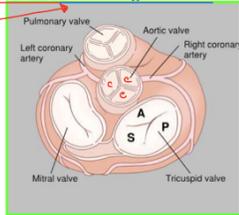
	Right Atrium	Right Ventricle	LEFT ATRIUM	LEFT VENTRICLE
Defination	The right atrium forms the right border	Forms the largest part of the anterior surface of the heart a small part of the diaphragmatic surface and almost the entire inferior border of the heart	base of the anterior papillary muscle forms the greater part of the base Behind { it lies the oblique sinus of the serous pericardium the esophagus	Forms the apex of the heart most of the diaphragmatic surface
interior Area	interior { Smooth, thin-posterior wall — (SVC and IVC) and coronary sinus open Rough, muscular anterior wall — composed of pectinate muscles separated { externally — the sulcus terminalis or (terminal groove) — a shallow vertical groove internally — crista terminalis or (terminal crest) — vertical ridge	interior { Superiorly — the conus arteriosus (infundibulum) — leads into the pulmonary trunk Inferior — (trabeculae carneae) — irregular muscular elevations A thick muscular ridge separates(the supraventricular crest) { smooth wall of the conus arteriosus, or outflow part ridged muscular wall of the inflow part of the chamber	interior { left atrium is smooth left auricle possesses muscular ridges	interior { Walls that are two to three times as thick as those of the right ventricle Walls that are mostly covered with a mesh of trabeculae carneae that are finer and more numerous than those of the right ventricle A conical cavity that is longer than that of the right ventricle Anterior and posterior papillary muscles that are larger than those in the right ventricle.
Vessels received	The SVC — superior part — level of the right 3rd costal cartilage The IVC — inferior part — the level of the 5th costal cartilage The opening of the coronary sinus — between the right AV orifice and the IVC orifice		The four pulmonary veins { two from each lung open through the posterior wall have no valves	
auricle	conical muscular pouch — increasing the capacity of the atrium overlaps the ascending aorta possesses muscular ridges		a left auricle — possesses muscular ridges	
Septum	separating the atria the oval fossa (L. fossa ovalis) { oval, thumbprint-size depression remnant of the oval foramen (L. foramen ovale) and its valve in the fetus	composed of muscular and membranous parts The interventricular septum (IVS) { much smaller membranous part of the IVS — Superiorly and posteriorly thin membrane muscular part of the IVS, which forms the majority of the septum curved muscular bundle The septomarginal trabecula (moderator band) { from the inferior part of the IVS base of the anterior papillary muscle		
Valve	right AV (tricuspid) orifice — discharges the poorly oxygenated blood, it has received into the right ventricle	right AV (tricuspid) orifice { posterior to the body of the sternum at the level of the 4th and 5th intercostal spaces The inflow part of the ventricle receives blood from the right atrium through 	The left atrioventricular orifice ( the mitral valve)	

# الموضوع الرئيسي

## Right Ventricle

The **tricuspid valve** guards the **right AV orifice**.  
The bases of the valve cusps are attached to the **fibrous ring** around the orifice.

- Because the **fibrous ring** maintains the **caliber of the orifice**, the attached valve cusps contact each other in the same way with each heartbeat.



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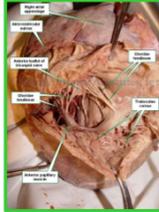
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## Right Ventricle

**Tendinous cords (L. chordae tendineae)** attach to the **free edges** and ventricular surfaces of the **anterior, posterior, and septal cusps**, much like the **cords attaching to a parachute**.

The **tendinous cords** arise from the **apices of papillary muscles**, which are **conical muscular projections** with bases attached to the **ventricular wall**.

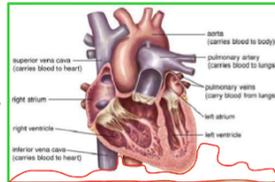


## Right Ventricle

**Three papillary muscles** in the right ventricle correspond to the cusps of the **tricuspid valve**:

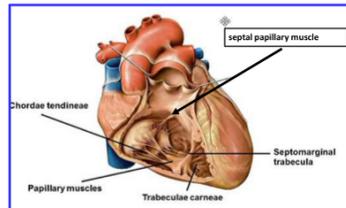
- The **anterior papillary muscle**, the **largest one**, arises from the **anterior wall** of the right ventricle

- The **posterior papillary muscle**, smaller than the anterior muscle, may consist of several parts; it arises from the **inferior wall** of the right ventricle



## Right Ventricle

- The **septal papillary muscle** arises from the **interventricular septum**, and its tendinous cords attach to the **anterior and septal cusps** of the tricuspid valve.



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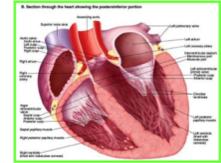
## LEFT VENTRICLE

- Anterior and posterior papillary muscles** that are **larger than** those in the right ventricle.

- A smooth-walled, non-muscular, **superoanterior outflow part**, the **aortic vestibule**, leading to the **aortic orifice** and **aortic valve**.

- A **double-leaflet mitral valve** that guards the **left AV orifice**

- An **aortic orifice** that lies in its **right posterosuperior part**. The **ascending aorta** begins at the aortic orifice.

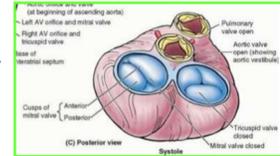


## LEFT VENTRICLE

The **mitral valve** guards the **atrioventricular orifice**. It consists of **two cusps**, one **anterior** and one **posterior**.

- The **anterior cusp** is the **larger** and **intervenes** between the **atrioventricular** and **aortic orifices**.

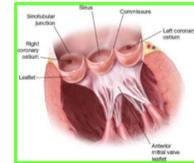
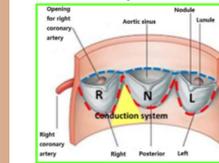
- The **mitral valve** is located **posterior to the sternum** at the level of the **4th costal cartilage**.



## LEFT VENTRICLE

### The aortic valve

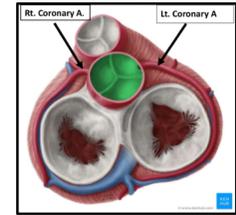
- guards the **aortic orifice**
- One cusp is situated on the **anterior wall (right cusp)** and two are located on the **posterior wall (left and posterior cusps)**.
- Behind each cusp, the **aortic wall bulges** to form an **aortic sinus**.



### The aortic valve

- The **anterior aortic sinus** gives origin to the **right coronary artery**, and
- The **left posterior sinus** gives origin to the **left coronary artery**

- It is located **posterior to the left side of the sternum** at the level of the **3rd intercostal space**.



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