

DETAILED STUDY ON THE HUMAN HEART

1. Introduction

The human heart is a vital muscular organ located slightly left of the midline in the thoracic cavity. Its primary function is to pump blood throughout the body, supplying oxygen and nutrients to tissues and removing carbon dioxide and other wastes. The heart is a central component of the circulatory system and operates continuously throughout a person's life.

2. Anatomy of the Heart

2.1 Size and Location

- Roughly the size of a clenched fist.
- Located in the mediastinum, between the lungs, behind the sternum.

2.2 Structure

The heart is divided into four chambers:

- Right Atrium: Receives deoxygenated blood from the body.
- Right Ventricle: Pumps deoxygenated blood to the lungs.
- Left Atrium: Receives oxygenated blood from the lungs.
- Left Ventricle: Pumps oxygenated blood to the body.

2.3 Valves

- Tricuspid Valve: Between right atrium and right ventricle.
- Pulmonary Valve: Between right ventricle and pulmonary artery.
- Mitral (Bicuspid) Valve: Between left atrium and left ventricle.
- Aortic Valve: Between left ventricle and aorta.

3. Physiology of the Heart