Pericardium Encyclopedia Article

Pericardium

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Pericardium

The pericardium refers to a thin membranous sac that surrounds the **heart** and the roots of the main **blood** vessels leading from the heart. Compositionally, it contains three layers. These layers are the fibrous pericardium, visceral pericardium (also known as the epicardium), and the parietal pericardium. Fluid is found in between the visceral pericardium and the parietal pericardium layers. This area is called the pericardial cavity. The fluid acts as a lubricant and as a **shock** absorber, reducing the friction between the membranes.

The fibrous pericardium is the outer fibrous sac that covers the heart. It is a protective layer. The next layer is the epicardium, the outer layer of the heart wall. It is composed of connective **tissue** that is covered by epithelium. The epicardium is also a protective layer. Between these two layers is the parietal pericardium. It is an insulating layer.

The pericardium has several functions. Its fibrous construction acts to hold the heart within the chest cavity. Also the membrane layers and the intervening fluid acts as a shock absorber to limit the internal motion of the heart generated by the pumping action of the organ. It also acts as a glove to prevent the heart from becoming too large when the volume of blood flowing through the heart increases.

The pericardium can become inflamed, condition termed pericarditis. Men between the ages of 20 and 50 are most at risk for pericarditis. The inflammation produces an increase in the amount of the fluid. This increased volume impinges on the heart, and the pressure can adversely affect the functioning of the heart. As a consequence of the increased fluid pressure, a sharp and piercing **pain** develops in the chest that becomes more severe when a breath is taken during inspiration.

Pericarditis can be caused by an **infection**, heart attack, **cancer**, radiation treatment, or as a result of injury or surgery. Sometimes pericarditis can be a secondary ailment accompanying rheumatoid arthritis, lupus, and failure of the kidney. Treatment for pericarditis can involve the administration of antibiotics, if the cause is an infection, and drugs to reduce inflammation and relieve pain. In more extreme cases, a needle may be inserted into the pericardium to draw of excess fluid (aspiration).