

Pulmonary Hypertension



What Is It?

Pulmonary Hypertension is high blood pressure in the vessels that carry blood from the heart to the lungs (the pulmonary artery and its branches).

By definition, Pulmonary Hypertension is diagnosed when the blood pressure in the heart to lung circulation exceeds 25 mm Hg at rest or 30 mm Hg with exercise.

Two kinds of Pulmonary Hypertension are recognized: Secondary, in which the cause of the high blood pressure is known; and Primary, in which the cause is unknown. (Primary Pulmonary Hypertension (PPH) is a rare condition, affecting females more frequently than males (2.4 to 1)).

Possible causes of Secondary Pulmonary Hypertension include blockages or high blood pressure in any of the vessels of the pulmonary (heart to lung) circulation, such as the pulmonary artery (or its branches) or the pulmonary veins, which carry blood from the lungs to the heart. In such cases, the pressure builds as the blood backs up because of resistance to blood flow.

Other factors that may result in Pulmonary Hypertension include low oxygen concentration in the blood (chronic hypoxemia) and the abnormal shunting (movement from one heart chamber to another) of blood in the heart. The latter situation, which is caused by a variety of congenital heart defects, may direct more blood than normal into the pulmonary artery, increasing its pressure.

What Are Its Effects?

The effects of Secondary Pulmonary Hypertension depend on the nature and severity of the condition which causes it. Among the congenital heart defects which may result in high pulmonary pressure are the following:

- Coarctation of the Aorta
- Aortic Stenosis
- Hypertrophic Cardiomyopathy
- Dilated Cardiomyopathy
- Mitral Stenosis
- Patent Ductus Arteriosus
- Aortopulmonary Window
- Atrial Septal Defect

- Ventricular Septal Defect

The symptoms of Primary Pulmonary Hypertension include shortness of breath, fatigue, syncope (temporary loss of consciousness), chest pain, and leg or ankle swelling. In addition, there is a loud heart murmur. Without treatment, the patient's condition will steadily worsen and life expectancy will be short.

How Is It Treated?

The cause of Secondary Pulmonary Hypertension should be corrected if possible. Congenital heart defects may be treated through surgical procedures or with medicines.

In cases of Primary Pulmonary Hypertension, there are medications such as prostacyclin (a steroid that relaxes blood vessels), calcium channel blockers (which also relax the blood vessels), and endothelin antagonists, which counteract the effects of endothelin, a substance in the body that narrows blood vessels and increases blood pressure.

Other medications that may be prescribed include anticoagulants (blood thinners) to ward off blood clots (often associated with Pulmonary Hypertension), digitalis (to help regulate the heartbeat and reduce swelling of the ankles and legs), and diuretics (to reduce fluid retention). In addition, oxygen may be given if an inadequate supply in the blood (hypoxemia) is a cause of the high pulmonary pressure.