



## Types of Pulmonary Hypertension

The World Health Organization divides pulmonary hypertension (PH) into five groups. These groups are organized based on the cause of the condition.

In all groups, the average pressure in the pulmonary arteries is higher than 25 mmHg at rest or 30 mmHg during physical activity. The pressure in normal pulmonary arteries is 8–20 mmHg at rest.

(Note that group 1 is called pulmonary arterial hypertension (PAH) and groups 2 through 5 are called pulmonary hypertension. However, together all groups are called pulmonary hypertension.)

### Group 1 Pulmonary Arterial Hypertension

Group 1 PAH includes:

- PAH that has no known cause.
- PAH that's inherited (passed from parents to children through genes).
- PAH that's caused by drugs or toxins, such as street drugs and certain diet medicines.
- PAH that's caused by conditions such as:
  - Connective tissue diseases. (Connective tissue helps support all parts of your body, including your skin, eyes, and heart.)
  - HIV infection.
  - Liver disease.
  - [Congenital heart disease](#). This is heart disease that's present at birth.
  - [Sickle cell disease](#).
  - Schistosomiasis (SKIS-toe-so-MI-ah-sis). This is an infection caused by a parasite. Schistosomiasis is one of the most common causes of PAH in many parts of the world.
- PAH that's caused by conditions that affect the veins and small blood vessels of the lungs.

### Group 2 Pulmonary Hypertension

Group 2 includes PH with left heart disease. Conditions that affect the left side of the heart, such as [mitral valve disease](#) or long-term [high blood pressure](#), can cause left heart disease and PH. Left heart disease is likely the most common cause of PH.

### Group 3 Pulmonary Hypertension

Group 3 includes PH associated with lung diseases, such as [COPD](#) (chronic obstructive pulmonary disease) and interstitial (IN-ter-STISH-al) lung diseases. Interstitial lung diseases cause scarring of the lung tissue.

Group 3 also includes PH associated with sleep-related breathing disorders, such as [sleep apnea](#).

### Group 4 Pulmonary Hypertension

Group 4 includes PH caused by blood clots in the lungs or blood clotting disorders.

### Group 5 Pulmonary Hypertension

Group 5 includes PH caused by various other diseases or conditions. Examples include:

- Blood disorders, such as [polycythemia vera](#) (POL-e-si-THE-me-ah VAY-rah or VE-rah) and essential [thrombocythemia](#) (THROM-bo-si-THE-me-ah).
- Systemic disorders, such as [sarcoidosis](#) (sar-koy-DO-sis) and [vasculitis](#) (vas-kyu-LI-tis). Systemic disorders involve many of the body's organs.
- Metabolic disorders, such as thyroid disease and glycogen storage disease. (In glycogen storage disease, the body's cells don't use a form of glucose (sugar) properly.)
- Other conditions, such as tumors that press on the pulmonary arteries and kidney disease.

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