Pulmonary Hypertension

Pulmonary hypertension is high blood pressure in the blood vessels of the lungs. These blood vessels can get tighter or narrower, which makes it harder for blood to move through them. When this happens, **less blood can pick up oxygen** for your body. Your heart has to **work harder** to push blood through the lungs. Over time, the heart may **get tired or weaker** because of the extra work. This can make you feel **tired, dizzy, short of breath**, or even faint. If the pressure in the lungs stays high, the heart can become **damaged or stop working properly**.

Causes for Pulmonary Hypertension

Sometimes the cause is unknown, but there are a few known causes:

- **Pulmonary Arterial Hypertension (PAH):** This is high blood pressure in the arteries that go from the right side of the heart to the lungs. The right side of the heart has to work too hard, which it is **not** built to do.
- **Pulmonary Venous Hypertension:** This happens when there is high pressure in the **veins** of the lungs, often caused by **heart problems** like a weak left heart or mitral valve disease. This can lead to **fluid buildup in the lungs**.
- **Low Oxygen Levels (Hypoxemia):** When oxygen levels in the body are too low, blood vessels in the lungs can get tight or blocked. Conditions like **emphysema, sleep apnea**, or living at **high altitudes** can cause this.
- **Blood Clots in the Lungs:** Blood clots or blockages can block the flow of blood in the lungs, which raises pressure behind the clot. This is called **chronic thromboembolic pulmonary hypertension**.
- **Other Illnesses:** Some diseases that directly affect lung blood vessels, like **sarcoidosis** or **pulmonary capillary disease**, can also cause pulmonary hypertension.

Symptoms

Common symptoms include:

- Trouble breathing
- Chest pain
- Feeling dizzy or fainting
- Feeling very tired all the time
- Swelling in the ankles and legs
- Less ability to walk or exercise
- Dry cough
- Cold or discolored fingers and toes (**Raynaud's syndrome**)

Advanced Symptoms

As the pressure in the lungs increases, symptoms may get worse. You may have **more swelling**, **fluid in the belly or lungs**, and feel even **more tired**.

Treatment

Pulmonary hypertension is a **chronic (long-term)** condition. It cannot be cured, but it **can be treated and managed**. Work closely with your doctor on a treatment plan that may include:

- **Treating the cause:** If another disease is causing the problem, that must be treated too.
- **Medicines:** There are many medicines that can help lower pressure in the lungs and reduce the heart's workload.
- **Oxygen therapy:** If your blood oxygen levels are too low, your doctor may prescribe **extra oxygen**.

- **Surgery:** Surgery may help fix heart defects, remove old clots, or repair heart valves. A **lung or heart-lung transplant** may be needed if other treatments do not work.

Medicines
Not every person with pulmonary hypertension needs the same medicines. Your doctor will choose what is best for you.

Blood Thinners
Example: Warfarin (Coumadin®).
Helps prevent blood clots.

Calcium Channel Blockers
Examples: Nifedipine, Amlodipine, and Diltiazem.
Helps lower pressure in lung arteries.

Diuretics ("Water Pills")
Examples: Lasix, Bumex, Demadex, and Aldactone.
Helps remove extra fluid from the body.

Endothelin Receptor Antagonists
Examples: Bosentan (Tracleer®) and Ambrisentan (Letairis®).
Helps lower lung pressure and reduce the heart's workload.

Phosphodiesterase Type 5-Inhibitors
Examples: Sildenafil (Revatio®) and Tadalafil (Adcirca®).
Helps relax lung blood vessels.

Activin Signaling Inhibitors
Example: Sotatercept-csrk (Winrevair).
This medicine works by targeting and blocking harmful proteins that cause lung blood vessels to tighten and thicken.

Prostacyclin Analogues
Examples: Epoprostenol (Flolan®), Treprostinil (Remodulin®, Tyvaso®), and Iloprost (Ventavis®).
These medicines open lung blood vessels. Some are given by **IV, under the skin, or through a breathing treatment**.

Prostacyclin Receptor Agonists
Example: Uptravi (selexipag).
This medicine helps to widen the lung arterial blood vessels, increase blood flow to the lungs, lowers the workload of the right heart, prevents blood clotting and slows thickening of blood vessels.

Other Treatments

Low Sodium Diet
Eating too much salt can make the body hold on to water, which raises blood pressure. Try to **limit salt to less than 2,500 mg per day**. Salt is often hidden in packaged and canned foods, so check labels. Ask your doctor, nurse, or dietitian if you need help reading food labels.

Oxygen Therapy
If your doctor recommends oxygen, using it the way it is prescribed can help your body get the oxygen it needs to work properly.

Ongoing Research
Doctors and scientists are always looking for **new ways to treat** pulmonary hypertension. Stay in touch with your healthcare team for the latest options.

Your health care team may have given you this information as part of your care. If so, please use it and call if you have any questions. If this information was not given to you as part of your care, please check with your doctor. This is not medical advice. This is not to be used for diagnosis or treatment of any medical condition. Because each person's health needs are different, you should talk with your doctor or others on your health care team when using this information. If you have an emergency, please call 911. Copyright © 7/2026 University of Wisconsin Hospitals and Clinics Authority. All rights reserved. Produced by the Department of Nursing. HF#6719.