

**Pulmonary
Hypertension and
HIV**

PH & HIV

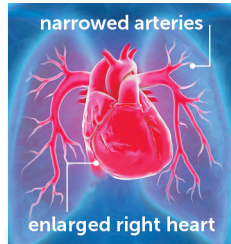


Pulmonary Hypertension Association
Empowered by hope

ABOUT

PULMONARY HYPERTENSION

Pulmonary hypertension is a complex and often misunderstood disease. PH sometimes is confused with systemic hypertension or “high blood pressure” that affects arteries throughout the body.



PH refers to pressure within the blood vessels of the lungs. The blood vessels can become stiff and narrow, which makes it more difficult for the right side of the heart to pump blood through them.

There are five types of PH based on different causes. Each form of PH is different, so it is important for newly diagnosed patients to find PH specialists who can pinpoint the cause of their PH. The specialist then develops a treatment plan specifically for the patient’s type of PH.

Every person with PH is different, and scientists continually conduct new research to improve the outlook for people living with PH. With proper care and treatment, people with PH can live many years.



NORMAL mean pulmonary artery pressure is between 8-20 mmHg at rest.

PULMONARY HYPERTENSION is defined as a resting mean pulmonary artery pressure at or above 20 mmHg.



HIV-Associated Pulmonary Hypertension

Human immunodeficiency virus is a chronic infection that can lead to acquired immunodeficiency syndrome if untreated. Unlike other viruses, HIV doesn't completely leave the body. It attacks cells in the immune system that help fight infections, specifically T cells (a type of lymphocyte or white blood cell, also called CD4 cells). If HIV is untreated, it decreases the number of T cells in the body, making HIV-positive people more susceptible to developing infections and infection-related cancers.

Effective treatments, specifically antiretroviral therapy, have extended and improved the lives of people living with HIV. The therapies also have reduced the risk of HIV-positive people passing the virus to others.

It's important to see a physician who specializes in treating PH and can work closely with your HIV physician on your treatment plan.



Today, with early detection and treatment, people with HIV can live nearly as long as those without the virus. About 1.2 million people live with HIV in the U.S., where 35,000-40,000 new cases are diagnosed annually.

HIV is known to be associated with Group 1 PH, also known as pulmonary arterial hypertension. About one of every 200 people with HIV has PAH.

It isn't known why people with HIV are diagnosed with PAH more frequently than people who don't have HIV. Studies show that certain factors might contribute to the increased risk, such as aging, HIV-related inflammation and viral proteins.

PH symptoms can include:

- > Shortness of breath with activity.
- > Increased fatigue.
- > Swelling of the ankles, legs or abdomen.
- > Chest discomfort or pain.
- > Light-headedness and fainting.



Diagnosing HIV-Related PAH

People with HIV should tell their health care teams about new symptoms or changes in their health. If doctors suspect PH, the patient should be evaluated by an experienced PH-treating clinician, such as a specialist at a Pulmonary Hypertension Association-accredited PH Care Center.

Doctors who suspect PH can order any of the following diagnostic tests:

Echocardiogram: An ultrasound of the heart that provides a rough estimate of the pressure in the lungs. It assesses the function of how blood flows through the heart by examining the right and left ventricles, valves, etc.

Pulmonary function tests: Non-invasive tests that measure how much air the lungs can hold, how much and how quickly someone can blow air, and how oxygen and carbon dioxide are exchanged between the air entering the lungs and the blood circulating through the lungs (diffusion capacity of carbon monoxide).

Ventilation-perfusion (V/Q) scan: Determines whether there are undissolved clots in the blood vessels of the lungs.

Natriuretic peptide tests: Measure specific proteins in a blood sample and help screen for heart failure. Tests of the proteins NT-proBNP (N-terminal pro b-type natriuretic peptide) and BNP (brain natriuretic peptide) are two examples. Elevated levels of these proteins can signify heart failure.

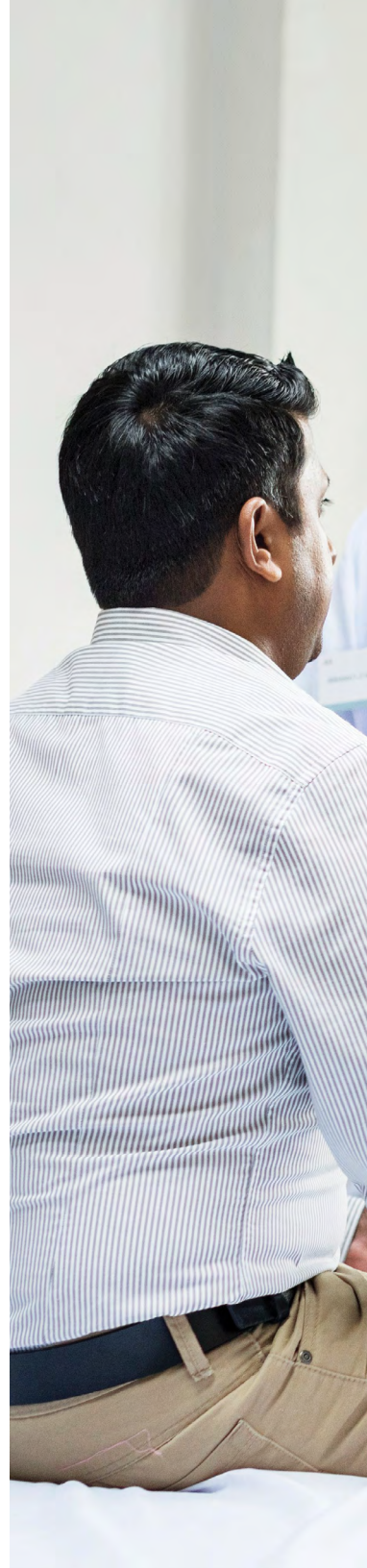
Right heart catheterization: The most accurate diagnostic test for PH. It measures the pressures and flow directly in the pulmonary artery. The invasive procedure usually takes place on an outpatient basis in the hospital. Doctors guide a small tube (catheter) through the right side of the heart and into the pulmonary artery to directly measure the pulmonary artery pressure.

In addition to directly measuring pressures in the heart and lungs, a right heart catheterization can determine whether patients have problems with a stiff left side of the heart. Left heart disease also can cause PH. In those cases, doctors refer patients to a cardiologist to treat the heart disease.

Treatment Options

Typically, doctors can prescribe PAH-specific therapies for HIV-associated PAH. It's important to see a physician who specializes in treating PH and can work closely with your HIV physician on your treatment plan. Some HIV drugs affect PH-targeted therapies and need to be carefully managed. Patients may want to consult with their doctors about clinical trials for people with HIV and PAH.

A right heart catheterization is the most accurate diagnostic test for PH. It measures the pressures and flow directly in the pulmonary artery.





ADDITIONAL RESOURCES

HIV.gov

Ryan White HIV/Aids Program:
ryanwhite.hrsa.gov

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About the Pulmonary Hypertension Association

Headquartered in Washington, D.C., the Pulmonary Hypertension Association is the oldest and largest nonprofit patient association dedicated to the pulmonary hypertension community. PHA's mission is to extend and improve the lives of those affected by PH.

PHA engages people with PH and their families, caregivers, health care providers and researchers, who work together to advocate for the PH community, provide support to patients, caregivers and families, offer up-to-date education and information on PH, improve quality patient care, and fund and promote research. For information, visit PHAssociation.org.

PHA's mission is to extend and improve the lives of those affected by pulmonary hypertension. PHA's vision is a world without PH, empowered by hope.



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