

Diagnosing PH: Tests, tests and more tests

Providence, R.I. 2017 PHA on the Road



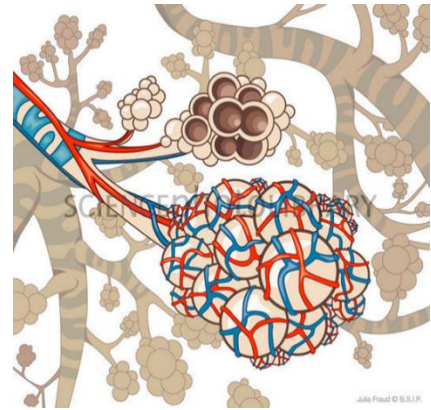
Session Description

There are many clinical tests and studies used in the evaluation of pulmonary hypertension (PH). All of these tests can be overwhelming. There are also several types of PH, as defined by the World Health Organization classification. Understanding the different types of PH and how different tests lead to a correct diagnosis is essential to understanding the best treatment options. Join us as we provide an overview of the diagnosis of the several types of PH.

Learning Objectives

Attendees will be able to:

- Understand how the pulmonary circulation interacts with the heart and lungs
- Understand the different problems that can lead to PH
- Understand the current PH classification system
- Understand why diagnostic tests are ordered and why they are important
- Understand how management can be different for different types of PH



Types of PH

- **Updated 2013 World Health Organization (WHO) PH Classification System**
 - Group 1: Pulmonary arterial hypertension (PAH)
 - Group 2: Pulmonary hypertension (PH) due to left heart disease
 - Group 3: Pulmonary hypertension (PH) due to lung diseases and/or hypoxia
 - Group 4: Chronic thromboembolic pulmonary hypertension (CTEPH)
 - Group 5: Pulmonary hypertension (PH) with unclear multifactorial mechanisms

“PH” vs. “PAH”

- PH is defined as an elevated mean (or “average,” which is different than the upper [“systolic”] and lower [“diastolic”] blood pressure readings) pulmonary arterial pressure (≥ 25 mm Hg) as directly measured by right heart catheterization (RHC) at rest.
- Normal mean pulmonary arterial pressures are below 20 mm Hg at rest. Doctors and scientists do not fully understand the implications of mean pulmonary artery pressures between this value and the definition of PH (i.e., between 21 and 24 mmHg).

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- PAH is characterized by:
 - Pre-capillary PH (increased pulmonary arterial pressure and pulmonary vascular resistance) in the setting of normal left heart pressures (pulmonary artery “wedge” pressure)
 - No evidence of significant lung disease or chronic thromboembolic disease

Overview of Pulmonary Hypertension

PH is high blood pressure in the blood vessels in the lungs, which is very different from systemic hypertension (blood pressure measured in your arm). PH can cause the right side of your heart to work harder; the goals of PH treatment are to make you feel better, to help you to do more and to prevent progression to right heart failure. Understanding the common diagnostic tests performed in the evaluation of PH and why they are performed is helpful to understand how different types of PH may be treated differently.

Common Tests

- History and Physical
- Blood tests
- Chest x-ray and/or Chest CT scan
- Echocardiogram (sonogram of the heart)
- 6-minute walk test
- Right heart catheterization

Other Tests

- Pulmonary function testing
- Ventilation/perfusion scan
- Overnight oximetry
- Sleep study (overnight polysomnography)

Additional Resources

- www.PHAssociation.org/Patients/Diagnosis
- www.PHAssociation.org/patients/aboutph/types-of-ph/
- PHA Patient Resources: <https://phassociation.org/medicalprofessionals/foryourpatients/>
- PHA Classroom Recording: [PH simplified- The Basics of PH, Treatments, and Tests](#)