

# Pulmonary Embolism

**A** **pulmonary embolism** is a blood clot that travels to the lungs. Often, the clot forms in another part of the body, usually in the veins of the legs. Large clots can be fatal. The January 11, 2006, issue of *JAMA* includes an article about diagnosing pulmonary embolism. This Patient Page is based on one previously published in the December 3, 2003, issue of *JAMA*.

## SYMPTOMS AND SIGNS OF PULMONARY EMBOLISM

- Sudden chest pain
- Difficulty breathing
- Cough with blood
- Lightheadedness and fainting
- Excessive sweating
- Bluish tint to skin
- Anxiety

## RISK FACTORS FOR PULMONARY EMBOLISM

- Recent surgery
- Long periods of immobility (such as bed rest because of an illness)
- Cancer
- Heart problems
- Older age
- Taking oral contraceptives
- Previous stroke or heart attack

## DIAGNOSIS OF PULMONARY EMBOLISM

Pulmonary embolism can be difficult to diagnose because the symptoms are broad and resemble those of other diseases. Results of the patient's history and physical examination are very important. Some other tests that may be done include

- Chest x-ray
- Electrocardiogram
- Arterial blood gases—measurement of oxygen and carbon dioxide levels in the blood
- D-dimer assay—a blood test for evidence of blood clots
- Ultrasound of the legs—sound wave images to detect blood clots in the veins
- Spiral computed tomography—detailed computerized x-ray imaging
- Lung scan—test of blood flow through the lungs
- Pulmonary arteriogram—injections to show the arteries in the lungs to detect blood clots

## TREATMENT

Immediate treatment usually includes giving injectable **anticoagulants** (blood thinners)—such as **heparin**, followed by **warfarin** (an anticoagulant taken by mouth)—to stabilize the clot, prevent additional clots, and restore normal blood flow in the lungs. Oxygen and sedatives may be given to make the patient more comfortable. If the clot is large, **thrombolytic** ("clot busting") drugs may be needed to remove it.

Sources: American Heart Association; National Heart, Lung, and Blood Institute

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## FOR MORE INFORMATION

- American Heart Association  
www.americanheart.org
- National Heart, Lung, and Blood Institute  
www.nhlbi.nih.gov

## INFORM YOURSELF

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