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Pulmonary Embolism

BY DR. EFTHYMIOS AVGERINOS

Sudden blockage of a major artery in your lung. Usually due to a blood clot that develops in another part of your body, breaks off and travels in the blood stream into the lung where it blocks the pumping of your heart and prevents it from taking in oxygen.

The third most common cardiovascular disease after heart attack and stroke.

CALL 911 AS STROKE/PE MAY RESULT IN PERMANENT INJURY OR DEATH IF NOT ADDRESSED IMMEDIATELY

Pulmonary embolism is a medical emergency. If any of the symptoms below occur, seek immediate medical attention.

MEDIUM TO LONG TERM

After the high-risk period has elapsed (roughly one week), blood clots in your lung will need months or years to completely resolve. You may develop pulmonary hypertension with life-long implications, including shortness of breath and exercise intolerance.

Symptoms

Symptoms usually begin suddenly and may include:

- ♦ Sudden shortness of breath.
- ♦ Sharp chest pain, often aggravated by coughing or movement.
- ♦ Pain in your back.
- ♦ Cough with or without bloody sputum.
- ♦ Excessive sweating.
- ♦ Rapid pulse or breathing.
- ♦ Lightheadedness or passing out.
- ♦ Blue lips or nail beds.

If you have recently had a blood clot in a leg or arm, you may experience:

- ♦ Swelling of the affected leg or arm.
- ♦ Leg pain or tenderness that may only occur when you are standing or walking.
- ♦ Increased warmth in the swollen or painful area of the affected leg or arm.
- ♦ Redness or discoloration of your skin.
- ♦ Enlargement of superficial veins in the affected leg or arm.



Causes

A variety of risk factors contribute to the development of pulmonary embolism:

- Surgery, particularly abdominal or orthopaedic surgery, such as hip or knee surgery
- Trauma or bone fracture
- A long period of bed rest or sitting for a long time, perhaps on an airplane or in a car
- Cancer and some cancer treatments, like chemotherapy
- Cardiovascular diseases such as atrial fibrillation, heart failure, heart attack or stroke
- Pregnancy and the first 6 weeks after giving birth
- Birth control pills or hormones taken for symptoms of menopause
- Family history of blood clots
- Inherited blood disorders that make the blood thick, such as thrombophilia
- Inflammatory bowel disease
- Auto-immune diseases, such as lupus or antiphospholipid syndrome
- Smoking
- Obesity
- Placement of vein catheters, pacemakers or implantable defibrillators

Diagnosis

SEE A VASCULAR SURGEON

You will be asked questions about symptoms and medical history, including questions about family members. The vascular surgeon will also perform a physical exam.

TESTS MAY BE RECOMMENDED

- Chest x-ray
- Computerized Tomography Angiogram (CTA)
- Echocardiogram (Echo)
- Ventilation Perfusion Lung Scanning (VQ Scan)
- Ultrasound of your leg veins (Duplex)
- Pulmonary Angiography
- Blood tests: D-dimer, Troponin, BNP (brain natriuretic peptide - hormone) and arterial blood gas analysis

Treatments

MEDICATION

In most cases, treatment is limited to medication that thins the blood.

If you have severe symptoms, treatment is typically provided in a hospital, where your condition can be closely monitored. In some cases it may be necessary to remove the clot to prevent shock, cardiac arrest or death.

CLOT-BUSTERS

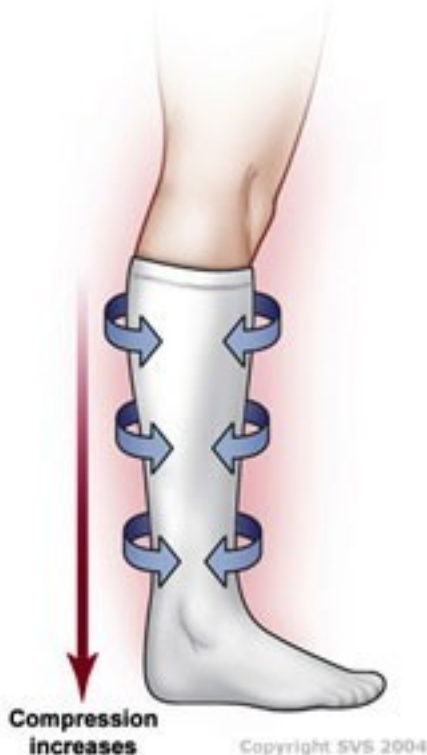
Clot-busters are one way to immediately remove a clot. Clot busters are taken intravenously, through an IV in the arm (systemic thrombolysis) or through a long catheter (thin tube) that delivers them directly to a clot in the lung (catheter-directed thrombolysis).

SURGERY

Mechanical cardiopulmonary support and open surgery to physically remove the clot are the last resort treatment alternatives when other techniques have failed or are contraindicated.

Staying Healthy

If you have had pulmonary embolism once, you are more likely to have it again. Your vascular surgeon will recommend ways to prevent pulmonary embolisms in the future:



- Stay active and exercise regularly.
- Wear elastic compression stockings, particularly if you need to sit or stand for long periods.
- Use anticoagulants (blood thinners) as prescribed. If you become aware of times when you will have limited mobility, like during surgery or prolonged bed rest, discuss with your doctor whether a temporary change in dosage is recommended.
- Walk or flex and stretch your legs every hour on long plane or car trips.
- If you can't walk - due to bed rest, recovery from surgery or extended travel - move your arms, legs and feet for a few minutes each hour.
- Drink plenty of fluids, like water and juice, and avoid excess alcohol and caffeine.
- Do not smoke.
- Maintain an optimal weight.