

Pulmonary Embolism Causes

Pulmonary embolism is a blockage of the main artery of the lung or one of its branches by a substance that has travelled from elsewhere in the body through the bloodstream. Though most causes are due to deep vein thrombosis, a minority of cases occur because of fat emboli, air, bacteria, amniotic fluid and tumors.



PLAY PICMONIC

Causes

FAT BAT Mnemonic

FAT-BAT-guy

The mnemonic **FAT BAT** is useful to help recall the common causes of pulmonary embolism. These emboli sources are fat, air, thrombus, bacteria, amniotic fluid and tumor.

Fat

Fat

Fat emboli can occur from fracture of long bones, and are also associated with liposuction. A common exam question involves immobilized trauma patients developing fat embolisms.

Air

Air

Air can travel through the circulatory system and when in an artery, may directly stop blood flow to an area fed by the artery. Common causes of air emboli include surgery, trauma, scuba diving and being on a ventilator.

Deep Vein Thrombosis (DVT)

Trombone

Pulmonary embolism most commonly occurs from thrombus formation which embolizes. A classic example of this is a DVT of the leg embolizing into the pulmonary arteries.

Bacteria

Bacteria-guy

A cause of bacterial embolism is when an area of the body becomes infected with bacteria, resulting in the formation of pus. These may become dangerous if dislodged from their original location. Like other emboli, a septic embolism may be fatal.

Amniotic Fluid

Onion Fluid

Though rare and not completely understood, amniotic fluid can lead to pulmonary embolism. When amniotic fluid enters the mother's blood stream via the placental bed of the uterus and trigger an allergic reaction. This reaction then results in cardiorespiratory collapse.

Tumor

Tumor-guy

Embolism can also occur from tumors that have broken off and made their way into the bloodstream.

Risk Factors

Hypercoagulable

Hiker-clogs

Patients who are hypercoagulable are at increased risk for thrombus formation, which can then embolize into pulmonary flow.

Central Venous Lines

C-center Vine into vein

Central venous lines can increase risk of pulmonary embolism. This is because as the line is changed (to prevent infection), clots may be released and can embolize from the catheter into pulmonary vasculature.

Immobilized

Immobilized

Patients who are immobile are at risk for thrombus formation and DVT. This can then embolize into the lungs.