

# Pulmonary Embolism

**Pulmonary Embolism (PE)** is the blockage of one or more arteries in the lungs, ultimately eliminating the oxygen supply causing heart failure. This can take place when a blood clot from another area of the body, most often from the legs, breaks free, enters the blood stream and gets trapped in the lung's arteries. Once a clot is lodged in the artery of the lung, the tissue is then starved of fuel and may die (pulmonary infarct) or the blockage of blood flow may result in increased strain on the right side of the heart. It is estimated that approximately 600,000 patients suffer from pulmonary embolism each year in the US. Of these 600,000, 1/3 will die as a result.

Deep Vein Thrombosis (DVT) is the most common precursor of pulmonary embolism. With early treatment of DVT, patients can reduce their chances of developing a life threatening pulmonary embolism to less than one percent. Early treatment with blood thinners is important to prevent a life-threatening pulmonary embolism, but does not treat the existing clot in the leg. Get more information on [Deep Vein Thrombosis](#).

## Symptoms of PE

Symptoms of pulmonary embolism can include shortness of breath; rapid pulse; sweating; sharp chest pain; bloody sputum (coughing up blood); and fainting. These symptoms are frequently nonspecific to pulmonary embolism and can mimic other cardiopulmonary events. Since pulmonary embolism can be life-threatening, if any of these symptoms are present please see your physician immediately.

## Treatments for PE

### Anticoagulation

The first line of defense when treating pulmonary embolism is by using an anticoagulant. Anticoagulants work by thinning the blood to prevent further progression of the thrombus or additional pulmonary emboli. Usually patients are started on intravenous heparin or subcutaneous Lovenox when pulmonary emboli are detected. Long term, patients may be placed on coumadin or occasionally Lovenox.

### IVC Filters (Inferior Vena Cava)

IVC filters are used to function like a catcher's mitt to capture blood clots, but allow normal blood to pass through and avoid pulmonary embolism. If a DVT (Deep Vein Thrombosis) is diagnosed, an interventional radiologist can place an IVC filter through the internal jugular vein (the large vein in the neck) utilizing fluoroscopy "real-time" image guidance and a catheter. A catheter is guided to the inferior vena cava and the filter is pushed through the catheter to the appropriate location. Without the filter the clot could travel to the heart and lungs, causing a life-threatening event. IVC filters used to be permanent; however newer devices may be retrieved up to several months after placement.

### **Intrapulmonary Thrombolysis & AngioJet Thrombectomy**

Both of these techniques may be used to directly reduce the blood clot burden blocking the blood flow in the lungs. Often reserved for the sickest patients, these procedures may be life saving. Get more information on these treatment options for [Deep Vein Thrombosis](#).

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