

# Pulmonary embolus

## Pulmonary embolus

PE is not usually an immediate complication but can present in the early postoperative period. Thrombus can arise from DVT in the legs/pelvis, venae cavae or the right atrium. Signs and symptoms depend on the size of the embolus and may range from dyspnoea, cough and pleuritic chest pain to sudden cardiovascular collapse. Diagnosis of PE begins with the history (including risk factors and recent surgery) and a physical examination (which may include signs of DVT). The two-level Wells PE score ( Table 24.8 ) can be used to determine the probability of PE. Depending on the presentation, investigations may include ECG, chest radiograph, blood tests (arterial blood gas and d-dimer) and radiological tests (usually CT pulmonary angiography). Christian Johann Doppler , 1803–1853, Professor of Experimental Physics, Vienna, Austria, enunciated the ‘Doppler principle’ in 1842. If the presentation includes cardiovascular collapse, resuscitation will be needed. Thrombolysis can be considered with massive PE causing cardiovascular collapse, but this should include senior clinical opinion and would generally follow appropriate guidelines. The patient may need inotropes and admission to the intensive care unit. In less severe cases of PE, supportive measures include oxygen therapy and analgesia. After initial resuscitation, the patient will need anticoagulation – initially parenteral anticoagulation – followed by long-term oral anticoagulation (refer to national guidance, e.g. NICE; see Further reading ). A vena cava filter may be needed if anti - coagulation is not possible or if the patient has an embolism while anticoagulated (see Further reading ).

score. Clinical features Points 3 Clinical signs and symptoms of DVT (minimum of leg swelling and pain with palpation of the deep veins) An alternative diagnosis is less likely than PE 3 Heart rate more than 100 beats per minute 1.5 Immobilisation for more than 3 days or surgery 1.5 in the previous 4 weeks Previous DVT/PE 1.5 Haemoptysis 1 Malignancy (on treatment, treated in the last 6 1 months or palliative) Clinical probability simplified score Points PE likely More than 4 points PE unlikely 4 points or less DVT, deep vein thrombosis.

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