Diagnosis of Pulmonary Embolism

Signs or Symptoms of Pulmonary Embolism
E.g. chest pain, shortness of breath or haemoptysis
Excluding pregnant patients

Two-level Wells score
Discuss the gestalt component with a senior doctor (whether an alternative diagnosis is less likely than PE)

PE likely
Wells score >4

Haemodynamically stable

No
ECHO +/- CTPA if safe

Yes
Interim Anticoagulation if delay to imaging
E.g. 1mg/kg Enoxaparin (subcut)
Unless contraindicated
If eGFR<30ml/min reduce dose

Is CTPA contraindicated?
1. Contrast allergy
2. Renal impairment
3. Radiation risk

Yes
V/Q

No
CTPA

PE unlikely
Wells score ≤ 4

Consider PERC rule

Wells 2-4
PERC Positive

Wells < 2
PERC Negative

D-dimer
Positive
Unless contraindicated*

Negative
No further investigation required
Consider alternate diagnosis

*D-dimer unreliable if recent surgery or trauma/inpatient/symptoms of VTE present for more than 7 days – discuss with senior doctor prior to requesting test
Two-level PE Wells Score

<table>
<thead>
<tr>
<th>Clinical feature</th>
<th>Points</th>
<th>Patient score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical signs and symptoms of DVT (minimum of leg swelling and pain with palpation of the deep veins)</td>
<td>3</td>
<td></td>
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<tr>
<td>An alternative diagnosis is less likely than PE</td>
<td>3</td>
<td></td>
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<tr>
<td>Heart rate &gt; 100 beats per minute</td>
<td>1.5</td>
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<tr>
<td>Immobilisation for more than 3 days or surgery in the previous 4 weeks</td>
<td>1.5</td>
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<tr>
<td>Previous DVT/PE</td>
<td>1.5</td>
<td></td>
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<tr>
<td>Haemoptysis</td>
<td>1</td>
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<tr>
<td>Malignancy (on treatment, treated in the last 6 months, or palliative)</td>
<td>1</td>
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| Clinical probability simplified scores                                           |        |               |
| PE likely                                                                        | More than 4 points |
| PE unlikely                                                                      | 4 points or less  |

Pulmonary Embolism Rule-out Criteria (PERC)

PE can be ruled out if none of the 8 PERC criteria are present in patients with a low pre-test probability of PE (e.g. Wells < 2 or 3 in keeping with the clinical gestalt of a senior physician).

- Age < 50 years
- Pulse < 100 beats min
- SaO2 ≥ 95%
- No haemoptysis
- No oestrogen use
- No surgery/trauma requiring hospitalization within 4 weeks
- No prior venous thromboembolism (VTE)
- No unilateral leg swelling