DVT suspected

Determine 2-level DVT Wells score

Wells score ≥ 2 points
DVT likely

Wells score ≤ 1 point
DVT unlikely

Proximal leg vein ultrasound scan within 4 hours
or
• Quantitative D-dimer test if not already done¹,², then
• Interim therapeutic anticoagulation³,⁵ and
• Scan within 24 hours

Scan positive
Diagnose DVT and offer or continue treatment

Scan negative
Quantitative D-dimer test if not already done¹,²

D-dimer positive
Stop any anticoagulation and repeat scan 6 to 8 days later

D-dimer negative
Stop any anticoagulation and think about other diagnoses

Second scan positive
Second scan negative

Clinical feature | Points
---|---
Active cancer (treatment ongoing, within 6 months, or palliative) | 1
Paralysis, paresis or recent plaster immobilisation of lower extremities | 1
Recently bedridden for 3 days or more, or major surgery within 12 weeks requiring general or regional anaesthesia | 1
Localised tenderness along the distribution of the deep venous system | 1
Entire leg swollen | 1
Calf swelling at least 3 cm larger than asymptomatic side | 1
Pitting oedema confined to the symptomatic leg | 1
Collateral superficial veins (non-varicose) | 1
Previously documented DVT | 1
An alternative diagnosis is at least as likely as DVT | -2

DVT likely: 2 points or more
DVT unlikely: 1 point or less

Adapted with permission from Wells et al. (2003)

¹Laboratory or point-of-care test. Consider age-adjusted threshold for people over 50
²Note that only one D-dimer test is needed during diagnosis
³Measure baseline blood count, renal and hepatic function, PT and APTT but start anticoagulation before results available and review within 24 hours
⁴If possible, choose an anticoagulant that can be continued if DVT confirmed
⁵Direct-acting anticoagulants and some LMWHs are off label for use in suspected DVT. Follow GMC guidance on prescribing unlicensed medicines

This is a summary of the recommendations on diagnosis and management from NICE’s guideline on venous thromboembolic diseases. See the original guidance at www.nice.org.uk/guidance/NG158
Suspected PE: diagnosis and initial management

**PE suspected**

1. Determine 2-level PE Wells score

2. **Wells score > 4 points**
   - PE likely
   - Immediate CTPA (CT pulmonary angiogram) or Interim therapeutic anticoagulation while awaiting CTPA
   - CTPA positive
     - Diagnose PE and offer or continue treatment
   - CTPA negative
     - DVT suspected
     - Consider proximal leg vein ultrasound scan
     - DVT not suspected
     - Stop any anticoagulation and think about other diagnoses

3. **Wells score ≤ 4 points**
   - PE unlikely
   - Quantitative D-dimer test and result in 4 hours or Interim therapeutic anticoagulation while awaiting test result
   - D-dimer positive
   - D-dimer negative
   - PE likely: More than 4 points
   - PE unlikely: 4 points or less

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**2-level PE Wells score**

<table>
<thead>
<tr>
<th>Clinical feature</th>
<th>Points</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>
</tr>
<tr>
<td>An alternative diagnosis is less likely than PE</td>
<td>3</td>
</tr>
<tr>
<td>Heart rate more than 100 beats per minute</td>
<td>1.5</td>
</tr>
<tr>
<td>Immobilisation for more than 3 days or surgery in previous 4 weeks</td>
<td>1.5</td>
</tr>
<tr>
<td>Previous DVT/PE</td>
<td>1.5</td>
</tr>
<tr>
<td>Haemoptysis</td>
<td>1</td>
</tr>
<tr>
<td>Malignancy (on treatment, treated in the last 6 months, or palliative)</td>
<td>1</td>
</tr>
</tbody>
</table>

PE likely: More than 4 points
PE unlikely: 4 points or less

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1 Laboratory or point-of-care test. Consider age-adjusted threshold for people over 50
2 CT pulmonary angiogram. Assess suitability of V/Q SPECT or V/Q planar scan for allergy, severe renal impairment (CrCl < 30 ml/min estimated using the Cockcroft and Gault formula; see the BNF) or high irradiation risk
3 Measure baseline blood count, renal and hepatic function, PT and APTT but start anticoagulation before results are available and review within 24 hours
4 If possible, choose an anticoagulant that can be continued if PE is confirmed
5 Direct-acting anticoagulants and some LMWHs are off label for use in suspected PE. Follow GMC guidance on prescribing unlicensed medicines

Adapted with permission from Wells et al. (2000)
**PE with haemodynamic instability**
Offer continuous UFH infusion and consider thrombolytic therapy

**Body weight**
If body weight <50 kg or >120 kg consider anticoagulant with monitoring of therapeutic levels.
Note cautions and requirements for dose adjustments and monitoring in SPCs. Follow local protocols, or specialist or MDT advice

**INR monitoring**
Do not routinely offer self-management or self-monitoring of INR

**Prescribing in renal impairment and active cancer**
Some LMWHs are off label in renal impairment, and most anticoagulants are off label in active cancer.
Follow [GMC guidance on prescribing unlicensed medicines](https://www.gmc-uk.org/)

**Treatment failure**
If anticoagulation treatment fails:
- check adherence
- address other sources of hypercoagulability
- increase the dose or change to an anticoagulant with a different mode of action

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**DVT or PE: anticoagulation**

- Measure baseline full blood count, renal and hepatic function, PT and APTT but start anticoagulation before results available. Review and if necessary act on results within 24 hours
- Offer anticoagulation for at least 3 months. Take into account contraindications, comorbidities and the person’s preferences
- After 3 months (3 to 6 months for active cancer) assess and discuss the benefits and risks of continuing, stopping or changing the anticoagulant with the person. See long-term anticoagulation for secondary prevention in the guideline

<table>
<thead>
<tr>
<th>No renal impairment, active cancer, antiphospholipid syndrome or haemodynamic instability</th>
<th>Renal impairment (CrCl estimated using the Cockcroft and Gault formula; see the BNF)</th>
<th>Active cancer (receiving antimitotic treatment, diagnosed in past 6 months, recurrent, metastatic or inoperable)</th>
<th>Antiphospholipid syndrome (triple positive, established diagnosis)</th>
</tr>
</thead>
</table>
| Offer apixaban or rivaroxaban If neither suitable, offer one of:  
- LMWH for at least 5 days followed by dabigatran or edoxaban  
- LMWH and a VKA for at least 5 days, or until INR at least 2.0 on 2 consecutive readings, then a VKA alone | CrCl 15 to 50 ml/min, offer one of:  
- apixaban  
- rivaroxaban  
- LMWH for at least 5 days then edoxaban or dabigatran if CrCl ≥ 30 ml/min  
- LMWH or UFH and a VKA for at least 5 days, or until INR at least 2.0 on 2 consecutive readings, then a VKA alone | Consider a DOAC If a DOAC is not suitable, consider one of:  
- LMWH  
- LMWH and a VKA for at least 5 days or until INR at least 2.0 on 2 consecutive readings, then a VKA alone | Offer LMWH and a VKA for at least 5 days or until INR at least 2.0 on 2 consecutive readings, then a VKA alone |
| | CrCl < 15 ml/min, offer one of:  
- LMWH  
- UFH  
- LMWH or UFH and a VKA for at least 5 days, or until INR at least 2.0 on 2 consecutive readings, then a VKA alone | Offer anticoagulation for 3 to 6 months  
Take into account tumour site, drug interactions including cancer drugs, and bleeding risk |

Note cautions and requirements for dose adjustments and monitoring in SPCs. Follow local protocols, or specialist or MDT advice

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