Suspected DVT: diagnosis and initial management

**DVT suspected**

Determine 2-level DVT Wells score

**Wells score ≥ 2 points**

DVT likely

- Proximal leg vein ultrasound scan within 4 hours
- Quantitative D-dimer test if not already done\(^1\), then
  - Interim therapeutic anticoagulation\(^2\) and
  - Scan within 24 hours

Scan positive

Diagnose DVT and offer or continue treatment

Scan negative

If D-dimer positive and DVT unlikely

Quantitative D-dimer test if not already done\(^1\)

D-dimer positive

Stop interim therapeutic anticoagulation (except for COVID-19). Repeat scan 6 to 8 days later.

D-dimer negative

**Wells score ≤ 1 point**

DVT unlikely

Quantitative D-dimer test with result in 4 hours or

Interim therapeutic anticoagulation\(^3\) while awaiting result

Stop interim therapeutic anticoagulation (except for COVID-19). Think about other diagnoses.

**Laboratory or point-of-care test. Consider age-adjusted threshold for people over 50**

**Note that only one D-dimer test is needed during diagnosis**

**Measure baseline blood count, renal and hepatic function, PT and APTT but start anticoagulation before results available and review within 24 hours**

**If possible, choose an anticoagulant that can be continued if DVT confirmed**

**Direct-acting anticoagulants and some LMWHs are off label for use in suspected DVT. Follow GMC guidance on prescribing unlicensed medicines**

Adapted with permission from Wells et al. (2003)

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**2-level DVT Wells score**

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

**DVT likely: 2 points or more**

**DVT unlikely: 1 point or less**

Do not stop short-term anticoagulation when used for primary VTE prevention in people with COVID-19

See the recommendations on VTE prophylaxis in the NICE guideline on managing COVID-19
Suspected PE: diagnosis and initial management

1 Laborant 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

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>

Adapted with permission from Wells et al. (2000)

Do not stop short-term anticoagulation when used for primary VTE prevention in people with COVID-19
See the recommendations on VTE prophylaxis in the NICE guideline on managing COVID-19

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

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1 Laborant 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
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 | | | |

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

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

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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