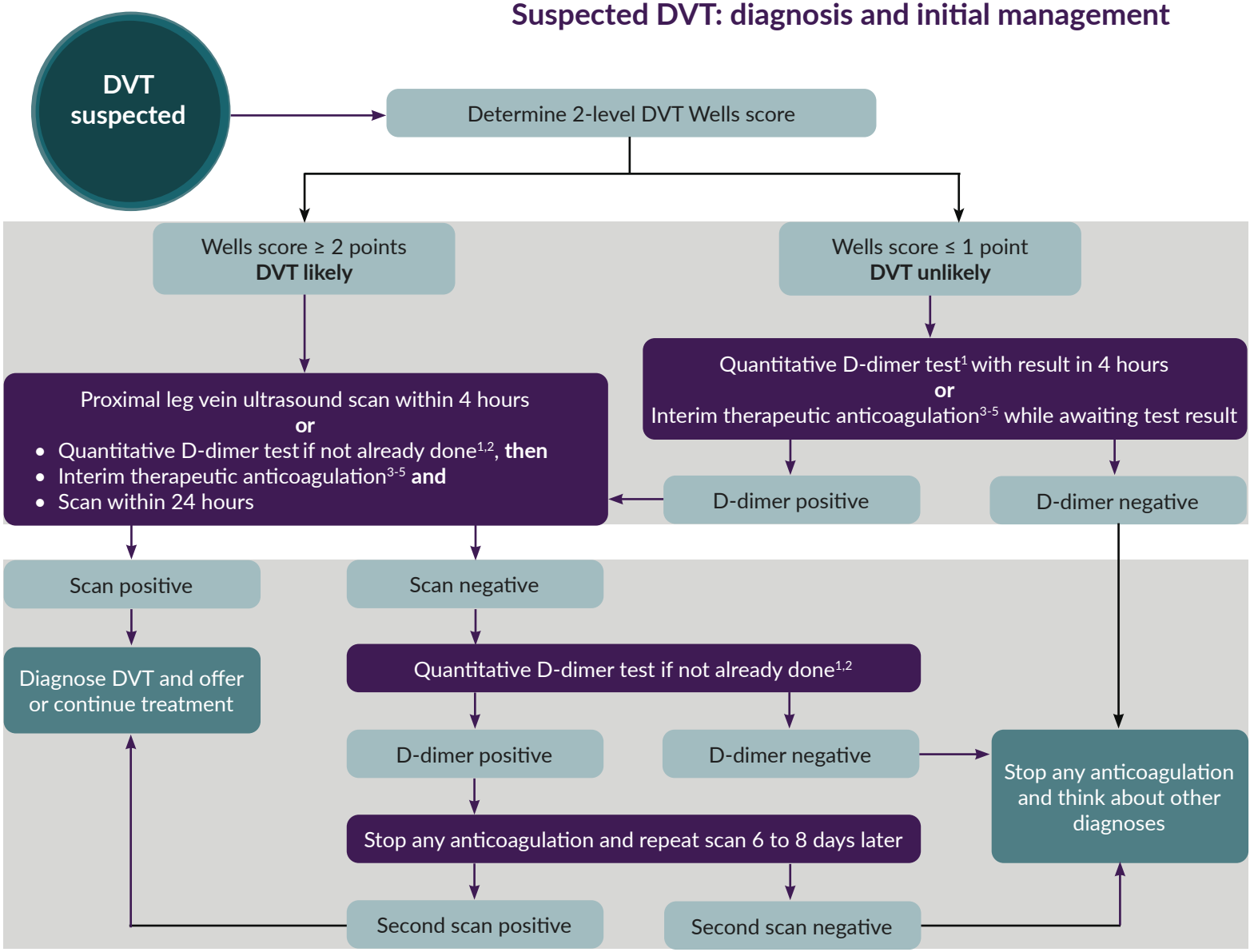
Venous thromboembolism: diagnosis and anticoagulation treatment

NICE National Institute for Health and Care Excellence

Suspected DVT: diagnosis and initial management



2-level DVT Wells score

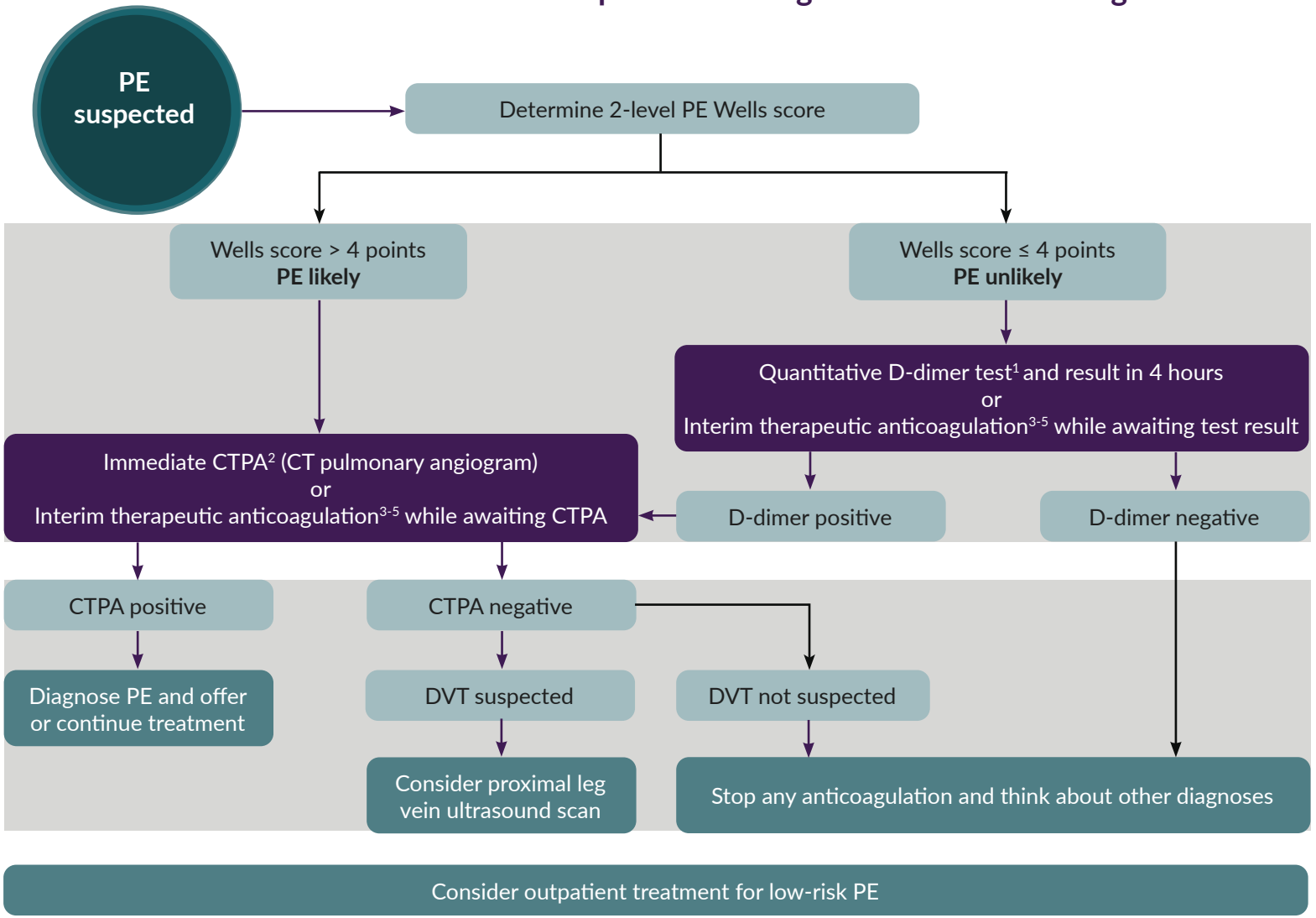
Clinical feature	Points
Active cancer (treatment ongoing, within 6 months, or palliative)	1
Paralysis, paresis or recent plaster immobilisation of lower extremities	1
Recently bedridden for 3 days or more, or major surgery within 12 weeks requiring general or regional anaesthesia	1
Localised tenderness 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)

[1]Laboratory or point-of-care test. Consider age-adjusted threshold for people over 50
[2]Note that only one D-dimer test is needed during diagnosis
[3]Measure baseline blood count, renal and hepatic function, PT and APTT but start anticoagulation before results available and review within 24 hours
[4]If possible, choose an anticoagulant that can be continued if DVT confirmed
[5]Direct-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



2-level PE Wells score

Clinical feature	Points
Clinical signs and symptoms of DVT (minimum of leg swelling and pain with palpation of the deep veins)	3
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 in previous 4 weeks	1.5
Previous DVT/PE	1.5
Haemoptysis	1
Malignancy (on treatment, treated in the last 6 months, or palliative)	1
PE likely: More than 4 points PE unlikely: 4 points or less	

Adapted with permission from Wells et al. (2000)

[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

DVT or PE: anticoagulation

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

- 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

No renal impairment, active cancer, antiphospholipid syndrome or haemodynamic instability	**Renal impairment** (CrCl estimated using the Cockcroft and Gault formula; see the BNF)	**Active cancer** (receiving antimitotic treatment, diagnosed in past 6 months, recurrent, metastatic or inoperable)	**Antiphospholipid syndrome** (triple positive, established diagnosis)
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 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	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 anticoagulation for 3 to 6 months Take into account tumour site, drug interactions including cancer drugs, and bleeding risk	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