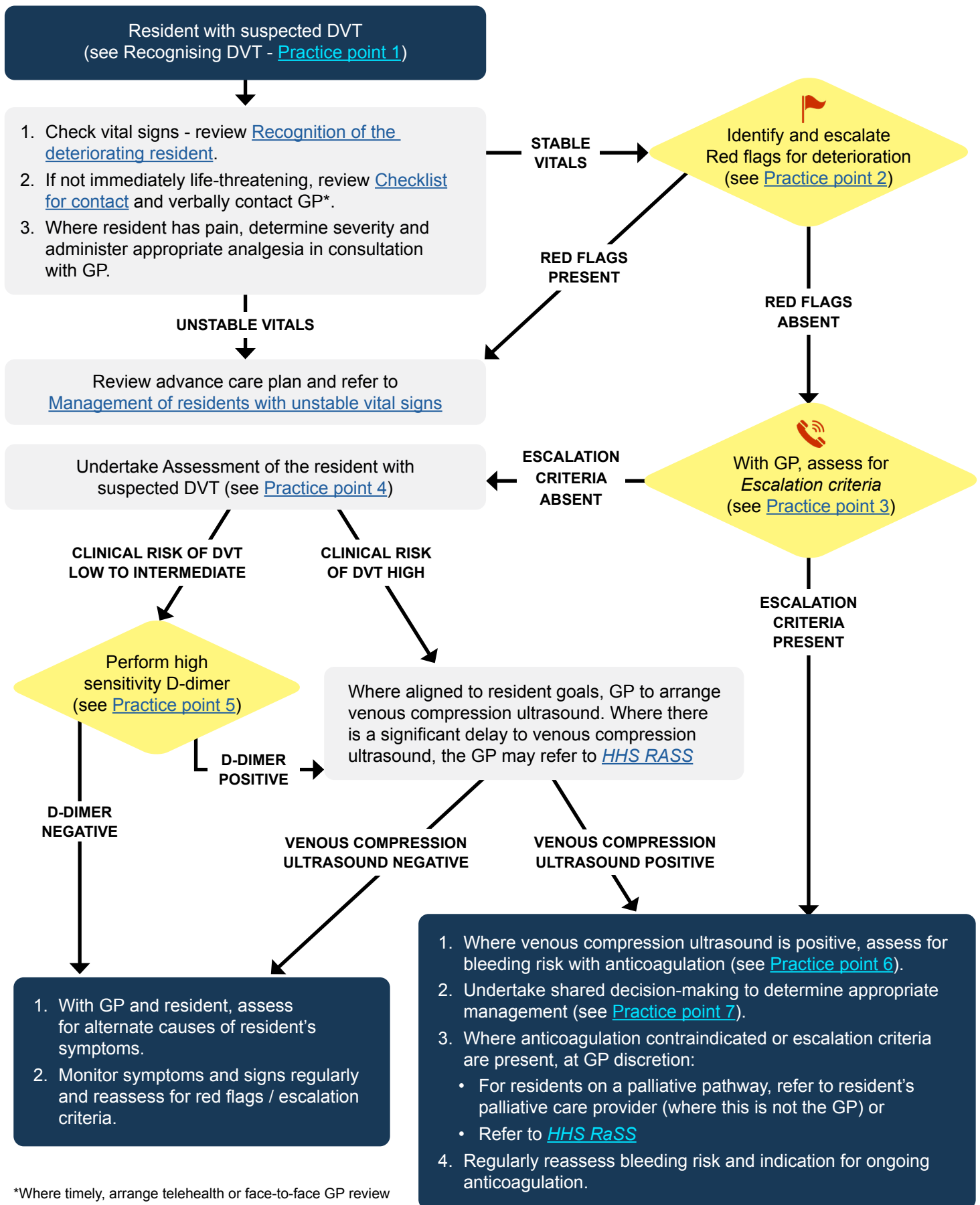


# Deep Venous Thrombosis (DVT)



\*Where timely, arrange telehealth or face-to-face GP review

# Deep Venous Thrombosis (DVT) practice points

## 1) Recognising DVT

Symptoms and signs of DVT include:

1. Pain in limb.
2. Swelling or erythema to limb.
3. Dilated superficial veins.

Residents may also present with complications of DVT such as:

1. Shortness of breath, pleuritic chest pain (chest pain worse on inspiration) or syncope from pulmonary embolism (PE).
2. Lower limb ischemia.
3. Post-thrombotic syndrome:
  - Chronic dependent oedema
  - Pain / discomfort on mobilising
  - Skin discolouration
  - Venous ulceration of skin

## 2) Red flags in residents with suspected DVT

If any of the following red flags are identified in residents who have a suspected DVT, review the resident's advance care plan, consult resident or substitute health decision maker (or nominated decision support person) and refer to [Management of residents with unstable vital signs pathway](#). The following are considered red flags in the resident with suspected DVT:

- Vital signs in the red or danger zone - refer to [Recognition of the deteriorating resident](#)
- Progressive limb cyanosis with bullae or skin necrosis
- Progressive limb paraesthesia and motor weakness
- Pleuritic chest pain

## 3) Escalation criteria in residents with suspected DVT

First screen for red flags as above. Where there are no red flags, any of the following may prompt escalation to [HHS RaSS](#) (at GP discretion) or in residents nearing end of life, to the resident's palliative care provider:

1. Red flags in a resident who has conservative goals of care and does not wish to be transferred to hospital.
2. DVT or suspected DVT in resident with high bleeding risk with anticoagulation (see [Practice point 5](#)).

## Deep Venous Thrombosis (DVT) practice points (cont'd)

### 4) Assessment of resident with suspected DVT

Goals of assessment of the resident with DVT are to:

1. Assess for clinical risk of DVT using a validated risk assessment tool.
2. Assess for potential complications of DVT.

Risk assessment for DVT may be undertaken by clinicians with a relevant scope of practice, using Well's criteria for DVT (2003):

Clinical feature	Assessment scoring	
	Yes	No
Active cancer (treatment within last 6 months or palliation)	+1	0
Bedridden recently > 3 days or major surgery within 3 months requiring general or regional anaesthesia	+1	0
Calf swelling > 3 cm compared to other leg (measured 10 cm below tibial tuberosity)	+1	0
Collateral superficial veins present (non-varicose)	+1	0
Entire leg swollen	+1	0
Localised tenderness along the deep venous system	+1	0
Pitting oedema confined to symptomatic leg	+1	0
Paralysis, paresis or recent plaster immobilisation of the lower extremity	+1	0
Previously documented DVT	+1	0
Alternative diagnosis to DVT as likely or more likely	-2	0

A score of 0 to 2 is considered low to intermediate risk with probability of DVT of 5 to 17% respectively.

A score of 3 or more is considered high risk with probability of DVT of 17 to 53%.

Complications of DVT include:

1. Pulmonary embolism (PE): residents with PE may present with any of the following:
  - Pleuritic chest pain (chest pain worse on inspiration)
  - Acute shortness of breath
  - Significant tachycardia
2. Phlegmasia alba dolens or "milk leg" - classic triad of limb oedema, pain and blanched appearance.
3. Phlegmasia cerulea dolens or near-total occlusion of major deep venous system with high potential for venous gangrene; the limb presents cyanosed with worsening venous congestion resulting in bullae and necrosis and may result in limb ischaemia due to oedema compromising blood supply - this is characterised by paraesthesia and motor weakness and severe pain and ultimately, gangrene.
4. Where a DVT has been present for a longer time, the resident may develop post-thrombotic syndrome:
  - Chronic dependent oedema
  - Pain / discomfort on mobilising
  - Skin discolouration
  - Venous ulceration of skin

## Deep Venous Thrombosis (DVT) practice points (cont'd)

### 5) Interpreting d-dimer results

Evidence suggests that use of an age-adjusted d-dimer cut-off value may increase the proportion of older person who can safely have DVT or PE excluded without the need for further diagnostic testing. Such studies calculate a d-dimer cut-off in those aged over 50 years by multiplying patient age by 10 mcg/L. E.g. in a 70-year-old, the cut-point at or above which compression ultrasound would be indicated would be 700 mcg/L (rather than the conventional at or above 500 mcg/L FEU cut-off).

However, D-dimer interpretation relies on understanding the methodology used by the laboratory performing the test. Therefore, it is important that GPs understand applying aged-adjusted cut-points requires an understanding of whether the particular laboratory performing the test is using the same methodology of testing that was used in the literature. Additionally, no validation study specific to the aged care cohort was identified.

### 6) Bleeding risk from oral anticoagulation therapy

Bleeding risk assessment is complex and should involve the resident's GP and may require input of the broader multidisciplinary team. It may be assessed by validated risk scores such as [HAS-BLED](#). However, these scores may not have sufficient accuracy to identify those at high risk of major bleeding in frail older persons.

Bleeding risk is highest in the first 30 days after initiation of therapy.

Residents with the following features should be considered potentially high risk for anticoagulation and may warrant referral to RaSS team for further risk assessment:

1. Haemodynamic instability and / or active bleeding.
2. Significant co-morbidity, particularly:
  - Severe chronic kidney disease
  - Severe liver disease
  - Excessive alcohol intake
  - Active cancer during last 3 months
  - History of oesophageal varices, angiodysplasia or prior gastrointestinal bleed (particularly within last 3 months)
  - History of intracranial haemorrhage, ischaemic stroke within last 2 weeks, uncontrolled systolic hypertension, brain metastases
  - Eye surgery within last 1 month
3. Concomitant use of medications that increase bleeding risk such as anti-platelet agents or non-steroidal anti-inflammatory drugs.
4. Anaemia, thrombocytopenia or bleeding disorders.

### 7) Management of DVT

#### 1. Anticoagulation for DVT:

Decisions surrounding initiation of anticoagulation for confirmed VTE are complex in residents of aged care because potential benefits are uncertain, risks of anticoagulation and recurrent VTE may be increased, whilst goals of care vary. Additionally, there is a lack of randomised trials to inform care. Where life expectancy is limited, quality of life and symptom relief may be more important goals to the resident than survival and recurrent thromboembolism.

A shared decision-making approach should be taken, informed by the resident's life trajectory and goals of care, extent of clot burden (where known) and associated symptom burden, risk of pulmonary embolism, and bleeding risk.

Where a resident chooses to proceed to anticoagulation, check full blood count, renal and liver function and consult [Therapeutic guidelines \(cardiovascular: venous thromboembolism\)](#) for oral anticoagulation guidance.

#### 2. Reduce bleeding risk in those progressing to oral anticoagulation by considering:

- Periodic re-evaluation of ongoing indication for anticoagulation and re-assess bleeding risk and goals of care
- Dose adjustment of anticoagulants for renal function, as indicated
- Discontinue medications that increase bleeding risk where clinically appropriate e.g. NSAIDs or medications interacting with anticoagulants
- Implement falls risk reduction strategies
- Prevention of GI bleed with proton pump inhibitor in those with concomitant antiplatelet therapy, non-steroidal anti-inflammatory use (where these are not able to be ceased) or in those with prior gastrointestinal bleeding or underlying gastrointestinal diseases that predispose to GI bleeding or a [HAS-BLED](#) score  $\geq 3$ .

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## Deep Venous Thrombosis (DVT) version control

<b>Pathway</b>	Deep Venous Thrombosis (DVT)				
<b>Document ID</b>	CEQ-HIU-FRAIL-00011	<b>Version no.</b>	3.0.0	<b>Approval date</b>	3/4/2024
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<b>Author</b>	Improving the quality of care and choice of care setting for residents of aged care facilities with acute healthcare needs steering committee				
<b>Custodian</b>	Queensland Dementia, Ageing and Frailty Clinical Network				
<b>Supersedes</b>	Deep Venous Thrombosis 2.0				
<b>Applicable to</b>	Residential aged care facility registered nurses and General Practitioners in Queensland RACFs, serviced by a RACF acute care support service (RaSS)				
<b>Document source</b>	Internal (QHEPS) and external				
<b>Authorisation</b>	Executive Director, Healthcare Improvement Unit				
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