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Optimising the Diagnosis and Management of Superficial Venous Thrombophlebitis: A Pragmatic Guideline for Primary Care and Emergency Settings

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BACKGROUND
Superficial venous thrombophlebitis (SVT) is a common yet under-recognised condition encountered in primary care, emergency departments, and rural health settings. Despite its prevalence and potential progression to deep venous thrombosis or pulmonary embolism, SVT management varies widely. This study aims to develop and present a concise, evidence-informed clinical guideline to support early diagnosis, risk stratification, and management of SVT—particularly in resource-limited regional environments—to improve patient outcomes and reduce morbidity.[9]

OBJECTIVE
A structured review of contemporary international SVT literature was combined with real-world clinical experience from vascular surgery, general practice, and emergency medicine across regional Western Australia. Recommendations from major societies—including ESVS, SVS, and ANZ guidelines—were synthesised into a pragmatic clinical pathway. The guideline emphasises duplex ultrasound use, thrombus extent evaluation, anatomical risk factors, anticoagulation thresholds, and follow-up strategies tailored for rural settings. Key clinical variables and medication protocols were refined through a retrospective audit of SVT referrals within a regional vascular service.[8]

RISK FACTORS:
SVT shares risk factors with DVT, such as venous stasis (e.g., varicose veins), vessel wall injury (e.g., recent IV cannulation), and hypercoagulable states (e.g., malignancy, pregnancy).[4,5]

Category	Key Risk Factors
Venous Stasis	• Varicose veins (present in up to 80% of SVT cases) • Immobility (e.g. recent surgery, prolonged travel, bed rest) • Obesity
Vessel Wall Injury	• Recent IV cannulation or central line placement • Local trauma or lower limb/pelvic surgery
Hypercoagulable States	• Active malignancy • Hormonal therapy (e.g. oral contraceptives, hormone replacement therapy) • Pregnancy (highest risk early postpartum) • Inherited thrombophilia (e.g. Factor V Leiden, protein C/S deficiency)
History of Thrombosis	• Personal history of VTE (SVT, DVT, or PE) • Family history of VTE
Other Contributory Factors	• Age >60 years • Systemic inflammatory or autoimmune disease (e.g. lupus, Behçet's disease) • Smoking

CLINICAL PRESENTATION
SVT presents with pain, redness, tenderness, and a palpable cord. Significant limb swelling requires exclusion of DVT, especially in cases near major veins like the great or small saphenous veins.[5]

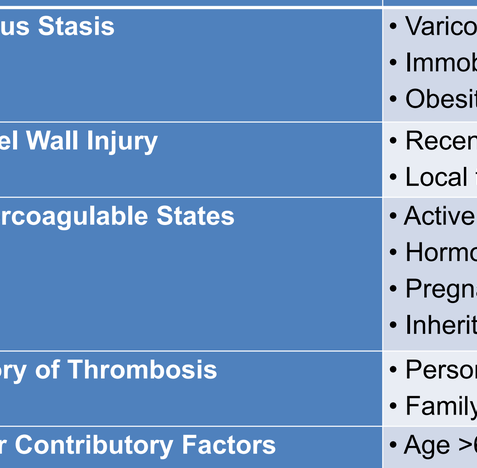


Figure 1: Anatomical illustrations of the lower limb superficial venous system. Key labelled structures include the great saphenous vein (GSV), small saphenous vein (SSV), femoral vein, saphenofemoral junction (SFJ), and the saphenopopliteal junction (SPJ). This layout highlights common sites of superficial vein thrombosis and their proximity to the deep venous system. Original illustration.

DIAGNOSTIC EVALUATION
Duplex ultrasound is the definitive test for SVT, providing thrombus length and proximity to deep veins. It is essential for confirming or excluding DVT. D-dimer testing is not useful for diagnosing SVT.[9]

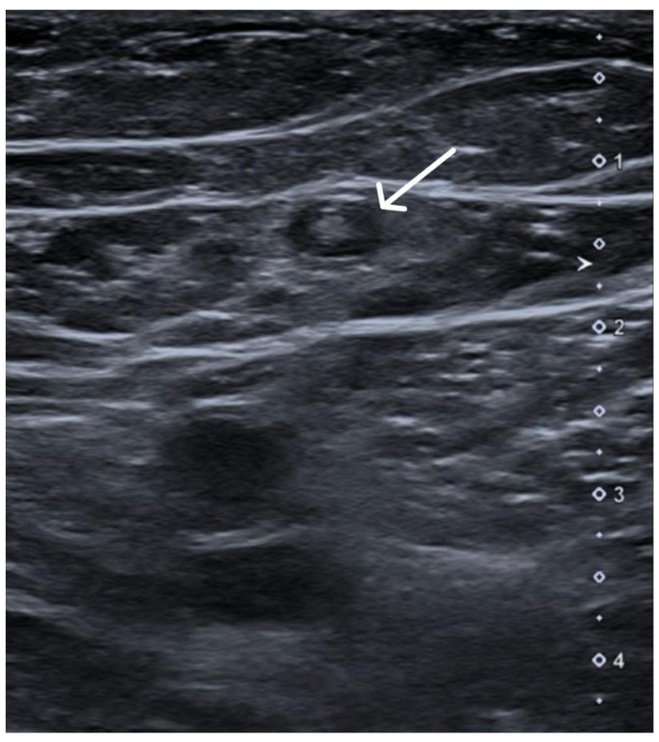


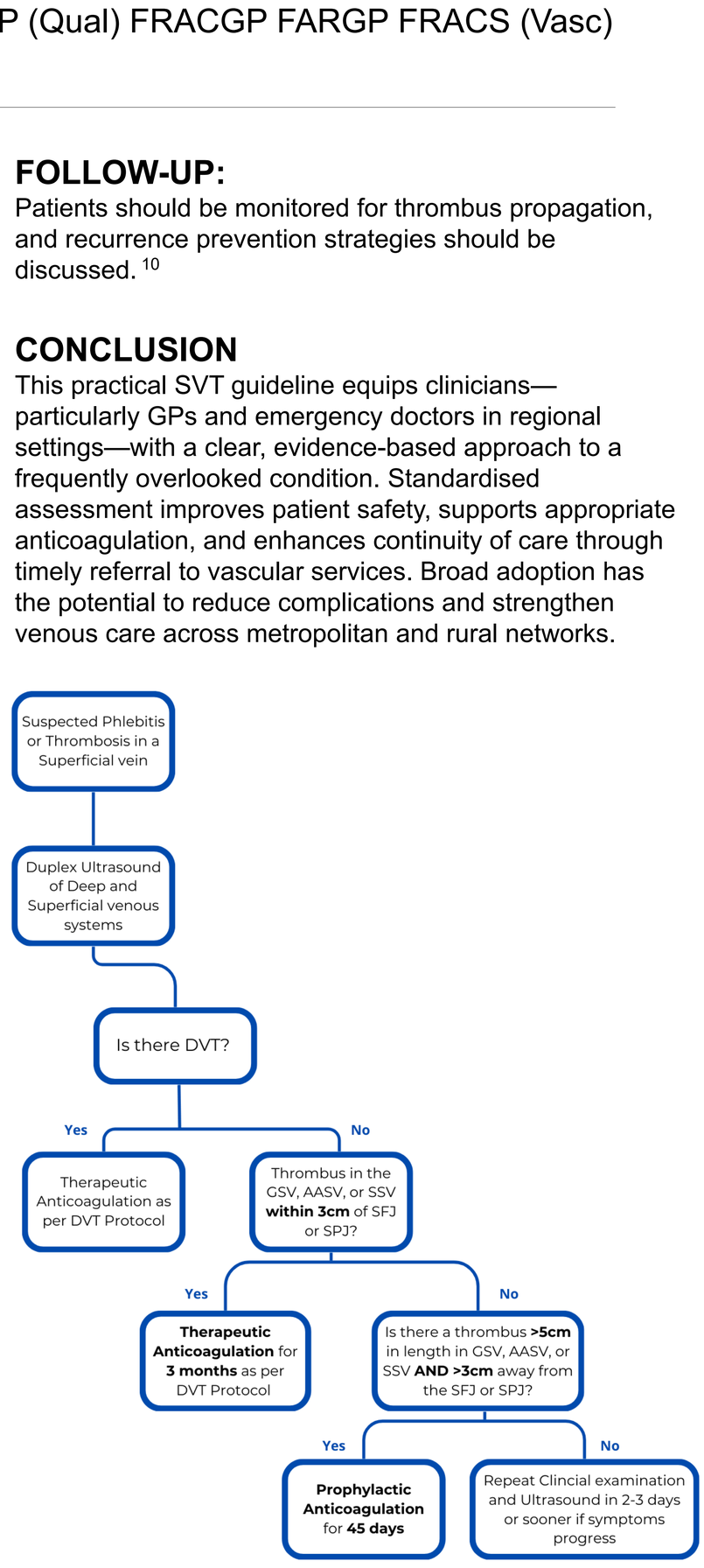
Figure 2: *Duplex ultrasound of the anterior accessory saphenous vein showing superficial vein thrombosis.* The affected segment appears non-compressible with internal echoes consistent with thrombus and increased echogenicity. Courtesy of Dr Mahmoud Al-Najjar, Australian Vascular. Used with permission.

MANAGEMENT
- Low-Risk: Symptomatic care with NSAIDs and compression stockings.
- Intermediate-Risk: Prophylactic anticoagulation for 45 days (e.g., fondaparinux, rivaroxaban).
- High-Risk: Therapeutic anticoagulation for 3 months (e.g., LMWH, rivaroxaban, apixaban).
- Specialist referral is necessary for complex cases.[7,8,10]

Risk Stratification and Management Principles for Superficial Vein Thrombosis	
Risk Category	Management
Low-Risk SVT • **Thrombus <5 cm in length, >3 cm from deep vein junctions (SFJ/SPJ), no additional risk factors**	Anticoagulation not required • Topical/Systemic NSAIDs (Ibuprofen or Diclofenac) for 7-14 days • VTE prophylaxis: Limb elevation, compression stockings, ambulation, warm/cool compresses
Intermediate-Risk SVT • **Thrombus ≥5 cm or within 3–5 cm of a deep venous junction, no systemic risk factors**	Prophylactic anticoagulation per VTE treatment guidelines - 45 days • Fondaparinux 2.5 mg once-daily for 45 days • OR Clexane 40-80* mg once-daily for 45 days • OR Rivaroxaban** 10 mg once-daily for 45 days • OR Apixaban† 2.5 mg twice-daily for 45 days Follow-up: Reassess thrombus progression and ongoing VTE risk
High-Risk SVT • **Thrombus ≤3 cm from a deep venous junction, or evidence of propagation, recurrent SVT, thrombophilia, or malignancy**	Therapeutic anticoagulation per VTE treatment guidelines - 3 months • Clexane* 1 mg/kg twice-daily or 1.5mg/kg once-daily • OR Rivaroxaban** 15 mg twice-daily for 21 days, then 20 mg once-daily • Or Apixaban† 10 mg twice-daily for 7 days, then 5mg twice-daily Close follow-up: Monitor thrombus propagation or resolution with serial duplex ultrasound

FOLLOW-UP:
Patients should be monitored for thrombus propagation, and recurrence prevention strategies should be discussed.[10]

CONCLUSION
This practical SVT guideline equips clinicians—particularly GPs and emergency doctors in regional settings—with a clear, evidence-based approach to a frequently overlooked condition. Standardised assessment improves patient safety, supports appropriate anticoagulation, and enhances continuity of care through timely referral to vascular services. Broad adoption has the potential to reduce complications and strengthen venous care across metropolitan and rural networks.



Prophylactic anticoagulation: Fondaparinux 2.5 mg once-daily OR Clexane 40–80 mg once-daily OR Rivaroxaban 10 mg once-daily OR Apixaban 2.5 mg twice-daily.

Therapeutic anticoagulation: Clexane 1.5 mg/kg SC daily OR Rivaroxaban 20 mg once daily (after 3-week loading of 15 mg BD) OR Apixaban 5 mg BD (after 1-week loading of 10 mg BD)

Figure 3: Risk-stratified diagnostic and treatment algorithm for superficial vein thrombosis (SVT). Initial duplex ultrasound assessment determines the presence of deep vein thrombosis (DVT) or proximity of superficial thrombus to the saphenofemoral junction (SFJ) or saphenopopliteal junction (SPJ). Treatment decisions are based on thrombus length, location, and associated risk factors. Management pathways include therapeutic anticoagulation for high-risk SVT (within 3 cm of deep junctions or with DVT), prophylactic anticoagulation for intermediate-risk cases, and surveillance for low-risk SVT. AASV = anterior accessory saphenous vein; GSV = great saphenous vein; SSV = small saphenous vein. Courtesy of Dr Mahmoud Al-Najjar, Australian Vascular. Used with permission.

KEY POINTS
1. SVT is part of the venous thromboembolism (VTE) spectrum and can progress to DVT or PE.[7]
2. Duplex ultrasound is recommended for high-risk SVT cases.[9]
3. Low-risk SVT (thrombus <5 cm, >3 cm from deep veins) requires conservative management, while anticoagulation is needed for higher-risk cases.[8,10]
4. Specialist referral is recommended for recurrent SVT, thrombus near deep veins, or associated malignancy.[6,7]

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