



## Michigan Quality Improvement Consortium Guideline

*Outpatient Management of Uncomplicated Deep Venous Thrombosis*

Eligible Population	Key	Recommendation and Level of Evidence
Adult patients $\geq$ 18 years of age  Diagnosis of acute DVT, confirmed by duplex ultra-sonography or venography. <b>[A]</b>	Initial assessment	<ul style="list-style-type: none"> <li>◆ Perform initial comprehensive history and physical examination; consider conditions predisposing to DVT such as surgery, trauma, hospital or nursing home confinement, malignant neoplasm, central venous catheter or pacemaker, and neurologic disease with extremity paresis.</li> <li>◆ Assess patient/caregiver ability and compliance for outpatient therapy, and need for home care resources.</li> <li>◆ <b>Assess for relative or absolute contraindications to outpatient anticoagulation therapy, including:</b> <ul style="list-style-type: none"> <li>◆ Pulmonary embolism with hemodynamic or respiratory instability</li> <li>◆ Extensive iliofemoral thrombus</li> <li>◆ Known potential for non-compliance</li> <li>◆ Active bleeding</li> <li>◆ Severe HTN</li> <li>◆ Renal clearance <math>&lt;30</math> mL/min or creatinine <math>&gt;2.5</math> mg/dL</li> <li>◆ Thrombocytopenia <math>&lt;100,000</math></li> <li>◆ History of heparin induced thrombocytopenia</li> </ul> </li> </ul>
No contra-indications to anticoagulation or use of low molecular weight heparin (LMWH).	Initiating and monitoring pharmacologic interventions	<ul style="list-style-type: none"> <li>◆ Outpatient therapy is preferred if no contraindications.</li> <li>◆ Contraindications to warfarin therapy:               <ul style="list-style-type: none"> <li>Absolute: pregnancy, history of warfarin-induced skin necrosis</li> <li>Relative: dementia, certain psychoses, diminished mental capacity, or childbearing age without contraception</li> </ul> </li> <li>◆ Begin LMWH.</li> <li>◆ <b>Begin warfarin after 1st dose of LMWH [A], on the same day, titrate to INR range of 2.0 - 3.0.</b></li> <li>◆ Continue LMWH (along with warfarin) at least 5 days, and until INR range 2.0 - 3.0 for 2 consecutive days. <b>[A]</b></li> <li>◆ Maintain warfarin therapy at least 3 months in therapeutic INR range <b>[A]</b>, longer if risk of recurrence. For calf-level DVT, maintain warfarin therapy at least 6 weeks to 3 months in therapeutic INR range <b>[A]</b>, longer if risk of recurrence.</li> <li>◆ Ask about any changes in diet, medications, supplements and herbal products, and compliance before any dosage adjustment.</li> <li>◆ If known hypercoagulable state, consider referral to a coagulation specialist.</li> </ul>
	Testing/Monitoring	<ul style="list-style-type: none"> <li>◆ Obtain baseline lab values: aPTT, PT/INR, CBC with platelet count. Consider platelet count 3 to 5 days into anticoagulation therapy.</li> <li>◆ Monitor warfarin therapy using INR; no lab monitoring required for LMWH unless special circumstances such as renal insufficiency or extremes of body weight.</li> <li>◆ Frequent INR monitoring is necessary at the onset of warfarin therapy (e.g. usually 2 checks in the first week of therapy; then at least twice per week for the next 2 weeks. When stable, monitor every 4 weeks.).</li> <li>◆ Monitor common bleeding sites; gums, nose, GI, GU and skin.</li> <li>◆ Monitor for signs/symptoms of pulmonary embolism, and medication side effects.</li> <li>◆ Maintain an Anticoagulant Monitoring Log (or dose adjustment system) for each patient treated with warfarin.</li> <li>◆ <b>Management through a systematic program is essential</b> (either in office or a specialized program for anticoagulation monitoring).</li> </ul>
	Patient education	<ul style="list-style-type: none"> <li>◆ <b>Inform patient/caregiver of the reasons and benefits of therapy, potential side effects, importance of follow-up monitoring, warfarin dosage adjustment, compliance, dietary recommendations (i.e. a diet that is constant in vitamin K), the potential for drug interactions, safety precautions, recognizing internal bleeding, and risk of hormonal contraception/therapies.</b></li> <li>◆ Instruct patient/caregiver on symptoms of pulmonary embolism, extension of DVT and self-injection of LMWH.</li> <li>◆ The patient should be encouraged to be ambulatory after an appropriate weight-based dose of LMWH <b>[D]</b>.</li> <li>◆ Compression stockings should be used routinely to prevent post-thrombotic syndrome <b>[A]</b>, beginning as soon as possible of the diagnosis of DVT and continuing for a minimum of 2 years. If stockings cannot be used initially due to swelling, compression wraps should be used until it is possible to use stockings.</li> </ul>

**Levels of Evidence for the most significant recommendations:** A = randomized controlled trials; B = controlled trials, no randomization; C = observational studies; D = opinion of expert panel

This guideline represents core management steps. It is based on several sources including: Management of Venous Thromboembolism: A Clinical Practice Guideline from the American College of Physicians and the American Academy of Family Physicians. *Ann Intern Med.* 2007;146:204-10; and, New Antithrombotic Drugs. American College of Chest Physicians. *CHEST* 2008;133:234S-256S. Individual patient considerations and advances in medical science may supersede or modify these recommendations.