DVT Algorithm
Please review definition and pathophysiology

Assess for the presence of major risk factors

- Age
- Immobilization longer than 3 days
- Pregnancy and the postpartum period
- Major surgery in previous 4 weeks
- Long plane or car trips (>4 h) in previous 4 weeks
- PMH; Cancer, Previous DVT, Stroke, AMI, CHF, Sepsis, Nephrotic syndrome, Ulcerative colitis
- Trauma; Multiple trauma, CNS/spinal cord injury, Burns, Lower extremity fractures
- Vasculitis; Systemic lupus erythematosus (SLE) and the lupus anticoagulant
- Hematologic; Polycythemia vera, Thrombocytosis, Inherited disorders of coagulation/fibrinolysis
- Drugs/medications; Intravenous drug abuse, Oral contraceptives, Estrogens, Heparin-induced thrombocytopenia


Are Risk Factors Present?

- Unilateral Edema,
  - Massive edema with cyanosis and ischemia is rare.
- Leg pain
  - Pain with dorsiflexion of the foot (Homans sign).
- Warmth or erythema of skin over the area of thrombosis.

Are positive findings present?

Initiate client education for Health Seeking Behaviors to identify:

- Instruct client in s/s of risk factors to report
- Teach client s/s of DVT/PE and encourage early consultation with the health care provider

Box 1

Initiate the plan of care for a Risk for Ineffective Therapeutic Regimen management:

- Assist client in strategies to reduce modifiable risk factors
- Instruct client in administration of DVT prophylaxis
- Teach client s/s of adverse effects to report
- Encourage ambulation
- Minimize edema through the use of compression stockings and elevation
- Patient teaching from box 1

Follow plan of care for PC: DVT/PE
Administer medications as prescribed:
1. Administer heparin according to protocol to ant coagulate client to minimize further thrombus formation.
   a. Monitor for heparin induced thrombocytopenia
   b. Alternatively client may be prescribed LMWH (do not administer both heparins simultaneously)
2. Prepare to administer Warfarin therapy is overlapped with heparin for 4-5 days until the international normalized ratio (INR) is therapeutically elevated to 2-3 for continued outpatient use.
3. monitor effects of thrombolytic therapy if administered to an acute DVT to break up the clots
4. prepare client for insertion of an inferior vena cava (IVC) filter if indicated
5. elevate affected extremity
6. initial bedrest may be prescribed followed by early ambulation as tolerated on day 2 after initiation of outpatient anticoagulant therapy in addition to effective compression
7. Elastic Stockings for the Prevention of the Post-Thrombotic Syndrome should be prescribed for 2 years following episode of DVT and the use of pneumatic compression stockings for sever edema
8. Teach client strategies to reduce risk of recurrence, s/s of bleeding secondary to medication

CALL
- Call for s/s of Pulmonary embolism; CP, DB, Diaphoresis, hemodynamic instability
- Initiate hemodynamic regulation and shock management
- If hemodynamically unstable, prepare to administer thrombolytics
- Prepare client for long-term anticoagulation to prevent recurrence of DVT/PE

ASSESS s/s of DVT
- Unilateral Edema,
  o Massive edema with cyanosis and ischemia is rare.
- Leg pain
  o Pain with dorsiflexion of the foot (Homans sign).
- Warmth or erythema of skin can be present over the area of thrombosis.

Assess for contributing factors:
- Age
- Immobilization longer than 3 days
- Pregnancy and the postpartum period
- Major surgery in previous 4 weeks
- Long plane or car trips (>4 h) in previous 4 weeks
- PMH; Cancer, Previous DVT , Stroke , AMI , CHF, Sepsis , Nephrotic syndrome, Ulcerative colitis
- Trauma; Multiple trauma , CNS/spinal cord injury , Burns , Lower extremity fractures
- Vasculitis; Systemic lupus erythematosus (SLE) and the lupus anticoagulant
- Hematologic; Polycythemia vera , Thrombocytosis , Inherited disorders of coagulation/fibrinolysis
- Drugs/medications; Intravenous drug abuse , Oral contraceptives , Estrogens , Heparin-induced thrombocytopenia

Evaluate client using Wells Rule to Estimate Probability of DVT

<table>
<thead>
<tr>
<th>Clinical feature</th>
<th>Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Active cancer</td>
<td>1</td>
</tr>
<tr>
<td>Paralysis, paresis, or recent plaster immobilization of the lower extremity</td>
<td>1</td>
</tr>
<tr>
<td>Recently bedridden for more than three days or major surgery within four weeks</td>
<td>1</td>
</tr>
<tr>
<td>Localized 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 by more than 3 cm when compared with the asymptomatic leg</td>
<td>1</td>
</tr>
<tr>
<td>Pitting edema (greater in the symptomatic leg)</td>
<td>1</td>
</tr>
<tr>
<td>Collateral superficial veins (nonvaricose)</td>
<td>1</td>
</tr>
<tr>
<td>Alternative diagnosis as likely or more possible than that of DVT</td>
<td>-2</td>
</tr>
</tbody>
</table>

Monitor
D-Dimer levels (may remain elevated in DVT for 7 days)
If D-Dimer assay is positive, prepare client for ultrasonography

Monitor labs associated with DVT; Protein S, protein C, antithrombin III, factor V Leyden, prothrombin 20210A mutation, antiphospholipid antibodies, and homocysteine levels
Monitor PT/PTT INR for therapeutic effect of anticoagulant therapy

OUTCOMES/BENCHMARKS:
- No unilateral edema, leg pain, erythema
- Respirations even and unlabored