Anticoagulation in Venous Thromboembolism (v1.4)

For additional info about anticoagulation in VTE, visit www.anticoagulationtoolkit.org

- Anticoagulation is recommended for most cases of VTE unless there is a strong contraindication.
- Two types of VTE may not require anticoagulation if certain conditions are met (see table below).
- Guidelines support home initial treatment for some types of VTE as long as certain criteria are met.

### Choice of Anticoagulant

**DOACs (dabigatran, rivaroxaban, apixaban, and edoxaban)** are recommended over warfarin for DVT of the leg or PE. However, DOACs are contraindicated in pts with mechanical heart valves, modish/hecopic hepatic dysfunction, pregnancy, and triple positive antiphospholipid syndrome; and should be used carefully in pts with renal impairment.

**LMWH** is recommended for DVT of the leg or PE in pregnancy. Edoxaban or rivaroxaban are now suggested over LMWH in CA-associated VTE pts with low bleed risk.

### Determining Need for Anticoag.

- **Acute isolated distal DVT of leg without severe symptoms or risk factors for extension**
- **Subsegmental PE without proximal DVT or risk factors for recurrence**

### Setting of Anticoagulation

**Type/Location**

- **Low-risk PE**
- **Acute DVT of leg**

### Guidelines home initial treatment for some types of VTE as long as certain criteria are met.

<table>
<thead>
<tr>
<th>Type/Location</th>
<th>Clinical criteria for initial treatment</th>
<th>Home environment criteria for initial treatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low-risk PE</td>
<td>Clinically stable with good cardiopulmonary reserve, including age ≤50, no hx of CA or chronic cardiopulmonary disease, HR ≤110, SBP ≤100 mm Hg, and O2 sat ≥90%</td>
<td>Well-maintained living conditions, Strong support network, Ready access to medical care, Expected to be compliant, Access to phone</td>
</tr>
<tr>
<td>Acute DVT of leg</td>
<td>No severe leg pain or important comorbidities</td>
<td></td>
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</tbody>
</table>

### Choice of Anticoagulant

<table>
<thead>
<tr>
<th>Anticoagulant</th>
<th>Dosing information (see package insert for full prescribing information)</th>
<th>Pros/Cons</th>
<th>Initial assessment/ monitoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apixaban (Eliquis®)</td>
<td>10 mg BID X 7 days then 5 mg BID</td>
<td>Only DOAC to have less GI bleeding than warfarin in clinical trials</td>
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</tr>
<tr>
<td>Rivaroxaban (Xarelto®)</td>
<td>15 mg BID X 21 days then 20 mg daily</td>
<td>Should be taken with food</td>
<td>Renal function, liver function, and CBC before initiation and at least yearly</td>
</tr>
<tr>
<td>Warfarin (Coumadin®)</td>
<td>Initial dose: 5mg is a typical starting dose, but a lower dose may be considered in certain patients (eg. elderly, malnourished, liver disease)</td>
<td>No special precautions around use in patients with renal impairment</td>
<td>Baseline: INR and CBC, INR 3 days after initiation and approx. 7 days after dose changes</td>
</tr>
<tr>
<td>LWMH</td>
<td>Enoxaparin: 1 mg/kg SC 12h (if CrCl&lt;30), 1mg/kg SQ daily (if CrCl&lt;30)</td>
<td>Drug of choice in pregnancy</td>
<td>Baseline: CBC, creatinine</td>
</tr>
</tbody>
</table>

*ISTH guidance: In high bleed risk (GI cancer or mucosal abnormalities, GU cancers), LMWH is suggested. **Use Cockcroft–Gault with actual weight for CrCl

### Length of Treatment

- **First unprovoked VTE** 3 months (if tx needed)
- **Second unprovoked VTE** Extended* (if tx needed) 3 months (if tx needed)

*No scheduled stop date. When considering length of treatment, patient sex and D-dimer should be considered. Men have a 75% higher risk of recurrence than women. Patients with a D-dimer one month after stopping anticoagulation have double the risk of recurrence.

**High bleed risk patients have two or more of the following risk factors:** age ≥65, age >75, previous bleeding, cancer, metastatic cancer, renal failure, liver failure, thrombocytopenia, previous stroke, diabetes, anemia, antiplatelet therapy, poor anticoagulant control, comorbidity and reduced functional capacity, recent surgery, frequent falls, or alcohol abuse

### Anticoagulation in VTE

- For DVT of leg or PE provoked by surgery or transient/reversible risk factor, 3 months is the recommended length of treatment.
- For an unprovoked DVT of leg or PE, treat for 3 months and then evaluate the risk/benefit ratio for extended treatment. (see table below)
- If active CA, extended* treatment is recommended.

### All anticoagulants

- **Watch for sx of bleeding (especially intracranial) and PE**
- **Notify provider if any bleeding (seek immediate medical attention for serious bleeding)**
- **Notify before starting new meds (including OTC) or if having a procedure**
- **ASA/NSAIDs ↑ bleeding. Avoid NSAIDs. Only use ASA if clear indication.**
- **Tell dentist/surgeon about anticoag, before procedures.**
- **Avoid dangerous activities (use protective gear) Don’t stop without consulting healthcare provider.**
- **DOACs** Don’t skip doses (short half-life)
- **Warfarin** Maintain stable vitamin K intake
- **Notify clinic if ill or change in health status (can affect INR) Alcoholic can increase INR**

### For patient handouts, visit www.anticoagulationtoolkit.org
References

- Drug package inserts
  - Apixaban: https://packageinserts.bms.com/pi/pi_eliquis.pdf
  - Dabigatran: http://docs.boehringer-ingelheim.com/Prescribing%20Information/PIs/Pradaxa/Pradaxa.pdf
  - Edoxaban: http://dsi.com/prescribing-information-portlet/getPIContent?productName=Savaysa&inline=true
  - Enoxaparin: http://products.sanofi.us/lovenox/lovenox.html

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