## Anticoagulation in Non-valvular Atrial Fibrillation (v1.3)

### Determining Need for Anticoagulation

- The need to anticoagulate is primarily based on ischemic stroke risk
- CHA2DS2-VASc is the recommended ischemic stroke risk tool
- DOACs are now recommended over warfarin except in patients with mod-to-severe mitral stenosis or a mechanical heart valve
- Anti-platelets alone are NOT recommended for stroke prevention.

### Anticoagulation Selection

#### CHA2DS2-VASc Scoring Tool

<table>
<thead>
<tr>
<th>Condition</th>
<th>Points</th>
<th>2019 AHA /ACC Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Congreve heart failure</td>
<td>1</td>
<td>No treatment</td>
</tr>
<tr>
<td>Hypertension</td>
<td>1</td>
<td>With anticoagulant</td>
</tr>
<tr>
<td>Age &gt; 75 years</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Diabetes mellitus</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Stroke/TIA or thorboembolism (prior)</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Vascular disease (MI, PAD, or aortic plaque)</td>
<td>1</td>
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<td>Age 65-74 years</td>
<td>1</td>
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#### DOACs

- **Apixaban (Eliquis®)**
  - Low major bleeding and lower all-cause mortality compared to warfarin
  - Only DOAC to not have higher risk of GI bleed compared to warfarin
  - Twice/daily dosing

- **Dabigatran (Pradaxa®)**
  - Has an effective reversal agent but may not be readily available at all facilities
  - Only DOAC to be superior to warfarin in ischemic stroke prevention
  - Relies most on renal clearance
  - Twice/daily dosing

- **Edoxaban (Savaysa®)**
  - Less major bleeding compared to warfarin
  - Once/daily dosing

- **Rivaroxaban (Xarelto®)**
  - Once/daily dosing

### Contraindications/Precautions

<table>
<thead>
<tr>
<th>DOACs</th>
<th>Contraindications/Precautions</th>
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<tbody>
<tr>
<td><strong>Warfarin (Coumadin®)</strong></td>
<td>- Inexpensive&lt;br&gt;- Can be monitored&lt;br&gt;- Once daily dosing</td>
</tr>
<tr>
<td></td>
<td>- Many food/drug interactions&lt;br&gt;- Frequent INRs and dose changes&lt;br&gt;- May require bridging around procedures&lt;br&gt;- More intracranial bleeds</td>
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<tr>
<td></td>
<td>- Initial: 5mg/day (consider 2.5mg if high bleed risk)&lt;br&gt;- Subsequent dosing based on INR with target range of 2-3</td>
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### Periprocedural Bleeding

- Don’t stop without consulting healthcare provider
- Notify clinic before starting any new med (including OTC) or having proc.
- Controlled is best (~14 days after GI, within 1 mo. for intracranial)
- Reason to d/c anticoagulant. Teach how to prevent/manage.

### Anticoagulation

- Watch for sxs of bleeding (especially intracranial)
- Notify healthcare provider if any sxs of bleeding but seek immediate medical care if serious bleeding
- Notify clinic before starting any new med (including OTC) or having proc.
- ASANSAIDs t’idling. Avoid NSAIDs and only use ASA if clear indication.
- Avoid dangerous activities that could lead to injuries (use protective gear)
- Notify dentist or physician that you are on anticoagulant prior to procedure
- Don’t stop without consulting healthcare provider
- Provide written materials covering the above topics

### Patient Education

- **Warfarin-specific**
  - Maintain stable Vitamin K intake (eg, green leafy vegetables, broccoli, brussel sprouts, green tea)
  - Notify if illness or change in health status (may effect INR)
  - Alcohol can increase INR
  - Visit www.anticoagulationtoolkit.org for patient handouts

- **DOAC-specific**
  - Very important not to miss a dose (since short half life)
  - Dabigatran must be kept in original packaging
  - Rivaroxaban should be taken with largest meal of the day
  - More GI bleeding compared to warfarin

### Long-term Management

- **Warfarin**
  - Follow-up: at each flu, assess for compliance, sxs of bleeding or thromboembolism, interacting medication, and reinforce patient education.
  - Bleeding
    - Noticeable: minor bleeding common (epistaxis, bleeding gums, etc.) Not reason to d/c anticoagulant. Teach how to prevent/manage.
    - Major bleed: In most cases, resuming anticoagulation after bleeding controlled is best (~14 days after GI, within 1 mo. for intracranial)
    - Periprocedural: Most pts don’t need to have anticoag. interrupted for low bleed risk proc. unless pt has high bleed risk (see table below) See warfarin and DOAC-specific peri-procedural info if interruption necessary.

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<td>Eg. major bleed &lt;3 mos, platelet abnormalities (including ASA use), hx of bleeding during prior bridging</td>
<td>Eg. minor dental and dermatological, cataract/glioma, diagnostic endoscopies</td>
<td>Eg. major surgeries, procedures in highly vascularized organs (eg, kidneys), spinal procedures</td>
</tr>
</tbody>
</table>

- **DOAC**
  - Follow-up: annually assess CBC, liver function, renal function (more frequently if renal insufficiency), weight, and age. Adjust dose per package insert dosing instructions (above), if necessary.
  - Periprocedural: If DOAC is to be interrupted, most pts should stop one day before low risk procedures and 2 days before high risk procedures. For dabigatran pts with CrCl<50, stop 3 days before low risk procedures and 4 days before high risk procedures. Bridging is rarely needed. DOAC can be restarted 24 hours after low risk procedure and 48-72 hours after higher risk procedure.
  - Switching to another DOAC: discontinue current DOAC and start new one at next scheduled dose.
  - Switching to warfarin: see DOAC package insert for instructions.
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

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