Pt bleeding risk factors?
- Mjr bleed or ICH < 3 months ago
- Pt abnormality (including ASA use)
- High INR
- Prior bleed during prev. bridging or similar proc.

<table>
<thead>
<tr>
<th>Procedure Bleed Risk (see bottom for examples)</th>
<th>Low thrombo risk</th>
<th>Moderate thrombo risk</th>
<th>High thrombo risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>AF: CHA2DS2-VASc ≤ 4 and no prior stroke/TIA/SE</td>
<td>VTE: VTE &gt; 12 mos and no other risk factors</td>
<td>VTE past 3-12 mos, non-severe thrombophilia, recurrent VTE, active CA (within 6 mos)</td>
<td>VTE: VTE &lt; 3 months, severe thrombophilia</td>
</tr>
<tr>
<td>MHV: Bileaflet AV prosth. w/o AF and no other stroke RFs</td>
<td>MHV*: Bileaflet AV prosth. and one or more stroke RFs</td>
<td>MHV: any MV prosthesis, caged-ball or tilting disc AV prosth, recent (within 6 mos) stroke or TIA</td>
<td></td>
</tr>
</tbody>
</table>

Periprocedural Management (Warfarin)

- Minimal/Low
- Inter/High
- Uncertain

No

Yes

All bleed risk categories


*| Bridging in moderate risk MHV may be considered on an individualized basis after weighing bleed risk with risk of thromboembolism.
AV=aortic valve; SE=systemic embolization; stroke RFs= AF, prior stroke/TIA, HTN, DM, CHF, age>75

For full list of procedures, see online appendix to the 2017 ACC Expert Consensus Decision Pathway for Periprocedural Management.
### Supratherapeutic
- When to start holding warfarin: At least 5 days before
- Stopping warfarin: Follow local protocol

### Therapeutic
- When to start holding warfarin: 5 days before
- Stopping warfarin: Follow local protocol

### Subtherapeutic
- When to start holding warfarin: 3-4 days before
- Stopping warfarin: Follow local protocol

### Bridging

<table>
<thead>
<tr>
<th>Patient/ procedure factors</th>
<th>Bridging agent</th>
<th>Before Procedure</th>
<th>Stop bridging agent</th>
<th>After Procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>CrCl ≥30</td>
<td>LMWH</td>
<td>Start bridging agent</td>
<td>24 hrs before procedure</td>
<td>Warfarin: within 24 hrs</td>
</tr>
<tr>
<td></td>
<td>UFH</td>
<td></td>
<td>At least 4 hrs before procedure and if aPTT is normal</td>
<td>LMWH/UFH: within 24 hrs after low risk procedure; after 48-72 hrs in high bleed risk procedure</td>
</tr>
<tr>
<td>CrCl &lt;30</td>
<td>UFH</td>
<td></td>
<td></td>
<td>When INR in range</td>
</tr>
<tr>
<td>Pt with TE risk AND high bleed risk procedure</td>
<td>Individualized strategies to reduce bleed risk</td>
<td>If LMWH: 24 hrs before procedure</td>
<td>If UFH: At least 4 hrs before procedure and if aPTT is normal</td>
<td></td>
</tr>
<tr>
<td>Heparin allergy or recent HIT</td>
<td>Follow local protocol</td>
<td>Follow local protocol</td>
<td>Follow local protocol</td>
<td>Follow local protocol</td>
</tr>
</tbody>
</table>


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