Periprocedural Management (DOAC)

<table>
<tr><th colspan="2">Bleed Risk Evaluation</th><th rowspan="2">Whether or not to interrupt</th></tr>
<tr><th>Patient bleeding risk factors?
Any one of these:
• major bleeding or ICH < 3 months ago
• platelet abnormality (including ASA use)
• prior bleed during previous bridging or similar procedure</th><th>Procedure bleed risk
(see below for examples)</th></tr>
<tr><td rowspan="3">No</td><td>Minimal, No clinically important risk</td><td>-Do Not interrupt DOAC
(time procedure at DOAC trough level)</td></tr>
<tr><td>Low</td><td rowspan="2">-Interrupt DOAC
-Do not bridge</td></tr>
<tr><td>Intermediate, high, uncertain</td></tr>
<tr><td>Yes</td><td>Any bleed risk category</td></tr>
</table>

Examples of Procedure Bleed Risk*

<table>
<tr><th colspan="2">Min. bleed risk</th><th>Low bleed risk</th><th colspan="3">High bleed risk</th></tr>
<tr>
<td>• Minor dental procedures
• Cataract/ glaucoma
• Superficial skin incisions/ excisions</td>
<td>• Diagnostic GI endoscopy w/ wo biopsy
• Central catheter removal</td>
<td>• GI procedures (eg. colonoscopy, gastroscopy)
• Cardiac procedures (eg. pacemaker/defib implantation, arterioventricular node ablation, angiography-radial approach)</td>
<td>• Surgery requiring neuraxial anesthesia
• Major intracranial or neuraxial surgery (eg. laminectomy)
• Major thoracic surgery (eg. lobectomy)</td>
<td>• Major cardiac surgery (eg. CABG)
• Major vascular surgery (eg. carotid endarterectomy)
• Major orthopedic surgery (eg. arthroplasty)</td>
<td>• Major abdominopelvic surgery (eg. bowel resection)
• Other major cancer or reconstructive surgery</td>
</tr>
</table>

* For full list of procedures, see online appendix to the 2017 ACC Expert Consensus Decision Pathway for Periprocedural Management

DOAC Interruption and Restart

DOAC	Procedure Bleed Risk	Peri-Procedural DOAC use*									
		Day -5	Day -4	Day -3	Day -2	Day -1	**Day of proc.**	Day +1	Day +2	Day +3	Day +4
Dabigatran (CrCl≥50 mL/min†)	High								Resume day 2 or 3 (1st dose ≥48 hrs post-procedure)		
	Low							1st dose ≥24 hrs post-procedure			
Dabigatran (CrCl<50 mL/min†)	High								Resume day 2 or 3 (1st dose ≥48 hrs post-procedure)		
	Low							1st dose ≥24 hrs post-procedure			
Rivaroxaban, apixaban, edoxaban‡	High								Resume day 2 or 3 (1st dose ≥48 hrs post-procedure)		

[1]Douketis JD, Spyropoulos AC, Duncan J, et al. Perioperative management of patients with atrial fibrillation receiving a direct oral anticoagulant (PAUSE Trial). JAMA Intern Med. Published online August 5, 2019. doi:10.1001/jamainternmed.2019.2431

*The PAUSE trial only included atrial fibrillation patients; however, it may be reasonable to extrapolate results to patients with other indications at similar thromboembolic risk. In addition, few patients had interventional pain procedures, so at this time, either the PAUSE protocol or the ASRA guidelines can be used in these patients.

†CrCl calculated using Cockroft-Gault and actual body weight.

‡Edoxaban was not included in the PAUSE Trial protocol but has a similar half-life as rivaroxaban and apixaban.