

## Cardiac EP Service Recommendations for Anticoagulation prior to Cardioversion

Electrophysiology Procedure Anticoagulation and Antiplatelet Recommendations							
		New Implants (PPM, ICD, CRT)	Generator Changes	Extractions	Epicardial, Left-sided VT and PVC Ablation	Atrial Fibrillation/Flutter Ablation	Watchman Device
<b>DFTs</b>		Therapeutic anticoagulation for 3 consecutive weeks (or TEE) in presence of atrial arrhythmia	Not indicated unless specified by EP MD	N/A	N/A	N/A	N/A
<b>CHADS<sub>2</sub> score 5-6, HCM, prior stroke off a/c, mechanical mitral or tricuspid valve, stroke &lt; 6 months prior to procedure</b>		Talk with EP MD regarding anticoagulation recommendation					
<b>warfarin</b>	Pre-procedure (CHADS <sub>2</sub> score ≤ 4)	Hold 2 days prior to procedure, unless DFTs indicated and/or patient with atrial arrhythmia.	Hold 2 days prior to procedure, unless DFTs indicated and/or patient with atrial arrhythmia. Procedure goal INR 2-2.5	Goal INR ≤ 1.6 for procedure	Goal INR ≤ 1.6 for procedure	Goal INR 2-2.5 for 3 weeks prior to procedure	Goal INR 1.7-2.5 for procedure Lots of time: Transition to warfarin any time prior to procedure There is limited time: Start Coumadin 5 days prior to procedure & discontinue DOAC 2 days prior to procedure
	Post-procedure	Restart the evening of the procedure	Restart the evening of the procedure	Restart the evening of the procedure	Restart the evening post procedure, minimum of 8 weeks	Restart the evening post procedure, minimum of 8 weeks	Restart the evening post procedure, minimum of 45 days
	TEE pre-procedure	N/A	N/A	N/A	N/A	If INR subtherapeutic any time in 3 weeks prior to procedure and patient in atrial fibrillation on the day of the procedure.	If INR subtherapeutic any time in 3 weeks prior to procedure and patient in atrial fibrillation on the day of the procedure. Timing: day prior or morning of or intra-procedure.

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<b>enoxaparin (Lovenox, SQ) heparin (IV)</b>	Pre-procedure	No heparin products (IV or SQ) for 6 hours prior to procedure	No heparin products (IV or SQ) for 6 hours prior to procedure	No heparin products (IV or SQ) for 6 hours prior to procedure	No heparin products (IV or SQ) for 4 hours prior to procedure	No heparin products (IV or SQ) for 4 hours prior to procedure	No heparin products (IV or SQ) for 4 hours prior to procedure
	Post-procedure (CHADS <sub>2</sub> score ≤ 4)	No heparin products (IV or SQ) indicated for patients with CHADS <sub>2</sub> score ≤ 4	No heparin products (IV or SQ) indicated for patients with CHADS <sub>2</sub> score ≤ 4	No heparin products (IV or SQ) indicated for patients with CHADS <sub>2</sub> score ≤ 4	Restart (without bolus if IV): timing per EP MD recommendation	Restart (without bolus if IV): timing per EP MD recommendation	Restart (without bolus if IV): timing per EP MD recommendation
	Post-procedure (CHADS <sub>2</sub> score >4)	Restart (without bolus if IV): timing per EP MD recommendation	Restart (without bolus if IV): timing per EP MD recommendation	Restart (without bolus if IV): timing per EP MD recommendation	Restart: timing per EP MD recommendation	Restart: timing per EP MD recommendation	Restart: timing per EP MD recommendation
	TEE pre-procedure	N/A	N/A	N/A	N/A	If INR subtherapeutic any time in 3 weeks prior to procedure and patient in atrial fibrillation on the day of the procedure. <b>Timing:</b> day prior or morning of or intra-procedure.	TEE performed with all Watchman device placements

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<b>edoxaban (Savaysa)</b>  <b>rivaroxaban (Xarelto)</b>	Pre-procedure (CHADS <sub>2</sub> score ≤ 4)	Hold for 1 dose prior to the procedure (evening prior to procedure vs morning of procedure depending on patient's regimen)	Hold for 1 dose prior to the procedure (evening prior to procedure vs morning of procedure depending on patient's regimen)	CrCl > 50: hold 2 days CrCl 15-49: hold 3 days	CrCl > 50: hold 2 days CrCl 15-49: hold 3 days	If taken with morning meal: hold the morning of procedure If taken with evening meal: continue uninterrupted	Discontinue with start of warfarin for procedure
	Post-procedure	Restart with evening dose	Restart with evening dose	Restart with evening dose 48 hours post procedure	Restart the evening post procedure, minimum of 8 weeks	Restart the evening post procedure, minimum of 8 weeks	Not indicated
	TEE pre- or intra-procedure	N/A	N/A	N/A	Day prior to, or morning of, or intra-procedure if patient in atrial fibrillation/flutter on the day of the scheduled ablation	If uninterrupted anticoagulation for 21 consecutive days: no TEE indicated If subtherapeutic anticoagulation: day prior to, or morning of, or intra-procedure on the day of the scheduled ablation	TEE performed with all Watchman device placements
<b>apixaban (Eliquis)</b>  <b>dabigatran (Pradaxa)</b>	Pre-procedure (CHADS <sub>2</sub> score ≤ 4)	Hold dose the evening prior and morning of procedure	Hold dose the evening prior and morning of procedure	Eliquis: hold 2 days Pradaxa: CrCl > 80: hold 2 days CrCl 50-79: hold 3 days CrCl 30-49: hold 4 days CrCl 15-29: hold 5 days	Eliquis: hold 2 days Pradaxa: CrCl > 80: hold 2 days CrCl 50-79: hold 3 days CrCl 30-49: hold 4 days CrCl 15-29: hold 5 days	Hold dose the morning of procedure	Discontinue with start of warfarin for procedure
	Post-procedure	Restart with evening dose	Restart with evening dose	Restart with evening dose 48 hours post procedure	Restart the evening post procedure, minimum of 8 weeks	Restart the evening post procedure, minimum of 8 weeks	Not indicated
	TEE pre or intra-procedure	N/A	N/A	N/A	Day prior to, or morning of, or intra-procedure if patient in atrial fibrillation/flutter on the day of the scheduled ablation	If uninterrupted anticoagulation for 21 consecutive days: no TEE indicated If subtherapeutic anticoagulation: day prior to, or morning of, or intra-procedure on the day of the scheduled ablation	TEE performed with all Watchman device placements

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<b>aspirin</b>  <b>clopidogrel (Plavix)</b>  <b>prasugrel (Effient)</b>  <b>ticagrelor (Brilinta)</b>	Pre-procedure (CHADS <sub>2</sub> score ≤ 4), PCI/CABG > 12 months	Uninterrupted if only agent, otherwise hold 7 days	Uninterrupted if only agent, otherwise hold 7 days	Uninterrupted if only agent, otherwise hold 7 days	uninterrupted	uninterrupted	Continue aspirin uninterrupted; clopidogrel as below
	Post-procedure	Restart on 5th day post procedure	Restart on 5th day post procedure	Restart on 5th day post procedure	Restart evening after procedure	Restart evening after procedure	Refer to Dr. Goessl
	Stent < 6 months	uninterrupted	uninterrupted	uninterrupted	uninterrupted	uninterrupted	Refer to Dr. Goessl
	Stent 6-12 months	single agent	single agent	single agent	single agent	single agent	Refer to Dr. Goessl