|  |
| --- |
| [Episode 30: Management of anticoagulation for non-valvular a-fib](http://accrac.com/episode-30-management-of-anticoagulation-for-non-valvular-a-fib/)  |
| On this episode: Dr. Jed Wolpaw  |
| In this episode, episode 30, I discuss the new American College of Cardiology Guidelines for the periprocedural management of anticoagulation for patients with non-valvular atrial fibrillation. This includes whether to stop, when to stop, whether to bridge, how to bridge, and how and when to restart. |
|

|  |
| --- |
| Table of ContentsHyperlinks to section of notes. |
| [What is atrial fibrillation? 2](#_Toc526680882)[Who needs anticoagulation? 2](#_Toc526680883)[When should it be interrupted? 2](#_Toc526680884)[How to interrupt anticoagulation? 2](#_Toc526680885)[When to bridge? 3](#_Toc526680886)[How to bridge? 3](#_Toc526680887)[When to restart? 3](#_Toc526680888)[References 4](#_Toc526680889) |
|  |

What is atrial fibrillation?* Most common sustained arrhythmia, increases with age. 1 in 4 have in lifetime.

Who needs anticoagulation?* Anticoagulation recommended for most because of stroke and systemic embolus.
* Oral anticoagulation > antiplatelet for CHADS-VASc score ≥2
	+ CHF (1)
	+ HTN (1)
	+ Age ≥ 75 (2)
	+ Diabetes (1)
	+ Stroke/TIA /thromboembolism (2)
	+ Vascular disease (1)
	+ Age 65-75 (1)
	+ Sex F (1)
* Absence of rheumatic MS, mech/bio valve, or repair. Some say moderate to severe MR = valvular (gray area)
* Vitamin K antagonist – coumadin
* Direct oral anticoagulant – rivaroxaban, apixaban, edoxaban, dabigatran

When should it be interrupted?* Weigh risk of bleed (HAS-BLED) vs clot
	+ HAS-BLED: ≥3 predictive of bleeding events
		- HTN
		- Abnormal renal/liver function
		- Stroke (prior)
		- Bleed predisposition/anemia
		- Labile INR/vitKantag
		- Elderly ≥ 65
		- Drug (antiplatelet, NSAID , heavy EtOH, illicit drugs)
* Prior bleed or past 3 months, abnormal platelet, supratherapeutic INR, bleed history with prior bridge or similar procedure
* Bruise control: coumadin vs temporary interruption/bridge (more bleed)
* Compare
	+ If VKAT, and low HASBLED/low risk bleeding procedure, don’t stop
	+ If intermediate to high risk of bleed OR uncertain, AND bleed risk, then stop VKAT
	+ If low risk surgery, and some risk factors, or uncertain surgery with no risk factors, use clinical judgement
* Draw INR 5-7 days before to identify supratherapeutic (>3).

How to interrupt anticoagulation?* Coumadin
	+ If subtherapeutic, stop 3-4 days before
	+ If therapeutic, stop 5 days before
	+ If INR >3, stop more than 5 days before
* DOAC has shorter half-life, so stop sooner. Depends on renal function.
* Reversal for dabigatran
	+ Idarucizumab
	+ ESRD – not lot of data. Check dilute thrombin time for dabigatran
* Agent specific chromogenic anti factor 10a activity
* Low risk, no risk factor, don’t stop. Daily trough and procedure during trough.
* Look at creatinine clearance and refer to chart if you do need to stop

When to bridge?* DOAC doesn’t need bridging because short acting. Use CHAD-VASc to determine need.
* ≤4 and no history of prior stroke/ TIA: <5% thrombotic risk / year – don’t need bridge. Not validated
* 5-6 or prior history AND
	+ if increase risk bleeding, don’t bridge.
	+ If not increase risk bleeding, AND
		- No history, don’t bridge.
		- Prior history, bridge!
* 7-9 or recent stroke: bridge

How to bridge?* LMWH vs heparin drip
	+ LMWH decreased length of stay
	+ Heparin drip longer acting, less concern for renal function
* History of heparin-induced thrombocytopenia: use non-heparin products like bivalirudin
* Heparin can be discontinued 4-6 hours prior to procedure
* Lovenox can be discontinued 24 hours prior

When to restart?* Make sure no ongoing bleeding. Patient specific factors
* Warfarin first 24 hours because it takes 24-48 hours to take effect, and 5 days to fully work.
* VKA linked to hepatic function and antibiotic use. Do you also need to start heparin because blocking Proteins C/S first?
* Studies found highest risk is when INR becomes therapeutic, unless argatroban, which you’d stop at 3. Ask your lab
* Restart full dose morning after procedure assuming low risk and no bleeding
* High risk of bleed – wait 2-3 days
* Based on dabigatran algorithm in RELY trial, 1.8% major bleed and 0.2% thromboembolic event
* Rivaroxaban – need meal. This and apixaban can be crushed and put in tubes
* During temporary pause, can use heparin or lower NOAC
* Can’t use NOAC if epidural in place. Must wait 24 hours after removed per ASRA
* After cardiac surgery, based on RE-ALIGN 2013, stopped early because more thrombotic events and bleeding in dabigtran vs warfarin. → all DOACS contraindicated in mechanical valves
* On NOAC and if mechanical valve put in, transition to warfarin
* If CABG, use NOAC

How do you bridge? What guidelines do you use?  |
| ReferencesPlease visit the reference for full details, algorithms, and more: [2017 ACC Expert Consensus Decision Pathway for Periprocedural Management of Anticoagulation in Patients With Nonvalvular Atrial Fibrillation](http://www.onlinejacc.org/content/early/2017/01/05/j.jacc.2016.11.024) |
| **Comments or suggestions?** Please email accrac@accrac.com or leave a comment on the [website](http://accrac.com/).**Fan of the show?** Please take a moment to leave a comment and a rating to help others find the show! **Want to support the show?** [Patreon.com/ACCRAC](https://www.patreon.com/accrac) to become a patron and support the making of the show. Notes by [Brian Park](https://twitter.com/ParkBrianH) |