

Clinical Standardization

Inpatient Hospitalist-performed Procedural Anticoagulation Guideline

Updated: February 8, 2023

Anticoagulation Recommendations and Laboratory Cutoffs for Hospitalist Percutaneous Procedures					
<p>General Guidelines: Paracentesis and thoracentesis are considered low bleeding risk procedures. If patients are on a single antiplatelet agent or single anticoagulant and no other significant risk factors for increased bleeding, the procedure can be safely performed while on these agents. If the patient has other risk factors, then the risk of bleeding and thrombosis must be carefully balanced. The following table may be helpful. As with anything, this should serve as a guide, but is not meant to replace clinical judgement.</p>					
<p>DVT Prophylaxis: DVT prophylaxis does not need to be held for low bleeding risk procedures, such as paracentesis and thoracentesis.</p>					
General Management Based on Bleeding and Thrombotic Risk Factors					
	Patient-Specific Thrombotic Risk*	High		Low	
	Patient-Specific Bleeding Risk**	High***	Low	High***	Low
Warfarin		Perform procedure with INR 2-3, patient discussion of risks/benefits, if holding warfarin, strongly consider bridging	Perform procedure with INR 2-3	Consider warfarin hold 2 days prior to procedure or reversal if urgent	Perform procedure with INR 2-3
Direct Oral Anticoagulants		Patient discussion of risks/benefits, consider holding no more than 24 hrs vs performing procedure on DOAC depending on discussion and specific risk factors for bleeding/clotting	Continue DOAC	Consider 24-48 hr hold depending on individual risk factors.	Continue DOAC
Aspirin		Continue			
Plavix					

*Thrombotic Risk: Thrombotic risk is considered high for patients with elevated CHADSVASC scores (>5), thrombosis within 3 months, stroke or TIA within 6 months, antiphospholipid antibody syndrome, recurrent VTE, multiple thrombophilic conditions, mitral or tricuspid valve prosthesis, mechanical valves of any kind

**Bleeding Risk: Bleeding risk is considered high for patient on antiplatelet agents in addition to anticoagulation, especially triple therapy, significant bleeding within the last 3 months, prior bleeding with a similar procedure, HAS-BLED score >3

***For patients with high bleeding risks and in whom anticoagulation cannot be held, consider interventional pulmonology consultation for thoracentesis. Given some evidence of decreased tortuosity of the subcostal arteries further from midline, consideration for a more lateral puncture site (closer to the mid-axillary line rather than the vertebrae) for thoracentesis should be strongly considered in these patients.

Laboratory Monitoring

PT/INR monitoring not routinely required, if on warfarin, INR target is usually 2-3	Platelet monitoring not routinely recommended, consider transfusion if <20k in patients without cirrhosis	In cirrhosis, no INR cutoff exists, consensus guidelines recommend platelet counts be > 20k, fibrinogen >100.			
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Clinical Pathway Summary

CLINICAL PATHWAY NAME: Inpatient Hospitalist-performed Procedural Anticoagulation Management Guideline

PATIENT POPULATION AND DIAGNOSIS:

- Inpatients who have a paracentesis or thoracentesis performed using Point of Care Ultrasound by Hospitalist provider
- Diagnoses of Ascites or Pleural Effusion with indications for procedure

APPLICABLE TO: Butterworth Hospital

BRIEF DESCRIPTION:

- Algorithms and guidelines for Hospitalist-performed procedures, to standardize clinical pathways and communicate best practices.
- Anticoagulation guidelines related to Paracentesis and Thoracentesis procedures.
- Refer to Ascites and Pleural Effusion Pathways: [Diagnostic Approach to Ascites - Paracentesis](#); [Diagnostic Approach to Pleural Effusion - Thoracentesis](#)

OPTIMIZED EPIC ELEMENTS (if applicable): Orders: Paracentesis Performed by Hospitalist, Thoracentesis Performed by Hospitalist

IMPLEMENTATION DATE: 12/28/2022

LAST REVISED: 2/8/2023

Clinical Pathways Clinical Approach

TREATMENT AND MANAGEMENT:

- For low-bleeding-risk procedures, such as paracentesis and thoracentesis, holding anticoagulation or antiplatelet agents is not routinely recommended, especially if these agents are needed for high-thrombotic risk conditions.
- If patients have high individual bleeding risk and are on multiple agents, then risks and benefits of holding anticoagulation should be weighed against that patient's individual thrombotic risk.

Pathway Information

OWNERS: Dr. Jeremy Gentile, Dr. Cheryl Peavler

CONTRIBUTOR(S): Ascites – Hannah Bray and Andrew Shriener. Pleural Effusion and Anticoagulation Guidelines – John Egan and Fergus Peacock

EXPERT IMPROVEMENT TEAM (EIT): Hospitalist Quality EIT

CLINICAL PRACTICE COUNCIL (CPC): Acute Health CPC

CPC APPROVAL DATE: 2/7/2023

OTHER TEAM(S) IMPACTED: ED, Specialty Health

References:

References:

1. Patel, I. J., Rahim, S., Davidson, J. C., Hanks, S. E., Tam, A. L., Walker, T. G., Wilkins, L. R., Sarode, R., & Weinberg, I. (2019). Society of Interventional Radiology Consensus Guidelines for the periprocedural management of thrombotic and bleeding risk in patients undergoing percutaneous image-guided interventions—part II: Recommendations. *Journal of Vascular and Interventional Radiology*, 30(8). <https://doi.org/10.1016/j.jvir.2019.04.017>
2. Hibbert R.M. Atwell T.D. Lekah A. et al. Safety of ultrasound-guided thoracentesis in patients with abnormal preprocedural coagulation parameters. *Chest*. 2013; 144: 456-463
3. Orlandi E. Citterio C. Seghini P. Di Nunzio C. Mordenti P. Cavanna L. Thoracentesis in advanced cancer patients with severe thrombocytopenia: ultrasound guide improves safety and reduces bleeding risk. *Clin Respir J*. 2018; 12: 1747-1752
4. Patel M.D. Joshi S.D. Abnormal preprocedural international normalized ratio and platelet counts are not associated with increased bleeding complications after ultrasound-guided thoracentesis. *AJR Am J Roentgenol*. 2011; 197: W164-W168
5. Bleeding rate for ultrasound-guided paracentesis in thrombocytopenic patients. *J Ultrasound Med*. 2015; 34: 1833-1838