

Regional Anesthesia Guideline for Patients Receiving Antithrombotic Therapy

Guidelines on anticoagulant/antiplatelet administration timing before and after epidural placement and removal

	Hold Time Before Placement	Hold Time After Placement	Hold Time Before Removal	Hold Time After Removal
Parenteral Anticoagulants				
Argatroban	3-4 hrs and normal aPTT		Contraindicated while epidural in place	
Bivalirudin (restricted to cath lab)	3-4 hrs and normal aPTT		2 hrs	
^a Fondaparinux- Prophylaxis Prophylaxis Dose (2.5mg/day)	36-42 hrs	6 hrs	36 hrs	6 hrs
^a Fondaparinux -Treatment Treatment Dose (≥ 5mg/day)	36-42 hrs	Contraindicated while epidural in place		6 hrs
Heparin Prophylaxis 5,000 units SC BID or TID	4-6 hrs OR Heparin Assay <0.1 U/mL	No contraindications; Consider delay in heparin until after epidural if technical difficulty anticipated	4-6 hrs	May be given immediately after removal
Heparin Prophylaxis 7,500 to 10,000 units SC BID (or ≤20,000 units daily)	12 hrs AND Heparin Assay <0.1 U/mL	Contraindicated while epidural in place (Contact Acute Pain Service for exceptions)		2 hrs
Heparin Treatment >10,000 units SC per dose (or >20,000 units daily)	24 hrs AND Heparin Assay <0.1 U/mL			
Heparin - IV drip (full dose)	4-6 hrs AND Heparin Assay <0.1 U/mL	1 hr	4-6 hrs AND Heparin Assay <0.1 U/mL	1 hr
Intraoperative Heparin (IV)	---	At least 1 hr	2-4 hrs and Heparin Assay <0.1 U/mL	2 hrs Post-op Neuro checks
^a LMWH- Once Daily Prophylaxis Enoxaparin 30 mg or 40 mg daily ^b If larger dose desired, < 0.5 mg/kg daily	At least 12 hrs	12 hrs 2 nd dose 24 hrs later	12 hrs	4 hrs If blood during catheter placement: 24 hrs
^a LMWH- BID Prophylaxis (ex. Enoxaparin 30mg BID)		Contraindicated while epidural in place		
^a LMWH- Treatment (ex. Enoxaparin 1mg/kg BID or 1.5mg/kg daily)	At least 24 hrs (in elderly or renal insufficiency, consider LMWH assay <0.5 U/mL)	Contraindicated while epidural in place		4 hrs AND at least 24 hrs after catheter placement
Oral Anticoagulants				
^a Apixaban ^a Betrixaban (non-formulary) ^a Edoxaban (non-formulary) ^a Rivaroxaban	3 days		Contraindicated while epidural is in place	
^a Dabigatran (non-formulary)	CrCl (mL/min)	Hold		
	≥80	3 days		
	50-79	4 days		
	30-49	5 days		
<30: not recommended				
Warfarin for Treatment Target INR 2-3 (or 2.5-3.5)	4-5 days and INR <1.5		Contraindicated while epidural in place	
Warfarin-Low Dose for DVT Prophylaxis Check INR daily while epidural in place	Verify INR <1.5	---	Verify INR < 1.5 If INR 1.5-3.0: Remove w/ caution	2 hrs
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Oral Antiplatelets			
NSAIDs (including aspirin)	No specific CIs	No specific contraindications Consider holding if prophylactic anticoagulation is started	No specific CIs
Dipyridamole +/- aspirin	ER dipyridamole: 24 hrs		6 hrs
Ticlopidine	10 days	Maintained 1-2 days w/o loading dose	Immediately OR 6 hrs (if loading dose given)
Clopidogrel	5-7 days	Catheter may be maintained 1-2 days if loading dose is not given	
Prasugrel	7-10 days	Contraindicated while epidural in place	8 hrs
Ticagrelor	5-7 days		
Cangrelor	3 hrs		
Cilostazol	2 days		
Cilostazol	2 days		6 hrs
GP IIb/IIIa Inhibitors & Thrombolytics			
Abciximab	24-48 hrs	Contraindicated while epidural in place	Not recommended within 4 weeks of surgery
Eptifibatid	4-8 hrs		
Tirofiban	4-8 hrs		
Alteplase Full Dose <small>No restrictions for 2mg alteplase for catheter clearance</small>	Spinal or epidural placement not recommended if received TPA therapy	If unexpected thrombolytic therapy occurs, fibrinogen level monitoring is suggested to evaluate timing of epidural removal	Avoid for 10 days after puncture

^a These medications are renally eliminated. If patient has renal impairment may consider extending times frames

^b For increased doses desired in obese patients, recommend < 0.5mg/kg once daily and contacting Acute Pain Service
For additional questions contact the Acute Pain Service

References:

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