

MANAGEMENT OF ANTITHROMBOTIC THERAPY FOR NEURAXIAL AND PERIPHERAL NERVE PROCEDURES¹

Guidelines to Prevent Neuraxial Hematoma after Epidural/Intrathecal/Spinal Injections and Perineural Hematoma following Peripheral Nerve procedures, excluding Chronic Pain Procedures

ATTENTION! WHEN CAN YOU SAFELY DO NEURAXIAL/PERIPHERAL NERVE PROCEDURES OR GIVE ANTITHROMBOTIC AGENTS? NOTE: For concerns related to bleeding or traumatic procedures, contact Pain Service for risk assessment			
MEDICATION	PRIOR TO NEURAXIAL/NERVE PROCEDURE Minimum time between last dose of antithrombotic agent AND neuraxial injection or neuraxial/nerve catheter placement	WHILE NEURAXIAL/NERVE CATHETER IN PLACE Restrictions on use of antithrombotic agents while neuraxial/nerve catheters are in place and prior to their removal	AFTER NEURAXIAL/NERVE PROCEDURE Minimum time between neuraxial injection or neuraxial/nerve catheter removal AND next dose of antithrombotic agent
ANTICOAGULANTS FOR VTE PROPHYLAXIS			
heparin unfractionated 5000 units Q8H or Q12H	May be given; no time restrictions for neuraxial injection or neuraxial/nerve catheter placement Does not require Pain Service approval		
heparin unfractionated 7500 units SQ Q8H	8 hrs	CONTRAINDICATED while catheter in place. May NOT be given unless approved by Pain Service Attending	4 hrs
dalteparin (Fragmin) 5000 units SQ QDay	12 hrs (longer in renal impairment)	May be given BUT: •Must wait 8 hrs after catheter PLACEMENT before giving dose •Must wait 12 hrs after last dose before REMOVING catheter	4 hrs
enoxaparin (Lovenox) 40mg SQ QDay			
enoxaparin (Lovenox) 30mg SQ Q12H or 40mg SQ Q12H	12 hrs (longer in renal impairment)	CONTRAINDICATED while catheter in place. May NOT be given unless approved by Pain Service Attending	4 hrs
fondaparinux (Arixtra) 2.5mg SQ QDay	48 hrs (longer in renal impairment)		
apixaban (Eliquis) 2.5mg bid	48 hrs ² (longer in renal impairment)	May be given BUT: •Must wait 8 hrs after catheter PLACEMENT before giving dose •Must wait 12 hrs after last dose before REMOVING catheter	6 hrs
dabigatran (Pradaxa) 220mg Qday	72 hrs ³ (longer in renal impairment)		
rivaroxaban (Xarelto) 10mg po QDay	48 hrs ² (longer in renal impairment)		
AGENTS USED FOR FULL SYSTEMIC ANTICOAGULATION			
apixaban (Eliquis) 2.5mg bid – 10mg bid	48 hrs ² (longer in renal impairment)	CONTRAINDICATED while catheter in place. May NOT be given unless approved by Pain Service Attending	6 hrs
dabigatran (Pradaxa) 75mg bid – 150mg bid	72 hrs ³ (longer in renal impairment)		
edoxaban (Savaysa) 30-60mg qday	48 hrs (longer in renal impairment)		
rivaroxaban (Xarelto) 15-20mg po qday or 15mg bid	48 hrs ² (longer in renal impairment)		
dalteparin (Fragmin) 200 Units/kg SQ QDay or 100 Units/kg SQ Q12H	24 hrs (longer in renal impairment)		4 hrs
enoxaparin (Lovenox) 1.0 - 1.5mg/kg SQ QDay or 1mg/kg SQ Q12H	24 hrs (longer in renal impairment)		
fondaparinux (Arixtra) 5-10mg SQ qday	72 hrs (longer in renal impairment)		
heparin unfractionated IV infusion or full dose SQ	when aPTT < 40 sec		
warfarin (Coumadin)	when INR < 1.5		

References:Horlocher TT et al. Regional anesthesia in the patient receiving antithrombotic or thrombolytic therapy. American Society of Regional Anesthesia and Pain Medicine Evidence Based Guidelines (third edition). Reg Anesth Pain Med 2010; 35:64-101

Horlocher TT et al. 4th ASRA Practice Advisory for Regional Anesthesia in the Patient Receiving Antithrombotic or Thrombolytic Therapy. Interim update available at: <https://www.asra.com/advisory-guidelines/article/1/anticoagulation-3rd-edition>

MANAGEMENT OF ANTITHROMBOTIC THERAPY FOR NEURAXIAL AND PERIPHERAL NERVE PROCEDURES¹

Guidelines to Prevent Neuraxial Hematoma after Epidural/Intrathecal/Spinal Injections and Perineural Hematoma following Peripheral Nerve procedures, excluding Chronic Pain Procedures

ATTENTION! WHEN CAN YOU SAFELY DO NEURAXIAL/PERIPHERAL NERVE PROCEDURES OR GIVE ANTITHROMBOTIC AGENTS?			
NOTE: For concerns related to bleeding or traumatic procedures, contact Pain Service for risk assessment			
MEDICATION	PRIOR TO NEURAXIAL/NERVE PROCEDURE Minimum time between last dose of antithrombotic agent AND neuraxial injection or neuraxial/nerve catheter placement	WHILE NEURAXIAL/NERVE CATHETER IN PLACE Restrictions on use of antithrombotic agents while neuraxial/nerve catheters are in place and prior to their removal	AFTER NEURAXIAL/NERVE PROCEDURE Minimum time between neuraxial injection or neuraxial/nerve catheter removal AND next dose of antithrombotic agent
DIRECT THROMBIN INHIBITORS, INJECTABLE			
argatroban IV continuous infusion	when DTI assay < 40 or aPTT < 40 sec	CONTRAINDICATED while catheter in place. May NOT be given unless approved by Pain Service Attending	4 hrs
bivalirudin (Angiomax) IV continuous infusion			
ANTIPLATELET AGENTS			
aspirin or NSAIDS	May be given; no time restrictions for neuraxial injection or neuraxial/nerve catheter placement Does not require Pain Service approval		
abciximab (Reopro) IV continuous infusion	48 hrs	CONTRAINDICATED while catheter in place. May NOT be given unless approved by Pain Service Attending	6 hrs
aspirin/dipyridamole (Aggrenox)	7 days		
cangrelor (Kengreal) IV continuous infusion	1 hour		
clopidogrel (Plavix)	7 days		
eptifibatide (Integrelin) IV continuous infusion	8 hrs (longer in renal impairment)		
prasugrel (Effient)	7 days		
ticagrelor (Brilinta)	7 days		
tirofiban (Aggrastat) IV continuous infusion	8 hrs (longer in renal impairment)		
THROMBOLYTIC AGENTS			
alteplase (TPA) 1mg dose for catheter clearance	May be given; no time restrictions for neuraxial injection or neuraxial/nerve catheter placement Does not require Pain Service approval (Maximum dose 4mg/24 hours)		
alteplase (TPA) full dose for stroke, MI, etc	10 days	CONTRAINDICATED while catheter in place. May NOT be given unless approved by Pain Service Attending	10 days

1. **These guidelines are not intended to supersede clinical judgement.**
2. 4th ASRA Practice Advisory/Interim Update recommends 3 days for all patients, regardless of renal function
3. 4th ASRA Practice Advisory/Interim Update recommends 5 days for all patients, regardless of renal function

References:Horlocher TT et al. Regional anesthesia in the patient receiving antithrombotic or thrombolytic therapy. American Society of Regional Anesthesia and Pain Medicine Evidence Based Guidelines (third edition). Reg Anesth Pain Med 2010; 35:64-101

Horlocher TT et al. 4th ASRA Practice Advisory for Regional Anesthesia in the Patient Receiving Antithrombotic or Thrombolytic Therapy. Interim update available at: <https://www.asra.com/advisory-guidelines/article/1/anticoagulation-3rd-edition>