UW Medicine

MANAGEMENT OF ANTITHROMBOTIC THERAPY FOR CHRONIC PAIN PROCEDURES

LOW RISK PROCEDURES

- Trigger point injections including piriformis injection
- Injections at ligaments and tendons
- Thoracic and lumbar facet medial branch nerve block and intra-articular injections
- Peripheral joints and musculoskeletal injections
- Sacroiliac joint injection and sacral lateral branch blocks
- Peripheral nerve blocks with no catheter placement (excluding trigeminal nerve blocks)
- Peripheral nerve blocks with catheter placement (for locations not close to critical vessels and low-invasive procedures)
- Trans-nasal sphenopalatine ganglion block
- Radiofrequency ablations of thoracic and lumbar facet joints
- Radiofrequency- and cryo-ablations of peripheral nerves (for locations not close to critical vessels and low-invasive procedures)
- Peripheral nerve stimulator trial and implant (for locations not close to critical vessels and low-invasive procedures)
- Pocket revision and implantable pulse generator/intrathecal pump

HIGH RISK PROCEDURES

- Cervical medial branch blocks and cervical intra-articular injections
- Interlaminar and transforaminal epidural injections
- Intrathecal injections
- Epidural blood patch
- Epiduroscopy and epidural decompression
- Trigeminal nerve blocks
- Paravertebral blocks
- Percutaneous sympathetic blocks
- Radiofrequency ablations of cervical facet joints
- Radiofrequency- and cryo-ablations of peripheral nerves (for locations close to critical vessels or highly-invasive procedures)
- Radiofrequency- and cryo-ablations of sympathetic ganglia
- Spinal cord stimulation trial and implant*
- Dorsal root ganglion stimulation trial and implant*
- Intrathecal catheter and pump implant*
- Peripheral nerve stimulator trial and implant (for locations close to critical vessels or highly-invasive procedures)
- Vertebral augmentation (vertebroplasty and kyphoplasty)
- Intradiscal procedures

For spinal cord stimulation and dorsal root ganglion stimulation: resume anticoagulation after lead removal for trials (anticoagulants should be discontinued during the entire trial) or after permanent implant

Full therapeutic anticoagulation (LMWH in particular) and oral antiplatelet therapy (excluding ASA) should be considered contraindicated in high risk procedures ***while a catheter or lead is in place****. There are no guidelines available but one should assume a high risk of bleeding. Risk vs. benefit discussion and analysis with patients should be properly documented. Maintain INR at lowest therapeutic level, preferably < 2.5*

NOTE: These guidelines are <u>NOT</u> intended to supersede clinical judgement.

Medication	LOW RISK PROCEDURES		HIGH RISK PROCEDURES	
Stop prior to procedure: minimum time between the last dose of antithrombotic agent and procedure ***Resume after procedure: minimum time between procedure and next dose of antithrombotic agent***	**When to STOP prior to procedure**	**When to RESUME after procedure**	**When to STOP prior to procedure**	**When to RESUME after procedure** ***(*Exception see Page 1)***
ANTICOAGULANTS FOR VTE PROPHYLAXIS	**If CrCl < 50 mL/min, longer hold needed, discuss with prescriber for all meds unless stated**		**If CrCl < 50 mL/min, longer hold needed, discuss with prescriber for all meds unless stated**	
Unfractionated Heparin SQ 5000U (Q8h or Q12h)	8 hours (No CrCl restrictions)	2 hours	24 hours (No CrCl restrictions)	8 hours
Unfractionated Heparin SQ 7500U Q8h	8 hours (No CrCl restrictions)	4 hours	24 hours (No CrCl restrictions)	8 hours
Dalteparin SQ (Fragmin) 5000U Daily	24 hours	4 hours	24 hours	24 hours
Enoxaparin (Lovenox) 40mg SQ Daily	12 hours	4 hours	24 hours	24 hours
Enoxaparin (Lovenox) 30mg SQ Q12h or 40mg SQ Q12h	12 hours	4 hours	24 hours	24 hours
Fondaparinux (Arixtra) 2.5 mg SQ Daily	48 hours	6 hours	5 days	24 hours
Apixaban (Eliquis) 2.5mg PO BID	24 hours	6 hours	48 hours	24 hours
Rivaroxaban (Xarelto) 10mg PO Daily	24 hours	6 hours	48 hours	24 hours
Betrixaban (Bevyxxa) 80mg PO Daily	48 hours	6 hours	4 days	24 hours

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AGENTS USED FOR FULL SYSTEMIC ANTICOAGULATION	**If CrCl < 50 mL/min, longer hold needed, discuss with prescriber for all meds unless stated**		**If CrCl < 50 mL/min, longer hold needed, discuss with prescriber for all meds unless stated**	**If high thrombosis risk, discuss with prescriber for shorter hold**
Apixaban (Eliquis) **2.5mg bid – 10mg PO BID**	24 hours	6 hours	3 days	24 hours
Rivaroxaban (Xarelto) **15-20mg PO Daily or 15mg PO BID**	24 hours	6 hours	3 days	24 hours
Edoxaban (Savaysa) **30-60mg PO Daily**	24 hours	6 hours	3 days	24 hours
Dabigatran (Pradaxa) **75mg bid – 150mg BID**	48 hours	6 hours	4 days	24 hours
Dalteparin SQ (Fragmin) **200 Units/kg SQ Daily or** **100 Units/kg SQ Q12h**	24 hours	6 hours	24 hours	24 hours
Enoxaparin (Lovenox) **1-1.5mg/kg SQ Daily or** **1mg/kg SQ Q12h**	24 hours	6 hours	24 hours	24 hours
Fondaparinux (Arixtra) **5-10 mg SQ Daily**	48 hours	6 hours	5 days	24 hours
Unfractionated Heparin IV **IV Infusion or Full Dose SQ**	6 hours or aPTT normal or anti-Xa < 0.1 (No CrCl restrictions)	6 hours	6 hours or aPTT normal or anti-Xa < 0.1 (No CrCl restrictions)	24 hours
Warfarin (Coumadin)	When INR < 3 (Contact anticoag clinic for peri-procedural plan)	Restart the same evening	When INR < 1.2 (Contact anticoag clinic for peri-procedural plan)	24 hours

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ANTIPLATELET AGENTS				
NSAIDs ***Per ASRA "Interventional Spine and Pain Procedures in Patients on Antiplatelet and Anticoagulant Medications (Second Edition)" Guidelines, April 2018*** **TABLE: Recommended Discontinuation Time of Commonly Administered NSAIDs**	No restrictions for any NSAID	No restrictions for any NSAID	Celecoxib (COX2) N/A Diclofenac 1 day Etodolac 2 days Ibuprofen 1 day Indomethacin 2 days Ketorolac 1 day Meloxicam 4 days Nabumetone 6 days Naproxen 4 days Oxaprozin 10 days Piroxicam 10 days	All NSAIDs may be restarted 24 hours after procedure
Aspirin **ASA/Dipyridamole (Aggrenox)**	No restrictions	No restrictions	**<u>Primary Prevention</u>**: Hold for 7 days **<u>Secondary Prevention</u>**: Discuss with prescriber **<u>Hx of PCI</u>** Discuss with prescriber	24 hours
Clopidogrel (Plavix)	No restrictions	No restrictions		24 hours
Prasugrel (Effient)	No restrictions	No restrictions		24 hours
Tirofiban (Aggrastat)	8 hours	12 hours	24 hours	12 hours
Eptifibatide (Integrilin)	8 hours	12 hours	24 hours	12 hours
Abciximab (Reopro)	48 hours	12 hours	5 days	12 hours
Ticagrelor (Brilinta)	No restrictions	No restrictions	5 days	24 hours
Pentosan Polysulfate sodium (Elmiron)	No restrictions	No restrictions	5 days	24 hours
Cangrelor (Kengreal) **IV infusion**	No restrictions	No restrictions	3 hours	24 hours

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DIRECT THROMBIN INHIBITORS, INJECTABLE				
Argatroban **IV Continuous Infusion**	When DTI assay normal or aPTT normal	6 hours	When DTI assay normal or aPTT normal	24 hours
Bivalirudin (Angiomax) **IV continuous infusion**	When DTI assay normal or aPTT normal	6 hours	When DTI assay normal or aPTT normal	24 hours
THROMBOLYTIC AGENTS				
Alteplase (TPA) **1 mg dose for catheter clearance**	No restrictions	No restrictions	No restrictions	No restrictions
Alteplase (TPA) **Full Dose for Stroke, MI, etc.**	48 hours	Unknown; Likely contraindicated (change to discussion)	10 days	Unknown; Likely contraindicated

Resources

1. UW Medicine *Management of Antithrombotic Agents for Neuraxial Procedures*. Last updated August 2018 http://depts.washington.edu/anticoag/home/sites/default/files/Neuraxial%20Guidelines_1.pdf
2. American Society of Regional Anesthesia and Pain Medicine. *Interventional Spine and Pain Procedures in Patients on Antiplatelet and Anticoagulant Medications (Second Edition)*. April 2018 - Volume 43 - Issue 3 - p 225–262. http://journals.lww.com/rapm/Fulltext/2015/05000/Interventional_Spine_and_Pain_Procedures_in.2.aspx

NOTE: For recommendations regarding when to discontinue or restart herbal products, over-the-counter (OTC) products, or antidepressant medications, please refer to the associated section in the American Society of Regional Anesthesia and Pain Medicine Guidelines published April 2018.

Each recommendation was reviewed by members of anesthesiology, hematology and pharmacy to determine the class (strength of recommendation) and level (quality of the evidence) using the 2018 American Society of Regional Anesthesia and Pain Medicine (ASRA) Guidelines. These recommendations were approved by the UW Medicine Thrombosis and Anticoagulation Safety Committee. In any case of discrepancy from the ASRA 2018 Regional and Antithrombotic Guidelines, a final decision was reached after consideration of medication pharmacokinetics, procedure and thrombosis risk and clinical experience. These guidelines are not intended to set out a legal standard of care and do not replace medical care or the judgment of the responsible medical professional considering all the circumstances presented by an individual patient. This consensus statement is not intended to ensure a successful patient outcome in every situation and is not a guarantee of any specific outcome.

For questions/comments:
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