Neuraxial/Deep Plexus Block Anticoagulant Guidelines as of 2018

Always use caution with concurrent antiplatelet medications such as aspirin, NSAIDS, and COX2 inhibitors

Medication	**Time to wait after last dose**	**Post-procedure dose ok after ___ hours**	**Can pull catheter ___ hours after last dose**	**Can give next dose ___ hours after pulling catheter**
Enoxaparin (Lovenox) Prophylactic dose (30-40mg)*	12 hours for either q24h or q12h dosing of enoxaparin	12 hours (q 24h dosing only) assuming surgical hemostasis; second dose 24 hours after first dose.	12 hours (q 24h only)	4 hours [Check platelet count if enoxaparin given for more than 3-4 days]
LMWH therapeutic doses (enoxaparin 1ml/kg q 12h, dalteparin 120U/kg q 12h, dalteparin 200U/kg q day, tinzaparin 175 U/kg q day)	24 hours Consider checking anti-factor Xa activity level (esp in elderly and renal pts)	Contraindicated	Contraindicated	Likely 24 hours
Heparin low-dose subcutaneous **	-No delay required if initial dose -4 hours if q12h or q8h dosing	No delay required (for either q12h or q8h dosing)	4 hours (for either q12h or q8h dosing)	No delay required (for either q12h or q8h dosing) [Check platelet count if heparin given for more than 3-4 days]
Heparin higher-dose 7500-10,000 U SC BID or daily dose <20,000 U	12 hours; check PTT < 40	Contraindicated; can use low-dose heparin instead	4 hours after last dose of low-dose heparin	No delay required; check platelet count if appropriate
Heparin therapeutic (individual dose >10,000 U SC per dose or >20,000 U total daily dose)	24 hours; check PTT < 40	Contraindicated; can use low-dose heparin instead	4 hours after last dose of low-dose heparin	No delay required; check platelet count if appropriate

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Ticagrelor (Brilinta)	5-7 days	Contraindicated	Contraindicated	Can be done immediately after removal if no loading dose. If loading dose to be given, wait 6 hours.
Prasugrel (Effient)	7-10 days	Contraindicated	Contraindicated	Can be done immediately after removal if no loading dose. If loading dose to be given, wait 6 hours.
Clopidogrel (Plavix)	5-7 days	Catheter can be maintained only if no loading dose	No recommendation	Can be done immediately after removal if no loading dose. If loading dose to be given, wait 6 hours.
Ticlopidine (Ticlid)	10 days	Catheter can be maintained only if no loading dose	No recommendation	Can be done immediately after removal if no loading dose. If loading dose to be given, wait 6 hours.
Warfarin***	5 days and normal INR	Usually not recommended. However, may be reasonable to start if: -low dose -monitor INR <1.5 daily -routine neurological checks	When INR <1.5 if warfarin being administered in low dose	No wait required since slow pharmacodynamics Avoid concurrent medications that increase risk of bleeding

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Heparin infusion	2-4 hours after discontinuation; check PTT<40	Contraindicated	Contraindicated	1-2 hours
Fondaparinux	No official recommendations, but based on pharmacology, likely 48 hours if less than 2.5mg qday, or 72 hours if 5-10mg qday. Longer in renal impairment	Contraindicated	Contraindicated	No recommendations
Rivaroxaban (Xarelto); Apixiban (Eliquis); Edoxaban (Savaysa)	72 hours; consider checking anti-factor Xa activity level if less than 72 hours	Not recommended	Not recommended. If inadvertent rivaroxaban or apixaban administration, hold for 24-30 hours and check anti-factor Xa activity prior to removal	6 hours
Betrixaban (Bevyxxa)	72 hours; consider checking betrixaban or anti-factor Xa level if less than 72 hours	Contraindicated	Contraindicated; if inadvertent administration, hold for 72 hours prior to removal	5 hours
Dabigatran (Pradaxa)	5 days. However, if no bleeding risk factors: -72 hours if CrCl >= 80ml/min -96 hours if CrCl 50-79ml/min (consider checking DTT or ECT)	Contraindicated	Contraindicated; if inadvertent administration, hold 34-36 hours, consider checking dTT or ECT prior to removal	6 hours

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	-120 hours if CrCl 30-49ml/min -contraindicated in pts with CrCl <30ml/min			
Argatroban; Lepirudin; Desirudin; Bivalirudin	Check PTT <40	Contraindicated	Contraindicated	Unknown
Abciximab	48-72 hours; check platelet function	Contraindicated	Contraindicated	Unknown, may be up to 4 weeks
Eptifibatide	Likely 8 hours; Check platelet function	Contraindicated	Contraindicated	Unknown, may be up to 4 weeks
Tirofiban	Likely 8 hours; Check platelet function	Contraindicated	Contraindicated	Unknown, may be up to 4 weeks
Cilostazol	Likely 48 hours	Contraindicated	Contraindicated	6 hours
Thrombolytics: Alteplase (tPA); releplase; tenecteplase; streptokinase	No data. Check PT/PTT/INR/ Fibrinogen	Contraindicated	Contraindicated	No recommendations. May be as long as 10 days.
Dipyridamole	24 hours	Contraindicated	Contraindicated	6 hours
Cangrelor (P2Y12 inhibitor)	3 hours	Contraindicated	Contraindicated	8 hours
Aspirin, NSAIDS, COX 2 inhibitors	No time restrictions for catheter placement or removal, but exercise caution if more than one agent is being administered concurrently			
Plexus or peripheral nerve block technique anticoagulant recommendations:	Management based on site compressibility, vascularity, and consequences of bleeding.			

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*Note neuroaxial/deep plexus techniques should not be attempted nor catheters maintained in patients on therapeutic doses (1mg/kg) of enoxaparin

**Note: subcutaneous heparin may be given every 8 hours in patients with neuroaxial catheters

***For simplicity we recommend removing all neuroaxial/deep plexus catheters prior to starting warfarin. However, initial doses of warfarin render a patient hypercoagulable and if the surgical team desires to give an initial dose of warfarin with a neuroaxial catheter, this is not unreasonable.

SOURCE: AMERICAN SOCIETY OF REGIONAL ANESTHESIA. Reg Anesth Pain Med 2018; 43:263-309.