

Antiplatelet Use in the Presence of Neuraxial Anesthesia

Insertion, removal, or presence of a catheter in selected sites can place patients receiving antiplatelet therapy at risk for a local bleeding complication by causing a spinal hematoma, which could lead to neurologic injury and paraplegia. The timing of antiplatelet therapy relative to epidural catheter manipulation is critically important and must occur at a time when platelets are minimally inhibited.

Prior to manipulation (= insertion or removal) of a catheter in the epidural space, it is the responsibility of the nurse and/or physician who is overseeing the management of the epidural catheter (usually the anesthesiology pain service) to determine if the patient is receiving any anticoagulant (heparin, LMWH, anti-Factor Xa, direct thrombin inhibitor (IV or Oral), warfarin) or antiplatelet (aspirin, NSAIDs, GPIIb/IIIa antagonists, oral ADP P2Y₁₂ receptor inhibitors [e.g. clopidogrel, prasugrel, and ticagrelor]) therapy.

If the patient is receiving an antiplatelet agent, the planned time of catheter removal or insertion should occur when the antiplatelet effect is minimal, and management should be directly discussed with both the primary care team and the acute perioperative pain service (pager 762-6915), *As a general rule, the patient must either be off antiplatelet therapy, or the effect of the antiplatelet agent should be minimal at the time of catheter insertion or removal. See attachment for specific timing recommendations.* These precautions do not apply to peripheral nerve block catheters.

Procedures involving closed areas such as the pericardial, spinal or CNS regions are considered high risk for major bleeding in a patient on antiplatelet therapy. If the risk of bleeding associated with a procedure or the need for neuraxial anesthesia outweighs the estimated risk of acute thrombosis, holding the antiplatelet agent for a longer period of time before the procedure should be considered.

References:

1. Gogarten W, Vandermeulen E, Van Aken H, et al. Regional anaesthesia and antithrombotic agents: recommendations of the European Society of Anaesthesiology. *Eur J Anaesthesiol* 2010;27:999-1015.
2. Horlocker TT. Regional Anaesthesia in the patient receiving antithrombotic and antiplatelet therapy. *Brit J Anaesth* 2011;107:i96-i106.

Recommendations for Timing of Epidural Catheter Manipulation Relative to use of Anticoagulants

Antiplatelet Agent	Minimum time between last dose of antiplatelet agent and when catheter placement can occur	Catheter manipulation in the presence of antiplatelet therapy	Timing of epidural catheter removal (if antiplatelet could not be avoided while catheter in place)	Minimum time between epidural catheter insertion or removal and administration of antiplatelet agent
PARENTERAL Agents				
Abciximab	48 hours	CONTRAINDICATED while catheter in place	Avoid removal during antiplatelet treatment. A minimum of 48 hours between discontinuation of abciximab and catheter removal is recommended.	2 hours
Eptifibatide	8 hours*		Avoid removal during antiplatelet treatment. A minimum of 8 hours between discontinuation of eptifibatide and catheter removal is recommended.	2 hours
Tirofiban	8 hours*		Avoid removal during antiplatelet treatment. A minimum of 8 hours between discontinuation of tirofiban and catheter removal is recommended.	2 hours
ORAL Agents				
Aspirin/NSAIDs	No significant risk; no contraindications exist			
Clopidogrel	7 days	CONTRAINDICATED while catheter in place	Avoid removal during antiplatelet treatment. A minimum of 7 days between discontinuation of clopidogrel and catheter removal is recommended.	2 hours
Prasugrel	7-10 days		Avoid removal during antiplatelet treatment. A minimum of 7-10 days between discontinuation of prasugrel and catheter removal is recommended.	6 hours
Ticagrelor	5 days		Avoid removal during antiplatelet treatment. A minimum of 5 days between discontinuation of ticagrelor and catheter removal is recommended.	6 hours
Cilostazol	42 hours		Avoid removal during antiplatelet treatment. A minimum of 42 hours between discontinuation of cilostazol and catheter removal is recommended.	5 hours
Ticlopidine	10 days		Avoid removal during antiplatelet treatment. A minimum of 10 days between discontinuation of ticlopidine and catheter removal is recommended.	2 hours

*Longer hold periods may be required in patients with impaired renal function or who have high risk of bleeding and who are at a low risk for thrombosis