Western Health

NECK OF FEMUR FRACTURE ANTIPLATELET AND ANTICOAGULATION MANAGEMENT REFERENCE SHEET

Introduction

Priorities in perioperative management of antiplatelet and anticoagulation therapy in patients with NOF fracture include:

- Minimising any unnecessary delays to surgery
- Minimising risk of intra-operative and post-operative bleeding
- Minimising the risk of thromboembolic complications

Pre-operative

1. **Document the pre-operative use of any antiplatelet or anticoagulant**. Include
   - Dose
   - Duration
   - Indication
   - Timing of last dose

2. **Identify any high-risk conditions**

Body System	High risk conditions
Acute coronary syndrome	Within 3 months
Coronary stent, cerebral or peripheral arterial stent	Bare metal stent within 1 month Drug eluting stent within 6 months (NB: left main coronary stents within 12 months)
Previous cardiac surgery	Within 6 weeks Any mechanical valve replacement
Stroke or TIA	Within 6 months
Arterial or venous thromboembolism **(VTE)**	Within 3 months or Two or more of the following: • ***VTE*** within 3-12 months • Recurrent ***VTE*** • PE causing pulmonary hypertension or right heart failure • Active cancer
Severe thrombophilia	Protein C or S deficiency, antithrombin deficiency, antiphospholipid antibodies or multiple abnormalities

A patient with any of the above conditions should be discussed with the anaesthetist and the treating cardiologist, neurologist or haematologist in order to develop an individualised management plan. If the treating clinician cannot be contacted in a timely manner, please contact the relevant Western Health unit.

3. **In the absence of the high-risk conditions** (above), please follow the guideline below:

ANTIPLATELET THERAPY

ASPIRIN

- Continue regular dose

OTHER ANTIPLATELET AGENTS: Including DIPYRIDAMOLE, CLOPIDOGREL and TICAGRELOR

- Medications should be omitted
- Surgery should **NOT** be delayed to allow for return of normal platelet function
- The anaesthetist should be informed
    - They may elect not to perform a neuraxial block

Medication	Duration before return of normal platelet function
CLOPIDOGREL	**7 days**[1]
PRASUGREL	**7 days**[1]
TICAGRELOR	**5 days** [2]

ANTI-COAGULANT THERAPY

CLEXANE

- Prophylactic dose clexane should be withheld for 12hours prior to surgery
- Therapeutic dose clexane (1mg/kg BD or 1.5mg/kg daily) should be withheld for 24hours prior to surgery

WARFARIN

- Omit warfarin
- Check the patient's INR. Aim to achieve an INR ≤ 1.5 prior to surgery
- If INR >1.5, administer vitamin K 3mg intravenously (the intravenous route is preferred for more rapid reversal of anticoagulation effects)
- Re-check INR after 12 hours, if INR is still >1.5 administer a repeat dose of vitamin K 3mg intravenously

If INR fails to correct (to ≤ 1.5) within 36 hours, prothrombinex may be indicated. Consult haematology for advice on dose and timing of administration.

DIRECT ACTING ANTICOAGULANTS (DOAC): including DABIGATRAN, APIXABAN, RIVAROXABAN

- Omit DOAC
- Discuss the optimal timing of surgery with the anaesthetist
- Patients with renal impairment are at increased bleeding risk
- A guide to the offset times of the DOAC is provided below for reference, although it is not usually necessary to delay surgery

Approximate duration of clinical anticoagulant effect:

Patient renal function	DABIGATRAN	RIVAROXABAN	APIXABAN
eGFR ≥ 50	24-48 hours		
eGFR < 50	72 hours	48 hours	

Post-Operative

- Increased surveillance for thrombotic complications may be warranted whilst the patient is not taking their regular anti-platelet or anti-thrombotic medication
- The goal should be to recommence therapy **as soon as practicable**, once the bleeding risk is agreed to be acceptably low
- The orthopaedic team should advise when anti-platelet or anti-coagulant therapy can be restarted

RESOURCES

Western Health Procedures:	→ Antiplatelet Medications and Direct Oral Anticoagulants in the Perioperative Period
Websites:	→ Clinical Excellence Commission, 2017, Non-vitamin K Antagonist Oral Anticoagulant (NOAC) Guidelines are available at: http://www.cec.health.nsw.gov.au/
References	1. Koenig-Oberhuber V, Filipovic M. New antiplatelet drugs and new oral anticoagulants. Br J Anaesth. 2016;117 Suppl 2:ii74-ii84. 2. Kristensen SD, Knuuti J, Saraste A, Anker S, Botker HE, De Hert S, et al. 2014 ESC/ESA Guidelines on non-cardiac surgery: cardiovascular assessment and management: The Joint Task Force on non-cardiac surgery: cardiovascular assessment and management of the European Society of Cardiology (ESC) and the European Society of Anaesthesiology (ESA). Eur J Anaesthesiol. 2014;31(10):517-73. 3. Dettoni F, Castoldi F , Giai Via A, • Parisi S, Bonasia DE, Rossi R. Influence of timing and oral anticoagulation/antiplatelet therapy on outcomes of patients affected by hip fractures. Eur J Trauma Emerg Surg (2011) 37:511–518. 4. Soo CGKM, Della Torre PK, Yolland TJ, Shatwell MA. Clopidogrel and hip fractures, is it safe? A systematic review and meta-analysis. BMC Musculoskeletal Disorders (2016) 17:136. 5. Tran H, Joseph J, Young L, McRae S, Curnow J, Nandurkar H, Wood P, McLintock C. New oral anticoagulants: a practical guide on prescription, laboratory testing and peri-procedural/bleeding management. Internal Medicine Journal 44 (2014) Jun;44(6):525-36.

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