SCOPE: Western Australia

Inclusion Criteria	Exclusion Criteria

Meets all of the following criteria
• Client referred for cessation of warfarin pre-procedure/surgical intervention.
• Client's medical condition has been assessed as stable, has a clear diagnosis and is at low risk of deterioration.
• Over 13 years, suitable for adult dosing and not under the care of a Paediatrician.
• If pregnant, is either at less than 22 weeks gestation or has obstetric specialist governance of pregnancy care.
	• Co-existing medical condition requiring hospital admission.
	• Conditions that increase the risk of bleeding:
	  • History of familial bleeding disorders
	  • Peptic ulcer disease
	  • Increased risks of falls
	  • Thrombocytopenia
	  • Uncontrolled hypertension
	• Known or suspected hypersensitivity to enoxaparin (unless under governance of Haematology Consultant or thrombosis clinic at a tertiary centre).

ASSESSMENT

- Documentation regarding reason for treatment with anticoagulation and target INR range.
- Depending on the indication for warfarin and the bleeding risk for surgery there may be an indication for no pre-procedure enoxaparin sodium or enoxaparin sodium at a prophylactic dose of 40mg/daily.
- Identification of procedure booked and date of procedure.
- Client's current weight.

PATHOLOGY WORK UP

Verify if any recent pathology has been ordered prior to requesting the below:

- Baseline tests
  - Full coagulation profile (INR/PTT, APTT, fibrinogen).
  - Full blood picture (FBP, to exclude anaemia and thrombocytopenia).
  - Liver function tests (LFT as hepatic dysfunction may result in INR lability).
  - Urea & electrolytes (U&E to assess renal function).
- Calculation of creatinine clearance using Cockcroft-Gault equation.
- For patients on first instance of enoxaparin therapy: Day 5 FBP for platelet count (to detect heparin induced thrombocytopenia).

TREATMENT

Cessation of Warfarin

- If the normal target INR is 3 or more, stop Warfarin 7 days before the procedure.
- If the normal target INR is less than 3, stop Warfarin 5 days before the procedure.

Commencement of Enoxaparin

- Start enoxaparin sodium when the INR reaches the levels as defined by target INR:
  - Where normal target INR is less than 2.5, start when INR<2.0
  - Where normal target INR is 2.5 or higher, start when INR<2.5
- Ensure renal function is known and calculate the creatinine clearance using the Cockcroft-Gault equation prior to starting enoxaparin:
- Enoxaparin sodium dosing:
  - If creatinine clearance below 30mls/min, dosing regimen should be 1mg/kg daily.
  - For high risk clients (eg cardiac valves) 1mg/kg sub cut twice daily.
  - For all other conditions 1.5mg/kg subcut daily up to maximum dose of 150mg.
- Daily recording and documentation of INR via Coagucheck until sub-therapeutic (ie below the normal target INR range).
- There is no need to continue routinely measuring the INR once it has reached the sub-therapeutic range as expected. Start enoxaparin as outlined below when INR is sub-therapeutic.
- Ensure the last dose of enoxaparin is administered 24 hours prior to procedure.

MEDICAL GOVERNANCE

- The client has access to medical governance support for twenty four (24) hours per day, seven (7) days per week.
- Primary medical governance can be by referring medical specialists, credentialed referring GPs or by Silver Chain medical staff. Care delivery is planned and provided in consultation with the client, medical officer/specialist holding medical governance and nursing staff. Where the primary medical governor is unavailable the Silver Chain medical officer can provide the medical governance. In the instance when a client’s condition deteriorates the Silver Chain medical officer or nursing staff will confer with an emergency department medical officer.
- When governance is retained by a Silver Chain medical officer the client will have a medical review within twenty four (24) hours of admission and the medical officer will determine when the scheduled follow up and discharge will occur. A summary of the episode of care is sent to the referrer or the client’s GP at discharge.

REFERENCES

Guidelines for the Use of the NIMC - Explanatory Notes, WA Anticoagulation Medication Chart February 2010

Merriman E. Antiplatelet Drugs, Anticoagulants and Elective Surgery, Australian Prescriber, October 2011

Sir Charles Gardiner Hospital Clinical Practice Guidelines for the Management of Surgical/Pre-Procedure Bridging