# Guideline for reversal of Warfarin with IV Vitamin K in Orthopaedic Trauma patients (v1.4 – Nov 2020)

NHS Scotland Consensus Statement for Management of Anticoagulants and Antiplatelet drugs in Patients with Hip Fracture (2018) advises reversal of Warfarin with IV Vitamin K to allow surgery to be done within 36 hours.

This guideline applies to adult patients on warfarin admitted to NHSL acute hospitals with a confirmed fracture and for operative management. It replaces previous one from Dec 2019 and now **recommends IV vitamin K 5 mg is given on admission** if **patient requires emergency trauma surgery**.

Special Groups

- Patients on warfarin for **mechanical prosthetic heart valve or a VTE in the last 3 months** should be discussed with the duty cardiologist/haematologist to **consider bridging** anticoagulation with treatment dose heparin on correction of INR to <2.
- Patients who are **haemodynamically unstable** or for immediate surgery should be discussed with the duty haematologist for consideration of rapid correction of INR with **BERIPLEX** prothrombin concentrates.

Guideline Actions

On admission

1. **Check INR** AND **withhold warfarin.** Document in casenotes but do not prescribe in Kardex.

2. Confirm hip/significant fracture AND that **fracture is for operative management** (consult senior Orthopaedic surgeon if any doubt)

3. If **INR <1.5**, no reversal required, **proceed to surgery** (see below if surgery delayed)

   If **INR >1.5**, give **intravenous Vitamin K 5 mg**

4. Repeat INR at least 8 hrs after administration of IV Vit K. This can be deferred to 6-7 am the following morning if the 8 hr interval is after midnight (to allow result to be back for trauma meeting).

5. If **INR still >1.5,** 8h post 5mg vit K, give a further smaller dose of **IV Vitamin K 2 mg** and repeat INR in another 8 h. Process can be repeated until INR is <1.5.

6. Prioritise patient on trauma list, making INR and Vit K dose and time clear ("CEPOD" form and notify anaesthetist) and ensure consent/incapacity documentation completed.

7. Do not prescribe LMWH to any patients unless they have stopped their warfarin AND their INR is <2.

8. In event of any **delay to operation once INR is < 2**, prescribe prophylactic LMW heparin (usually enoxaparin 40 mg) for 6pm daily (withhold if anaesthetic likely within next 12 hours to allow administration of spinal anaesthesia).

Post operative care

Anaesthetist and surgeon at surgical sign out should agree and document timing of administration of prophylactic LMW Heparin and when to **restart warfarin, usually 48-72 hours** if haemodynamically stable AND wound dry. Warfarin can be restarted at patient's **preadmission dose** while continuing with **prophylactic dose of LMWH until INR is within range**.

**For patients with high thrombotic risks** (eg mechanical heart valves, VTE, stroke or TIA within last 3 months, recurrent VTEs whilst anticoagulated or with higher target INR >3) and if there is no bleeding, consider starting treatment dose LWMH or IV heparin infusion at 24 to 48 post op until INR is within range. If in doubt, discuss with senior medical staff.

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