

Medication Safety Series: MSS 11

Direct Oral Anticoagulants (DOACs- previously known as NOACs): Apixaban, Dabigatran etexilate, Edoxaban, Rivaroxaban



On Admission:

- Confirm the following information as part of medicines reconciliation and document on the electronic patient record (EPR):
 - ✓ Indication e.g. Atrial Fibrillation, Pulmonary Embolism, treatment of DVT etc
 - ✓ Duration of treatment or date to be discontinued - if not long term.
 - ✓ Current dose- stable or initiation dose?
- Ensure this is prescribed correctly on the inpatient prescription chart. Add a "Caution – risk of bleeding" sticker to the front of the chart – so this stands out in case of a fall.
- Check for interactions, contraindications and review admission blood results - calculate CrCl to determine if dosage is appropriate. (A recent GFR can be used as a guide to whether CrCl would need to be checked). Check weight of patient on admission.
- Endorse comments box with 'Caution-risk of bleeding' and '**Critical medication – do not omit any doses unless on advice of doctor**' for all DOACs
- For rivaroxaban - endorse comments box with 'take with food/meals'.
- Confirm VTE risk assessment has been completed & the VTE box ticked and signed on the prescription chart.
- Create a significant medication alert on the EPR detailing the anticoagulant prescribed.
- As critical medicines, Apixaban and Rivaroxaban are available in one emergency cupboard per locality for out-of-hours access. Please follow local formulary & guidelines when initiating treatment in an emergency, e.g. suspected DVT/PE

Monitoring:

- For complete monitoring requirements always refer to the individual Summary of Product Characteristics for each DOAC.
- Hb, U&Es and LFTs are required annually.
- U+E monitoring should occur more frequently if the patient is aged >75 years, frail, has renal impairment or an intercurrent illness that may affect renal function.

Useful Links:

- [FAQs including counselling, side effects & monitoring](#)
- [Creatinine clearance \(CrCl\) calculator](#)
- [TEWW VTE Risk Assessment](#)

During Admission

- Omission or patient refusal of administration should prompt nursing/pharmacy staff to seek medical advice for **ALL** patients on a DOAC - even if only **ONE** dose is missed.
- Falls and/or possible head injury – send to A&E to check for subdural haemorrhage. See Post Falls Proforma.
- There are reversal agents for apixaban, dabigatran and rivaroxaban
- Report suspected side effects - via Yellow card reporting system

For patients commencing a DOAC during admission:

- Check for interactions with existing medication/conditions (there are no food interactions)
- Caution with patients at increased risk of bleeding (older people, people with low body weight or renal impairment)
- Review recent blood results and calculate **CrCl** as this will determine dosage. For apixaban, weight and age is also taken into account when determining dosage.
- Prescribe on the inpatient prescription chart
- Check the indication, duration of treatment and initiation dose has been documented on the EPR by the prescriber.
- Follow the same steps as on admission for endorsements on the prescription chart and creating an EPR alert.
- Provide initial counselling on the DOAC and document on the EPR.
 - Counselling may include; importance of good compliance, risk of bleeding events and what to do if they occur, common side effects, informing prescriber if any changes are made to medication, avoidance of using over the counter, supplements or herbal medicines without first checking with a healthcare professional and what to do if miss a dose.
- Provide an anticoagulant alert card and advise on appropriate use.

On Discharge (or prolonged leave):

- Check if there has been any significant changes in weight on discharge from admission
- Counselling refresher to be offered to all patients on a DOAC and document on the EPR
- Ensure follow up has been arranged with GP if necessary.

Signs and symptoms of serious bleeding:

- Tar coloured stools, blood in urine, nose bleed, bleeding of gums or from cuts that take a long time to stop
- Bruising or bleeding under the skin with swelling or discomfort
- Headache, dizziness, tiredness, paleness or weakness
- Coughing up blood or vomiting blood or material that looks like coffee grounds
- Loss of consciousness or drowsiness

In the event of a bleeding event which does not stop on its own immediately seek medical attention and do not take any more doses until reviewed

Common Interactions - always check current BNF for full list of interactions with each drug

- Increased bleeding risk**
 - **Antidepressants** (e.g. SSRIs)
 - **Antiplatelet drugs** (e.g. aspirin, clopidogrel)
 - **Systemic steroids**
 - **NSAIDs** (e.g. diclofenac, ibuprofen, mefenamic acid, naproxen)
- HIV medication**
- Strong enzyme inhibitors** (e.g. Ciclosporin, erythromycin, ketoconazole, itraconazole)
- Strong enzyme inducers** (e.g. rifampicin, phenytoin, carbamazepine, phenobarbital)
- St. John's Wort