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CLINICAL GUIDELINES ID TAG	
Title:	Anticoagulation- Primary Care Guidance for reviewing patients on DOACs
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Date Uploaded:	**3/6/2021**
Review Date	March 2023
Clinical Guideline ID	**CG0422[1]**

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Guidance for Reviewing Patients on DOACs at GP Surgery

Monitoring/follow-up to be undertaken by GP:

- Clinical surveillance in line with anticoagulation practice is recommended throughout the treatment period
- Ensure to review patients annually or more frequently based on renal function or other co-morbidities
- Ideally use **Cockcroft Gault GFR** to calculate patient's renal function
- Recommended checks:
    1. Check for thromboembolic and bleeding events
    2. Assess adherence and reinforce education regarding regular dosing schedule
    3. Check patient carries an alert card
    4. Check for any side effects
    5. Enquire about other medicines, including OTC medicines
    6. Assess modifiable risk factors and take every effort to minimise them
    7. Determine when blood sampling is required

Recommended blood monitoring:

- Hb, U&E, LFTs at least **annually** or more frequently according to clinical concern
- Renal function every **6 months** if CrCl 30-60 ml/min, >75 years or fragile OR
- Renal function every **3 months** if CrCl 15-30 ml/min
- More frequent blood monitoring is advised if intercurrent condition/illness that may impact on renal and/or hepatic function (e.g. infections, acute heart failure)
- An unexplained fall in haemoglobin and/or haematocrit may suggest that occult bleeding is occurring and may require further investigation

Patients with chronic kidney disease:

- Apixaban, Edoxaban and Rivaroxaban are approved in Europe for the use in patients with CKD Stage IV, i.e. CrCl 15 – 30 mL/min, with the reduced dose regimen. Dabigatran is contraindicated in patients with severe renal impairment (CrCL <30ml/min).
  Renal impairment increases the risk of anticoagulants accumulating in the body, which can increase bleeding risk. There is very limited evidence on anticoagulant treatment in people with renal impairment and a clinical decision may need to be made on an individual basis in patients with severe renal impairment. It may be appropriate to seek advice from specialist colleagues.

Cockcroft and Gault Formula:

The Cockcroft & Gault equation should be used to calculate renal function

$$\text{Estimated CrCl in ml/min} = \frac{[140 - \text{age (years)}] \times \text{weight (kg)} \times \text{constant}}{\text{Serum creatinine (µmol/L)}}$$

Constant = 1.23 for men; 1.04 for women

Body weight:

- Body weight should be measured before commencement of a DOAC. Review therapy or consider more frequent monitoring if weight <50kg or >120kg, as there is limited evidence for their use at extremes of body weight.

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APIXABAN

APIXABAN FOR AF

The usual dose of apixaban for stroke prevention in AF is **5mg BD**.

Reduce to 2.5mg BD if either:

- 2 of following 3 risk factors present [age ≥80 years, weight ≤60kg, creatinine ≥133umol/L]
- **OR** CrCl <30ml/min

APIXABAN FOR VTE

VTE treatment

The usual dose of apixaban for VTE treatment is **10mg BD for 7 days**, then **5mg BD for at least 3 months**

VTE prevention

The dose for the prevention of recurrent DVT and/or PE in adults following completion of 6 months of treatment with Apixaban 5mg BD or with another anticoagulant: **Apixaban 2.5mg BD**

DRUG INTERACTIONS

- Avoid concomitant use with antifungals – ketoconazole, itraconazole, posaconazole and voriconazole
- Avoid concomitant use with HIV protease inhibitors
- Avoid concomitant use with strong CYP3A4 inducers, e.g. rifampicin, phenytoin, carbamazepine, phenobarbital or St John's Wort
- Caution with dronedarone- may increase plasma levels of apixaban. However, no dose adjustment for apixaban is required when co-administered with agents that are not strong inhibitors of both CYP3A4 and P-gp, such as dronedarone.
- Avoid co-prescribing with antiplatelets (unless under advice of Cardiologist)
- Avoid co-prescribing with NSAIDs
- Avoid herbal/dietary supplements which may increase bleeding risk, e.g. garlic capsules, ginseng, ginkgo biloba, St John's Wort, vitamin E (>400 IU/day)

List not exhaustive - refer to BNF/SPC for full list

Prepared by SHSCT Anticoagulant Service March 2015, Updated March 2017, Last updated March 2021

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DABIGATRAN

DABIGATRAN FOR AF

The usual dose of dabigatran for stroke prevention in AF is **150mg BD**.

Consider reducing to 110mg BD if: 75-80 years and increased bleeding risk, CrCl 30-50 ml/min, gastritis/GORD, other patients at increased risk of bleeding (e.g. HASBLED ≥3, history of GI bleed, etc.)

Always reduce to 110mg BD if ≥80 years or if taking verapamil

If CrCl <30 ml/min – stop and consider switching to alternative anticoagulant

DABIGATRAN FOR VTE

The usual dose of dabigatran for treatment of DVT/PE or prevention of recurrent DVT and PE is **150mg BD**, **following initial treatment with a parenteral anticoagulant for at least 5 days**.

Consider reducing to 110mg BD if: 75-80 years and increased bleeding risk, CrCl 30-50 ml/min, gastritis/GORD, other patients at increased risk of bleeding (e.g. HASBLED ≥3, history of GI bleed, etc.)

Always reduce to 110mg BD if ≥80 years or if taking verapamil

If CrCl <30 ml/min – stop and consider switching to alternative anticoagulant

DRUG INTERACTIONS

- Avoid concomitant use with carbamazepine, ciclosporin, dronedarone, itraconazole , phenytoin, rifampicin, St John's Wort, tacrolimus,
- Avoid co-prescribing with antiplatelets (unless under advice of Cardiologist)
- Avoid co-prescribing with NSAIDs
- Dosing should be reduced to 110 mg twice daily in patients who receive concomitant verapamil. They should be taken at the same time.
- Avoid herbal/dietary supplements which may increase bleeding risk, e.g. garlic capsules, ginseng, ginkgo biloba, St John's Wort, vitamin E (>400 IU/day)

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EDOXABAN

EDOXABAN FOR AF

The usual dose of edoxaban for stroke prevention in AF is **60mg OD**.

Reduce to 30mg OD if either:

- Moderate or severe renal impairment (CrCl <50ml/min)
- Low body weight ≤60kg
- Concomitant use of ciclosporin, dronedarone, erythromycin or ketoconazole

EDOXABAN FOR VTE

The usual dose of edoxaban for treatment of DVT/PE and prevention of recurrent DVT/PE is **60mg OD** **following initial treatment with a parenteral anticoagulant for at least 5 days.**

Reduce to 30mg OD if either:

- Moderate or severe renal impairment (CrCl <50ml/min)
- Low body weight ≤60kg
- Concomitant use of ciclosporin, dronedarone, erythromycin or ketoconazole

DRUG INTERACTIONS

- Avoid concomitant use with HIV protease inhibitors
- Avoid concomitant use with P-gp inducers, e.g. rifampicin, phenytoin, carbamazepine, Phenobarbital or St John's Wort
- Avoid co-prescribing with antiplatelets (unless under advice of Cardiologist)
- Avoid co-prescribing with NSAIDs
- Avoid herbal/dietary supplements which may increase bleeding risk, e.g. garlic capsules, ginseng, ginkgo biloba, St John's Wort, vitamin E (>400 IU/day)

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RIVAROXABAN

RIVAROXABAN FOR AF

The usual dose of rivaroxaban for stroke prevention in AF is 20mg OD.

If CrCl <50 ml/min – reduce to 15mg OD in AF only

RIVAROXABAN FOR VTE TREATMENT + PREVENTION

The recommended dose for the initial treatment of acute DVT or PE is 15 mg twice daily for the first three weeks followed by 20 mg once daily for the continued treatment and prevention of recurrent DVT and PE, as indicated in the table below.

		Dosing schedule	Maximum dose
Treatment and prevention of recurrent DVT and PE	Day 1 – 21	**15mg twice daily**	30mg
	Day 22 and onwards	**20mg once daily**	20mg
Prevention of recurrent DVT and PE	Following completion of at least 6 months therapy for DVT or PE	**10mg once daily or** **20mg once daily**	10mg or 20mg

* If CrCl <50 ml/min – after the initial three weeks, a reduction of the dose from 20mg once daily to 15mg once daily should be considered if the patient's assessed risk for bleeding outweighs the risk for recurrent DVT and PE

*The recommendation for the use of 15 mg is based on PK modelling and has not been studied in this clinical setting.

DRUG INTERACTIONS

- Avoid concomitant use with antifungals – ketoconazole, itraconazole, posaconazole and voriconazole
- Avoid concomitant use with HIV protease inhibitors
- Avoid concomitant use with dronedarone
- Avoid concomitant use with strong CYP3A4 inducers, e.g. rifampicin, phenytoin, carbamazepine, Phenobarbital or St John's Wort
- Avoid co-prescribing with antiplatelets (unless under advice of Cardiologist)
- Avoid co-prescribing with NSAIDs
- Avoid herbal/dietary supplements which may increase bleeding risk, e.g. garlic capsules, ginseng, ginkgo biloba, St John's Wort, vitamin E (>400 IU/day)

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