TAYSIDE PRESCRIBER

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Appropriate and Safe Conversion of NHS Tayside Patients in the Community from warfarin to a DOAC during the Covid-19 Pandemic

N.B. this document is based on the RPS / UKCPA guidance[1] and the local document from Greater Glasgow and Clyde Anticoagulation Service by kind permission of Dr Catherine Bagot. The individual SPCs for each DOAC have also been used to verify the information throughout the document [2,3,4]

Any patient in the community who is taking warfarin and has an unstable INR or need for prolonged self isolation during the Covid-19 pandemic, can be considered for switching to a direct oral anticoagulant (DOAC) to avoid the need for ongoing monitoring in hospital and community-based clinics. Large scale switching of stable patients is not currently recommended due to potentially significant effects on the DOAC supply chain.

Suitable patients for switching from warfarin to a DOAC must meet both of the following criteria:

- The patient has an indication for anticoagulation with a DOAC
- The patient has no contraindications to receiving a DOAC

These criteria also apply to any patient who requires initiation of anticoagulation to reduce the need for ongoing monitoring.

Main Indications for which a DOAC can be used:

- Non-valvular atrial fibrillation
- Pulmonary Embolism (PE)
- Deep vein thrombosis (DVT [upper or lower limb])

Contraindications to Receiving a DOAC:

- Antiphospholipid syndrome
- Mechanical Heart valves or moderate- severe Mitral Stenosis
- INR target range greater than 2 to 3
- Pregnant or breastfeeding women
- Creatinine Clearance < 15ml/min (Use CrCl calculator not eGFR), Calculator can be found at: https://www.mdcalc.com/creatinine-clearance-cockcroft-gault-equation
- Liver disease associated with cirrhosis and/or coagulopathy
- Clear indication for easily reversible anticoagulant e.g. recent significant bleed
- Patients with active malignancy/ chemotherapy (unless advised by a specialist)
- Concurrent use of the following medications:
    - Triazole and imidazole antifungals (except fluconazole)*
    - Protease inhibitors**
    - Strong CYP3A4 inducers e.g. rifampicin, phenytoin, carbamazepine, phenobarbital and St John'sWort

*reduce dose with edoxaban (see below)
**not studied in edoxaban

For patients in whom DOACs are not suitable - is low molecular weight heparin (LMWH) an option?

- Whenever possible, patients with mechanical heart valves should remain on warfarin, however if monitoring is impossible then a brief period of LMWH could be considered if the patient can be taught to self-inject or a family member that lives with them can administer the injection.
- For other patients in whom DOACs are not an option, consider a LMWH if the patient can be taught to self-inject or a family member that lives with them can administer the injection.

In view of recognised supply issues with LMWH, these should only be used if there are no other appropriate options.

Guidance for Switching from warfarin and Dosing Guidance for DOACs

DOAC	Edoxaban	Apixaban	Rivaroxaban
How to change from warfarin	**Pragmatic approach to switching from warfarin[5]** **STOP WARFARIN** • If INR < 2: Commence DOAC that day • If INR between 2 and 2.5: Commence DOAC the next day • If INR between 2.5 and 3: Initiate DOAC between 24-48 hours		
Dosing in Non-valvular AF	**60mg once daily** **Reduced to 30mg if**: Body weight <61kg, CrCl 15-50mL/min, or concomitant use of ciclosporin, dronedarone, erythromycin or ketoconazole. **1st line for this indication**	**5mg twice daily** **Reduced to 2.5mg twice daily if**: CrCl 15-29mL/min or 2 or more of the following apply- age ≥ 80 years old, body weight <61kg, creatinine ≥ 133 µmol/L **2nd line for this indication**	**20mg once daily** **Reduced to 15mg once daily if:** CrCl 15–49 mL/ minute **Take with or after food** **3rd line for this indication**
Dosing in DVT/ PE	**As for Non-valvular AF** **3rd line for this indication**	**5mg twice daily** **Reduced to 2.5mg twice daily** after 6 months if using to prevent recurrence. Use with caution if CrCl 15–29 mL/min. **2nd line for this indication**	**20mg once daily** **Reduced to 15mg once daily if:** CrCl 15–49 mL/ min and the risk of bleeding outweighs the risk of recurrent deep-vein thrombosis or pulmonary embolism. **Reduced to 10mg daily** after 6 months if using to prevent recurrence (consider 20 mg once daily in those at high risk of recurrence). **Take with or after food** **1st line for this indication**
Renal function considerations	Avoid if CrCl <15mL/min	Avoid if CrCl <15mL/min	Avoid if CrCl <15mL/min
Duration of therapy	Life-long for Non-valvular AF unless risk: benefit changes. For provoked PE/DVT- 3 months if provoking factors have been addressed. For unprovoked PE/DVT- At least 6 months treatment dose, followed by prophylactic dosing as indicated		

Monitoring and Counselling

- Provide written instructions and involve family members / carers where possible to minimise the risk of patients taking both warfarin and the DOAC concurrently. Particular care should be taken where patients are using medication compliance aids to minimise the risk of incorrect dosing
- Provide an up-to-date Anticoagulant Alert card and appropriate booklet if available
- Where the switch to a DOAC is undertaken outside the GP practice, provide accurate information relating to indication, baseline tests and monitoring requirements to allow primary care to safely take over prescribing responsibility.
- Inform community nursing teams if they have been monitoring INR or administering warfarin
- At least annual review of renal profile if CrCl > 60mL/min with FBC and LFTs

  6 monthly review if CrCl 30-60mL/min and/or aged >75 years and/or frail

  3 monthly review of renal profile if CrCl 15-30mL/min
- Check for side effects/bleeding issues and patient adherence to therapy at each routine appointment.

If you have any questions regarding whether a patient can safely receive a DOAC, instead of warfarin (eg indication not covered above or co-existent conditions causing concern), please contact either Dr Ron Kerr (ronkerr@nhs.net) or Dr Dawn Brass (dawnbrass@nhs.net).

1. Lead Author: Williams, H. *Guidance for the safe switching of warfarin to direct oral anticoagulants (DOACs) for patients with non-valvular AF and venous thromboembolism (DVT / PE) during the coronavirus pandemic.* : The Royal Pharmaceutical Society; 2020. RPS/UKCPA guidance on switching warfarin to DOAC during COVID-19 (accessed March 2020).
2. Bayer plc. *Xarelto 20mg film-coated tablets. https://www.medicines.org.uk/emc/product/2793/smpc (accessed March 2020).*
3. Bristol-Myers Squibb-Pfizer, *Eliquis 5 mg film-coated tablets. https://www.medicines.org.uk/emc/product/2878/smpc (accessed March 2020).*
4. Daiichi Sankyo UK Limited, *Lixiana 60mg Film-Coated Tablets. https://www.medicines.org.uk/emc/product/6905/smpc (accessed March 2020).*
5. Steffel J, Verhamme P, Potpara TS, Albaladejo P, Antz M, Desteghe L, et al. The 2018 European Heart Rhythm Association Practical Guide on the use of non-vitamin K antagonist oral anticoagulants in patients with atrial fibrillation. *European Heart Journal* 2018; 39(16): .European Heart Rhythm Association Practical guide on the use of DOACs in AF 2018 (accessed March 2020).

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