Summary guidance for the management of patients on Warfarin during Covid -19

For patients stable on warfarin, able to access regular INR monitoring and are otherwise well, first line advice would be to continue on warfarin at this time. This is supported by the Foundation Trust phlebotomy & anti-coagulation services, and the community phlebotomy services for housebound patients. Changing patients on high risk drugs at time of crisis could increase risk for serious adverse outcomes so careful consideration is needed before any changes are made.

All new patients starting on anticoagulation should preferably be commenced on a DOAC if possible (see below for more information).
If a switch to a DOAC is being considered across a patient cohort, then a phased approach over the 8 week cycle is advised to protect the supply chain for all patients & to ensure the following are in place prior to switching:

1. Check clinical system for recent U&Es, LFTs and FBC (within last 3 months[1]) & weight[3]
2. INR taken within the previous 12 weeks can be used, however, due to the possible changes in lifestyle during COVID19, it is recommended that an up to date INR should be taken
3. At next INR visit– check INR, record weight, take bloods if not already available or are unstable
4. Calculate creatinine clearance (CrCl)[3]
5. Advise patient when to stop warfarin in relation to starting DOAC. Ensure counselling checklist of covered[1]
6. Prescribe DOAC[8] at appropriate dose (INR should be < 2.5 when DOAC is started & check relevant SPC[1,2]. Only issue 28 days' supply
7. Discuss with community pharmacy team when prescription will be ready. Ensure delivery of DOAC is arranged where necessary. Agree a follow up date for each patient to ensure warfarin is stopped and DOAC started
8. 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.
9. Provide an up-to-date Anticoagulant Alert card[4]
10. 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.
11. Inform community nursing teams if they have been monitoring INR or administering warfarin

Priority patient phased approach - switching from warfarin to DOAC

Consider prioritising patients (i.e. switching first) with poor control of their INR, as this cohort will require the most frequent INR checks.
Agree with the practice which cohort of patients they wish to prioritise. We recommend order of prioritisation

1. **Housebound patients on warfarin. Check anticoagulation still clinically indicated. Chose appropriate DOAC. Transfer list over two week.**
2. **Shielding patients on warfarin. Transfer appropriate patients over two week period.**
3. **Patients with low time in therapeutic range (provided by Foundation Trust). Transfer appropriate patients over two week period.**

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4. **Remaining patients - check indication for warfarin and if it is still appropriate (e.g. for patients with prior DVT or PE and where risk of recurrence is now low, consider stopping warfarin). Transfer appropriate patients over two week period.**

5. **For other patients, consider switching to a DOAC - however, DO NOT switch if the patient:**
   - has prosthetic mechanical valve; consult cardiologist
   - has moderate to severe mitral stenosis
   - has antiphospholipid antibody syndrome (APLS)
   - is pregnant, breastfeeding or planning pregnancy
   - requires a higher INR than the standard INR range of 2.0–3.0
   - has severe renal impairment (creatinine clearance < 15mL/min)
   - takes interacting medicines such as certain HIV antiretrovirals or hepatitis antivirals (check HIV drug interactions)

Transfer appropriate patients over two week period.

6) If the patient is in a category below, seek specialist anti-coagulation advice prior to switching to a DOAC:

- has active malignancy and/or chemotherapy
- takes phenytoin, carbamazepine, phenobarbitone or rifampicin
- has venous thrombosis at unusual sites
- is on triple therapy i.e. dual antiplatelet plus warfarin
- Patients weighing <50kg or >120kg

Transfer appropriate patients over two week period.

Where warfarin remains necessary, a number of options exist to help minimise attendances for INR monitoring (appendix 1)

<u>Advice on extending INR testing intervals</u>

As many stable patients as possible should continue to have their INR monitored at no less frequently than every 12 weeks, as this is the international guidance. Self-monitoring and community INR monitoring are options to reduce attendances, however:

- Where patients normally have their INR monitored more frequently than 12 weekly, consider moving to 12 weekly where safe to do so
- Where necessitated to do so by COVID-19 self-isolation following symptoms, consider extending INR monitoring interval from every 12 to every 14 weeks[5]

References

1) Guidance on switching from Warfarin to DOAC

- https://www.rpharms.com/Portals/0/RPS%20document%20library/Open%20access/Coronavirus/FINAL%20Guidance%20on%20safe%20switching%20of%20warfarin%20to%20DOAC%20COVID-19%20Mar%202020.pdf?ver=2020-03-26-180945-627

2) Summary Product Characteristics for DOAC

Apixaban (Eliquis®) https://www.medicines.org.uk/emc/product/2878/smpc
Dabigatran (Pradaxa®) https://www.medicines.org.uk/emc/product/4703/smpc
Edoxaban (Lixiana®) https://www.medicines.org.uk/emc/product/6905/smpc
Rivaroxaban (Xarelto®) https://www.medicines.org.uk/emc/product/2793/smpc

3) Calculating Creatinine Clearance

Use MD+CALC Cockcroft-Gault equation* which recognises the need to adjust for bodyweight in obese individuals and will calculate a modified estimate of CrCl with a range that is based on ideal body weight (IBW) to adjusted body weight (ABW). This can be accessed using the link:

- https://www.mdcalc.com/creatinine-clearance-cockcroft-gault-equation

***EMIS built in CrCl calculator will calculate renal function using actual bodyweight for patients already on DOACs – but may not be accurate for initiating a DOAC**
Recorded weight on EMIS–check with the patient if there hasn't been any significant changes

DOACs should not be used in patients with a BMI > 40 kg/m2 or a weight > 120kg due to the risk of under-dosing (GMMMG guidance below). In these patients warfarin may be a more suitable option

http://gmmmg.nhs.uk/docs/guidance/GMMMG-Prescriber-Support-Tool-DOACs-in-Adults-v3-4-PaGDSG-approved.pdf#search=%22doac%22

4) Anticoagulant Alert card

- https://www.ahsn-nenc.org.uk/wp-content/uploads/2019/04/NOAC-Alert-Card-V3-order-specification.pdf

5) Specialist pharmacy service management of patients currently on warfarin during Covid-19

- https://www.sps.nhs.uk/articles/management-of-patients-currently-on-warfarin-during-covid-19/

6) NHS Clinical guide for the management of anticoagulant services during coronavirus pandemic

- https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/03/C0077-Specialty-guide_Anticoagulant-services-and-coronavirus-v1-31-March.pdf

7) Information and support for patients

- Anticoagulation UK: https://www.anticoagulationuk.org/
- Atrial Fibrillation Association: https://www.heartrhythmalliance.org/afa/uk/
- British Heart Foundation: https://www.bhf.org.uk/

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Guidance on DOAC Prescribing for Non-Valvular AF and DVT/PE

DOAC	Apixaban	Edoxaban	Rivaroxaban	Dabigatran
How to change from warfarin	**Stop warfarin. Start DOAC when INR ≤2.5** (from EHRA guidance: https://academic.oup.com/eurheartj/article/39/16/1330/4942493?guestAccessKey=e7e62356-8aa6-472a-aeb1-eb5b58315d49) EHRA guidance gives pragmatic guidance on when to start DOACs after stopping warfarin: • If INR < 2: Commence DOAC that day • If INR between 2 and 2.5: Commence DOAC the next day (ideally) or the same day • If INR between 2.5 and 3: Withhold warfarin for 24-48 hours and then initiate DOAC			
Baseline checks	Renal function (CrCl)-serum creatinine (Cr) and bodyweight, full blood count (FBC), liver function tests (LFTs). Use results from last 3 months if stable. **If for AF: CHA2DS2VASC and HASBLED scores.**			
Dosing in Nonvalvular AF (lifelong unless risk:benefit of anticoagulation therapy changes	Prescribe Apixaban 5mg twice daily Reduce dose to 2.5mg twice daily if at least two of the following characteristics: age ≥ 80 years, body weight ≤ 60 kg, or serum creatinine ≥ 133 micromol/l or if exclusive criteria of CrCl 15 - 29 ml/min.	Prescribe Edoxaban 60mg once Daily Reduce dose to 30mg once daily if: Body weight <61kg, or CrCl< 50ml/min, or co-prescribed with ciclosporin, dronedarone, erythromycin or ketoconazole	Prescribe Rivaroxaban 20mg once daily Reduce dose to 15mg once daily if CrCl< 50mL/min in NVAF patients only.	Prescribe Dabigatran 150mg twice daily if aged <75 years, CrCl> 50mL/min, low risk of bleeding (weight <50kg with close clinical surveillance) Reduce dose to 110mg twice daily if aged > 80 years or prescribed verapamil. Consider 110mg twice daily based on individual assessment of thrombotic risk and the risk of bleeding in patients aged between 75 and 80 years or with CrCl <50mL/min or with increased risk of bleeding (including gastritis, oesophagitis, gastro-oesophageal reflux).

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Dosing in patients with DVT / PE (loading doses are not required if patient has been stabilised on warfarin)	Dose is 5mg twice daily (use with caution if CrCl <30ml/min). Check intended duration of therapy. For long term prevention of recurrence 2.5mg twice daily (after 6 months' treatment dose).	Dosing as above. Check intended duration of therapy.	Dose is 20mg daily (consider 15mg dose if CrCl<50ml/min and bleeding risk outweighs VTE risk). Check intended duration of therapy. For long term prevention of recurrence 10mg daily could be considered.	Dosing as above. Check intended duration of therapy.
Duration of therapy for DVT/PE	For a provoked DVT/PE: 3 months treatment if provoking factors have been addressed. For unprovoked DVT/PE or recurrent DVT/PE: At least 6 months treatment dose followed by prophylaxis dosing as indicated/advised.			
Contraindications	CrCl <15ml/min	CrCl <15ml/min	CrCl <15ml/min	CrCl <30ml/min
Cautions See also individual SPCSs		CrCl >95ml/min	CrCl <30ml/min. Take with or after food (15mg and 20mg doses).	Do not use in a standard medication compliance aids (MCA)
Interactions Check BNF: www.bnf.org SPC: www.medicines.org.uk	Ketoconazole, itraconazole, voriconazole, posaconazole, ritonavir - not recommended (See SPC for full details) Rifampicin, phenytoin, carbamazepine, phenobarbital, St. John's Wort – use with caution. Do not use apixaban with patients on strong enzyme inducers for acute VTE treatment	Rifampicin, phenytoin, carbamazepine, phenobarbital or St. John's Wort – use with caution Ciclosporin, dronedarone, erythromycin, ketoconazole – reduce dose as above. (See BNF and SPC for edoxaban for further information)	Ketoconazole, itraconazole, voriconazole, posaconazole, ritonavir, dronedarone – not recommended (See SPC for full details) Rifampicin, phenytoin, carbamazepine, phenobarbital, St. John's Wort – Should be avoided.	Ketoconazole, ciclosporin, itraconazole, tacrolimus, dronedarone - contraindicated (See SPC for full details) Rifampicin, St John's Wort, carbamazepine, phenytoin – should be avoided. Amiodarone, quinidine, ticagrelor, posaconazole – use with caution. Verapamil (use reduced dose). Antidepressants: SSRIs and SNRIs - increased bleeding risk

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Appendix 1

Blood Monitoring Services Stockport

Reddish Clinic

Address: North Reddish Clinic
Longford Rd West
SK5 6ET
Opening times: 09.30-13.15 daily
Contact details: Anticoagulation office 0161 419 5624 (Please leave message on answerphone)
Email: anticoag@stockport.nhs.uk

Drive Through Phlebotomy Service Stepping Hill (Point of contact testing)

Email Referral: james.jobling@nhs.net **(Only to be used by primary care clinicians)**

Details for GP-referral to the community phlebotomy service.
The service runs from 9-5pm Monday –Friday
GPs to email snt-tr.stockportdn@nhs.net with the patient's name, NHS number, DOB, contact number, the bloods they require and when they would like the bloods doing (please give 48 hours' notice). When testing is required – indicate what is required - INR & bloods, If INR testing to be stopped, PLEASE include your contact details (email & telephone)

- If at all possible it would be helpful if patients could bring a blood form but the service can manage without.
- The service will call patients, explain the system, where to go and book them in for an appointment slot.
- Patients are advised to wait in their car to maintain social distancing
- A HCA will go to the car to perform a point of care test if appropriate but if the patient requires venepuncture (INR >5) or bloods they will be escorted into the clinic rooms when there are no other patients present and they will have their test and leave before another patient is called through.
- Bloods will then be taken to Stepping Hill pathology lab.

Whilst booking appointment patients can be reassured that measures are put in place to minimise any risks related to COVID-19.
Please note this clinic will only see patients over the age of 18 years