

# Direct Oral Anticoagulant (DOAC) Initiation and Monitoring Guidance Template

The purpose of this template is to guide healthcare professionals in primary and secondary care to safeguard DOAC patients at initiation (for NVAF) and when monitoring DOAC therapy (for all indications). The aim is to ensure a consistent approach to this across SEL.

The guidance was developed Pan-London by Haematology Specialists and for South East London by the Cardiovascular sub-group of the SEL Integrated Medicines Optimisation Committee.

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## Direct Oral Anticoagulant (DOAC) Initiation Guidance for Non- Valvular Atrial Fibrillation (AF) & Guidance for Healthcare Professionals (HCPs) Monitoring DOACs Prescribed in all Indications

This template guidance relates to **AF patients ONLY at initiation**: Please refer any other indications for anticoagulation initiation to specialist anticoagulation services. Monitoring guidance on page 2 applies to all indications for DOAC therapy.

### 1 **Which Patients?** Assess need and offer anticoagulation for:

- Non-Valvular AF/Atrial Flutter
- [CHA2DS2-VASc](#) ≥2 (consider ≥1 for men)
- A cardioversion/ablation procedure when advised by a cardiology specialist (*started regardless of CHA2DS2-VASc score. If the score is 0, patients do not require long term anticoagulation following the procedure*)

### 2 **Contraindications? Do not treat:** refer patient to specialist services when

- Known intolerance to anticoagulation/previous serious bleed (consider a lesion or condition that is a significant risk for major bleeding e.g. current or recent gastrointestinal ulceration, known or suspected oesophageal varices)
- Hepatic disease associated with coagulopathy
- Mechanical heart valve
- Transcatheter aortic valve implantation within last 3/12
- Mitral valve replacement or repair within last 3/12
- Known moderate to severe mitral stenosis (valvular AF)
- Active or underlying cancer
- Pregnant/breastfeeding or planning a pregnancy
- Triple positive antiphospholipid syndrome (APLS)

### 3 **Assess for initiation of DOAC**

Parameter	Action	When to refer
Actual Weight	Measured within the last year	<50kg or >120kg
Creatinine Clearance ( <a href="#">CrCl</a> )	Refer to <a href="#">Calculating Renal Function</a> DO NOT USE eGFR or /ideal body weight for CrCl Review medications that affect renal function if CrCl reduced: See <a href="#">Guidelines for Medicines Optimisation in Patients with Acute Kidney Injury</a>	When CrCl <30ml/min (If CrCl <15ml/min requires a warfarin referral) Dialysis patients If CrCl >95ml/min (edoxaban is cautioned- use alternative DOAC)
Review blood results within the last month	Check U&Es: serum creatinine (Cr) FBC: haemoglobin (Hb), platelets LFTs: AST/ALT, Bilirubin Baseline clotting screen	Full blood count (FBC): Hb low with no identifiable cause, Platelets <100 Liver function tests (LFTs) >2 x ULN, Bilirubin >1.5 ULN Abnormal clotting screen
Bleeding risk <a href="#">HASBLED</a> score	Modify risk factors to reduce bleeding risk	Gastrointestinal/genitourinary bleed within 3/12 Intracranial haemorrhage within last 6/12 Severe menorrhagia Known bleeding disorders Known liver cirrhosis
Alcohol consumption	Aim < 8 units per week	Known liver cirrhosis
Blood Pressure (BP) mmHg	Address uncontrolled hypertension- systolic BP >160mmHg increases bleed risk	
Concurrent medications	Antiplatelets: review course length and indication NSAIDs: bleeding risk Check for interactions -Refer to SPCs <a href="#">BNF</a> , <a href="#">HIV Drug Interaction Checker</a> Consider ability of patient to swallow oral medications- crushable/liquid options for AC	Dual Antiplatelet Therapy (DAPT) Antiplatelet co- prescribing should be avoided ( <i>unless advised by a specialist</i> ) Contraindications Interactions Ask pharmacist for advice

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**Choose DOAC** (consider patient preference and lifestyle- *adapt dosing as below*): see *appendix 1* counselling

**Preferred options in SEL**

SPC hyperlinks:	<a href="#">Edoxaban</a>	<a href="#">Rivaroxaban</a>	<a href="#">Apixaban</a>	<a href="#">Dabigatran</a>
Standard dose	60mg OD	20mg OD (with food)	5mg BD	150mg BD
Reduced dose	30mg OD	15mg OD (with food)	2.5mg BD	110mg BD
Criteria for reduced dose	≥ 1 of <ul style="list-style-type: none"> <li>weight ≤ 60kg</li> <li>CrCl 15-50ml/min</li> <li>On ciclosporin, dronedarone, erythromycin, ketoconazole</li> </ul>	CrCl 15-49ml/min	≥ 2 of; <ul style="list-style-type: none"> <li>Age ≥ 80yrs</li> <li>weight ≤ 60kg</li> <li>Cr ≥ 133µmol/L</li> </ul> <b>OR</b> CrCl 15-29ml/min	<ul style="list-style-type: none"> <li>Age ≥ 80 yrs</li> <li>On verapamil</li> <li>Consider for               <ul style="list-style-type: none"> <li>Reflux/gastritis</li> <li>Age 75-80 yrs</li> <li>CrCl 30-50ml/min</li> <li>"Bleed risk"</li> </ul> </li> </ul>
Contra-indicated	CrCl <15ml/min (caution CrCl >95ml/min)	CrCl <15ml/min	CrCl <15ml/min	CrCl <30ml/min
Compliance aid?	Compatible	Compatible	Compatible	<b>Not compatible</b>

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**Monitoring:** For patients who DNA for monitoring, refer to practice repeat prescribing protocol

First Review (ideally after 1 month of therapy)	Then MINIMUM YEARLY review (more frequent renal, liver and haemoglobin monitoring if CrCl <60ml/min, age over 75 years and/or frail- see <i>table 6</i> below)
<ul style="list-style-type: none"> <li><b>Check for side effects</b> (<i>refer to SPC for each DOAC- table 4</i>) – seek advice and guidance from haematology clinic if present/a concern</li> <li><b>Check for bruising/bleeding</b> – refer for further investigation according to local pathways as indicated (Link: <a href="#">FAQs document</a>)</li> <li><b>U&amp;Es and FBC</b>- as specified by initiating clinic/secondary care and/or if indicated by a change to clinical state of patient: <b>Check CrCl</b> (and review DOAC dosing- see <i>table 4</i>)</li> <li><b>Check medication adherence</b>- refer to community pharmacist for NMS (New Medicines Service) and further support (<i>refer to DOAC counselling checklist- appendix 1</i>)</li> <li><b>Schedule repeat prescriptions and reviews</b></li> </ul>	<ul style="list-style-type: none"> <li><b>Age</b> – check if DOAC dosage adjustment is required (<i>see table 4</i>)</li> <li><b>Weight</b> - check if DOAC dosage adjustment is required (<i>see table 4</i>)</li> <li><b>FBC</b> - investigate any Hb drop without an identifiable cause and if platelets &lt;100</li> <li><b>LFTs</b> – seek advice and guidance from haematology clinic if Bilirubin &gt;1.5 ULN, AST/ALT &gt;2 x ULN</li> <li><b>U&amp;Es and CrCl</b> (<i>as per table below</i>)- check if DOAC dosage adjustment is required</li> <li><b>Interacting/new medications</b>- check if may effect DOAC dosing and set a review/course length date (seek advice from pharmacist as indicated)</li> </ul>

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**Renal function monitoring frequency:** (see also guidance [Calculating Renal Function](#))

Creatinine Clearance (CrCl) range (ml/min) and other factors to consider	How often to check renal function?
<15	<b>All DOACs contraindicated</b> , refer to specialist (to consider warfarin)
15 to 30	3 monthly, consider referral to specialist (dabigatran contraindicated)
30 to 60	6 monthly
All patients who are aged >75 years and/or frail±	6 monthly
>60	12 monthly

±EHRA/ESC 2018 recommends 6 monthly renal, liver function (LFT) and haemoglobin (Hb) monitoring for elderly and frail patients

# Appendix 1: DOAC in AF Counselling Checklist for healthcare professionals (HCP)

Apixaban (Eliquis®), Dabigatran (Pradaxa®), Edoxaban (Lixiana®), Rivaroxaban (Xarelto®)

DOAC Agent Counselling: .....

Counselling points (tailor specifics to your patient and record any queries or concerns in medical notes)	HCP Sign:
Explanation of an anticoagulant (increases clotting time and reduces risk of clot formation) and explanation of atrial fibrillation (including stroke risk reduction)	
<b>Differences between DOAC and warfarin</b> (if applicable for patients converting from warfarin to DOAC therapy <u>or</u> offering choice of anticoagulation agent) <ul style="list-style-type: none"> <li>• No routine INR monitoring</li> <li>• Fixed dosing</li> <li>• No dietary restrictions and alcohol intake permitted (within national guidelines)</li> <li>• Fewer drug interactions</li> </ul>	
Name of drug: generic & brand name	
Explanation of dose: strength & frequency	
Duration of therapy: lifelong (unless risk:benefit of anticoagulation changes)	
To take with food (dabigatran and rivaroxaban). Not required for apixaban or edoxaban	
<b>Missed doses:</b> Message is to “take the dose as soon as you remember and then at the same time each day”. For further information: <ul style="list-style-type: none"> <li>• <b>Apixaban and dabigatran</b> can be taken within 6 hours of missed dose, otherwise omit the missed dose</li> <li>• <b>Edoxaban and rivaroxaban</b> can be taken within 12 hours of missed dose, otherwise omit the missed dose</li> </ul>	
Extra doses taken: obtain advice immediately from pharmacist/GP/NHS Direct (111)	
Importance of adherence: short half-life and associated risk of stroke and/or thrombosis if non-compliant	
<b>Common and serious side-effects and who/when to refer:</b> symptoms of bleeding/unexplained bruising. Avoidance of contact sports <ul style="list-style-type: none"> <li>• Single/self-terminating bleeding episode – routine appointment with GP/pharmacist</li> <li>• Prolonged/recurrent/severe bleeding/head injury – A&amp;E</li> </ul> Major bleeds managed/reversed by supportive measures and Prothrombin Complex Concentrate (PCC). Antidotes: <i>Idarucizumab for dabigatran (NICE TA)</i>	
Drug interactions and concomitant medication: avoid NSAID’s. Always check with pharmacist regarding OTC/herbal/complimentary medicines	
Inform all healthcare professionals of DOAC therapy: GP, nurse, dentist, pharmacist i.e. prior to surgery	
Pregnancy and breastfeeding: potential risk to foetus – obtain medical advice as soon as possible if pregnant/considering pregnancy. Avoid in breastfeeding	
Storage: dabigatran <u>must</u> be kept in original packaging – moisture sensitive. All other DOAC’s suitable for medication compliance aids if required	
<b>Follow-up appointments, blood tests, and repeat prescriptions:</b> where and when Record here: .....	
<b>Issue relevant patient information AF booklet/leaflet and anticoagulant patient alert card</b> (For AC alert card supplies- email: <a href="mailto:pcse.supplies-leeds@nhs.net">pcse.supplies-leeds@nhs.net</a> )	
Give patient opportunity to ask questions and encourage follow up with community pharmacist (NMS – New Medicine Service)	