Flowchart for Prescribing New Oral Anticoagulants (NOAC) Apixaban, Rivaroxaban and Dabigatran

Calculate and record creatinine clearance (CrCl)
(use Cockroft - Gault equation)
Record full blood count and liver function

Take a detailed history
Check all laboratory considerations and exclusion criteria

Assess bleeding risk

Consider concomitant medicines

If the patient is on warfarin and
if all other patient factors warrant the changeover to a NOAC then stop warfarin and see guideline instructions for converting patient from warfarin to NOAC

Laboratory considerations

Renal function

- rivaroxaban is contraindicated if:
  CrCl < 30mL /min
- apixaban is contraindicated if:
  CrCl < 25 mL/min
- dabigatran is contraindicated in SA Health, for initiation of therapy if:
  CrCl < 50 mL/min (see dabigatran below)

Liver disease

Contraindicated if alanine transaminase (ALT) > 2 x upper limit of normal,
or for apixaban Child-Pugh C (if B use with caution)
or rivaroxaban and dabigatran Child-Pugh B and C.

Full Blood Count

Anaemia Hb ≤ 100 g/L

Exclusion criteria

- < 18 years
- known hypersensitivity to NOAC
- pregnant or breastfeeding
- active significant bleeding or disorder of haemostasis (von Willebrand's or coagulation deficiency)
- prosthetic heart valve or severe valvular disease
- recent stroke – relative contraindication *(seek specialist advice)*
- thrombus and recent stent *(seek cardiologist advice)*
- active cancer – relative risk *(seek specialist advice)*

Assess bleeding risk (seek specialist advice if 'yes' to any of the following):

- history of significant bleeding
- surgery ≤ l month ago
- gastro-intestinal (GI) bleed ≤ 12 months ago
- GI ulcer ≤ 30 days ago
- fibrinolytic treatment ≤ 24 hours ago
- on any anticoagulation agent
- on dual antiplatelet therapy
- platelet count < 100 x 10^9 /L

This is not an exhaustive list – refer to guideline. The European Heart Rhythm Association provides a useful decision making chart.

Concomitant medicines

Contraindicated:

- ***Potent P-glycoprotein (P-gp) competitors and CYP3A4 inhibitors:***
  - *ketoconazole, itraconazole, posaconazole, voriconazole*
  - *HIV protease inhibitors e.g. ritonavir, saquinavir*
  - *dronedarone*
- ***Enzyme inducers:*** *contraindicated with apixaban and dabigatran e.g. rifampicin, St John's Wort, carbamazepine, phenytoin, and phenobarbitone. Preferably avoid with rivaroxaban.*

Preferably avoided: known or expected increases in NOAC blood levels may occur with the following medicines and a NOAC dose reduction may be appropriate; consider on an individual basis:

- *Cardiac medicines – consider cardiologist advice*
  - *verapamil, especially simultaneous initiation (formulations differ)*
  - *quinidine*
  - *amiodarone*
- *fluconazole*
- *cyclosporin, tacrolimus*
- *erythromycin, clarithromycin*

- ***If antiplatelet, anticoagulant or antithrombotic agents are required seek haematologist advice***

Apixaban (Eliquis®)

Total hip or knee replacement (VTE prophylaxis)
2.5 mg twice a day
hip: up to 35 days / knee: up to 15 days

Non-valvular AF
5 mg twice a day
or
If any 2 of the following are present:
age ≥ 80 years,
weight ≤ 60 kg or
serum creatinine ≥ 133 micromol/L
2.5 mg twice daily

Rivaroxaban (Xarelto®)

SAMF restricted to:

Total hip or knee replacement (VTE prophylaxis)
10 mg once daily
hip: up to 35 days / knee: up to 15 days

Initial and continuing treatment of deep vein thrombosis (DVT)
and pulmonary embolism (PE)
(If CrCl > 30 mL/min)
15 mg twice daily for 3 weeks,
then reduce to 20 mg daily

Dabigatran (Pradaxa®)

Streamlined Individual Patient Use Authority for:
Non-valvular AF
150 mg twice daily only in selected patients
(if CrCl ≥ 50 mL/min)
also refer to SA Medicines Formulary