1) Confirmed VTE Diagnosis- Pulmonary Embolism (PE) and Deep Vein Thrombosis (DVT):
URGENT REFERRAL to thrombosis (and, if PE, Respiratory) team(s) *follow local pathways.*

SECONDARY CARE

2) Baseline Checks (within 24 hours of starting anticoagulation)**:**
Renal function: using actual body weight, serum creatinine and creatinine clearance (CrCl) in Cockcroft and Gault calculation (MD+Calc)
Full blood count (FBC): Haemoglobin (Hb), platelet count**,** clotting profile (PT, APTT, INR) and **Liver function (LFTs)**: AST/ALT, Bilirubin
BMI: If >40kg/m^2 or specific patient groups (*see table below*), refer to AC clinic for warfarin and/or low molecular weight heparin (LMWH)
Bodyweights <50kg and >120kg: refer to AC or haematology clinic for monitoring. Initiate LMWH followed by warfarin
Communicate these results to primary care via discharge letter/outpatient clinic letter (*link: VTE patient pathway for DOACs*)
Consider contra-indications, co-morbidities and patient preference when choosing an anticoagulant (*see specific patient groups table below*)

Specific Patient Groups	Recommendations	Specific Patient Groups	Recommendations
Renal impairment CrCl < 30ml/min	Specialist advice required: reduced DOAC dose or alternative options	**Active or underlying cancer**	Seek specialist advice, anticoagulate for at least 6 months*
Renal impairment CrCl <15ml/min	Specialist advice required: DOACs contra-indicated, use warfarin/heparin	**Lactose intolerance**	Edoxaban (plus loading with LMWH) as rivaroxaban and apixaban contain lactose
Known antiphospholipid syndrome (APLS)	DOACs contra-indicated, use warfarin	**Prosthetic heart valves**	Warfarin
Pregnancy/breastfeeding	LMWH preferred and specialist advice required	**Interacting medications will be considered at initiation of DOAC**	Specialist advice as indicated (https://bnf.nice.org.uk/interaction/rivaroxaban-2.html)

3) If a DOAC is suitable **prescribe Apixaban or Rivaroxaban for 1 month** (for a provoked DVT/PE):
Initiation: Apixaban 10mg twice daily for 1 week, **or** Rivaroxaban 15mg twice daily after food for 3 weeks, or then
Maintenance: Apixaban 5mg twice daily, **or** Rivaroxaban 20mg daily after food (caution in CrCl<30ml/min- *see table above*).
Prevention of recurrent VTE (long term): Apixaban 2.5mg twice daily, **or** Rivaroxaban 10mg or 20mg daily after food.

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4) For DOACs: Initiation and first one month supplied by secondary care

If treatment beyond 3 months is required (eg provoking factor cannot be removed/corrected, recurrent DVT/PE, or significant on-going VTE risk) prescribing and monitoring is transferred to the patient's GP. Patients with active cancer should receive at least 6 months of anticoagulation from their Specialist Oncologist or Haematologist.

Correspondence with Primary Care must contain the information in the Template Discharge Letter. It must also include Trust –specific details of which team the patient is under and when that team will review them in clinic.

PRIMARY CARE

5) Review (for patients on long term DOAC therapy) by primary care with secondary care support as indicated:

On receipt of correspondence from secondary care, the healthcare provider should make contact with the patient to agree the process for prescribing and monitoring.

Each year review: ongoing need for anticoagulation based on assessment of thrombotic risk and bleeding risk including any planned surgery, pregnancy or long-haul travel: always discuss stopping therapy with the thrombosis team.

Monitor patient for signs of bleeding and/or anaemia and, if severe bleeding occurs, stop therapy (may be a temporary halt to anticoagulation whilst investigated).

FBC: if platelets <100 ($x10^9$/L), if Hb <100g/L or change from baseline >20g/L, investigate for cause and consider referral to/review by specialist based on initial investigations

Monitor renal function according to the frequency dictated by baseline CrCl and adjust DOAC dose accordingly (*calculate CrCl using MD+Calc or as in 2 above*)

LFTs: If ALT/AST > 2xULN or total bilirubin >1.5xULN- review therapy.

Medicines optimisation: Check adherence to therapy, adverse effects and review of concomitant medicines. **Review** general health, bleeding risk and treatment preferences: refer to the thrombosis team if treatment requires a review. *NICE guidance (2020) recommends aspirin 75mg daily as an option: preventing VTE recurrence if longterm Anticoagulant is declined.*

References: *accessed 02/07/20*

1) Venous thromboembolic diseases: diagnosis, management and thrombophilia testing; NICE guideline [NG158] Published date: 26 March 2020 https://www.nice.org.uk/guidance/NG158
2) Summary of Product Characteristics for rivaroxaban: https://www.medicines.org.uk/emc/product/2793/smpc
3) British National Formulary: https://bnf.nice.org.uk/drug/rivaroxaban.html
4) MHRA advice: Rivaroxaban should be taken with food (July 2019); https://www.gov.uk/drug-safety-update/rivaroxaban-xarelto-reminder-that-15-mg-and-20-mg-tablets-should-be-taken-with-food
5) MHRA: Direct-acting oral anticoagulants (DOACs): reminder of bleeding risk, including availability of reversal agents (June 2020) https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/896274/June-2020-DSU-PDF.pdf
6) NICE guidance: Rivaroxaban for the treatment of deep-vein thrombosis and prevention of recurrent deep-vein thrombosis and pulmonary embolism (July 2012) https://www.nice.org.uk/guidance/ta261
7) NICE guidance: Rivaroxaban for treating pulmonary embolism and preventing recurrent venous thromboembolism (June 2013) https://www.nice.org.uk/guidance/ta287

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