Workshop: Choosing the right new oral anticoagulant drug for each patient. (Pocket Support Guide - Part I)

Dabigatran Etexilate Pradaxa®	Rivaroxaban Xarelto®	Apixaban Eliquis®	Edoxaban Lixiana®
2 x 150 mg I 2 x 110 mg	1 x 20 mg I 1 x 15 mg	2 x 5mg I 2 x 2,5 mg	1 x 60 mg I 1 x 30mg
5-10% Dyspepsia	Always take with food		

Indications and Dosage

Stroke Prevention in Atrial Fibrillation (AF)

	Standart Dose	Dose reduction
Dabigatran	**2 x 150 mg**	2 x 110mg if: - Age ≥ 80 years; - Verapamil - Increased risk of GI bleeding
Rivaroxaban	**1 x 20 mg**	1 x 15 mg if CrCl ≤ 50 mL/min
Apixaban	**2 x 5 mg**	2 x 2,5 mg if two out of three: - Weight ≤ 60 Kg - Age ≥ 80 years - Serum creatinine ≥ 1.5 mg/dL or CrCl 15-29 mL/min
Edoxaban	**1 x 60 mg**	1 x 30 mg if: - Weight ≤ 60 Kg; - CrCl ≤ 50 mL/min - Strong P-Gp inhibitor

Absolute Contraindications:

- Moderate to severe mitral stenosis;
- Mechanical Prosthetic Heart Valves;
- Severe Renal Impairment (TFG ≤ 15mg/dL);
- Child-Pugh Category C;
- Pregnancy;

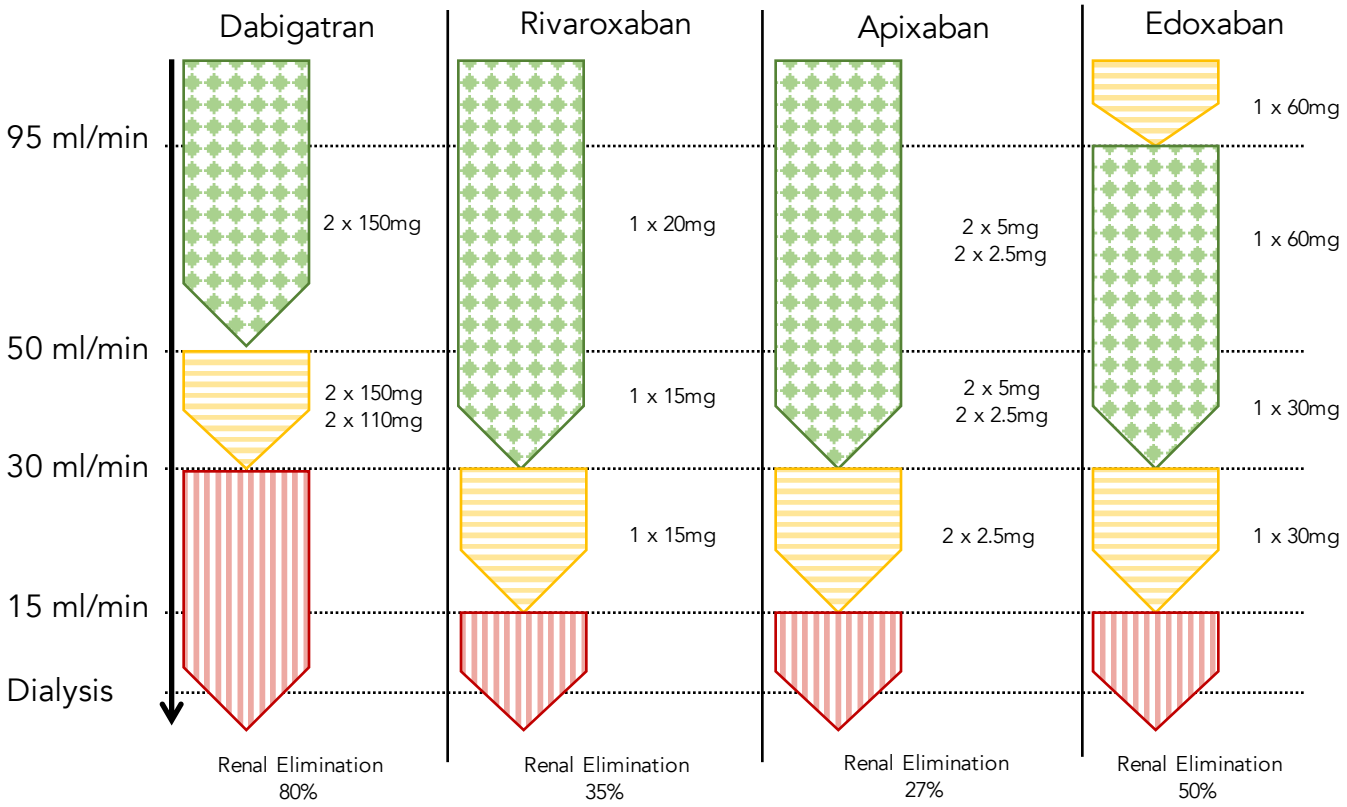
Treatment of Deep Venous Thrombosis (DVT)/ Pulmonary Embolism (PE)

	Initial Therapy	Remainder of treatment phase	Long-term **prevention** of DVT/TE
Dabigatran	Heparin/LMWH	**2 x 150 mg I 2 x 110 mg** (Same dose reduction as for stroke prevention in AF)	2 x 150 mg
Rivaroxaban	**2 x 15 mg, 21 days**	**1 x 20 mg** no dose reduction	1 x 10 mg
Apixaban	**2 x 10 mg** (2 + 2 x 5 mg)	**2 x 5 mg**, no dose reduction	2 x 2,5 mg
Edoxaban	Heparin/LMWH	**1 x 60 mg I 1 x 30 mg** (Same dose reduction as for stroke prevention in AF)	Not specifically studied

Adapted from "The 2018 European Heart Rhythm Association Practical Guide on the use of non-vitamin K antagonist oral anticoagulants in patients with atrial fibrillation" by Ana Madeira, Andreia Felizardo, Catarina Simões Neves, Liliana Moita, Luís André Batista

2018

Renal Impairment Adjustment



No special precaution

Use cautiously

Don´t use

Calculate CrCl according to the Cockcroft-Gault equation

TIP - **Renal Function Screening:** dividing CrCl by 10 to obtain the minimum frequency of renal function testing in months.

(Example: CrCl=30ml/min → 30/10=3 – Screening every 3 months)

CHA_2DS_2-VASc Score

Risk Factors	Points
Congestive Heart Failure	1
Hypertension	1
Age ≥ 75	2
Age 65 - 74	1
Diabetes Mellitus	1
Stroke/TIA/Thrombo-embolism	2
Vascular disease	1
Female	1

≥2 – Anticoagulation
1 – Individual Decision
0 – Anticoagulation not needed

HAS-BLED Score

Clinical Characteristic	Points
Hypertension Uncontrolled, > 160mmHg	1
Renal Disease Dialysis, Transplant, Cr > 2.26 mg/dL	1
Liver Disease Cirrhosis, Bilirubin > 2x normal, AST/ALT/AP > 3x normal	1
Stroke History	1
Prior major bleeding	1
Labile INR TTR < 60%	1
Age > 65	1
Drugs predisposing to bleeding Aspirin, clopidogrel, NSAIDs	1
Alcohol ≥ 8 drinks/week	1

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Start Anticoagulation Treatment:

1. Medical condition to anticoagulation treatment.
2. CHA_2DS_2-VASc Score + Bleeding Risk (HAS-BLED Score).
3. Check baseline blood works – hemoglobin, renal and liver function, full coagulation panel.
4. Choose anticoagulant and correct dose.
5. Decide on need for proton pump inhibitor (if hight risk for gastrointestinal bleeding).
6. Education and hands out anticoagulation card.
7. Organises follow-up.

In case of problems

1 month

1 – 6 months*

Follow – Up:

1. Check for thromboembolic and bleeding events
2. Assess adherence (remaining pills)
3. Check for side effects
4. Assess co-medication and over-the-counter drugs
5. Assess modifiable risk factors
6. Determine the need for blood sampling
7. Assess optimal NOAC dose

* Interval depends on patients factors, age, comorbidilities, renal function

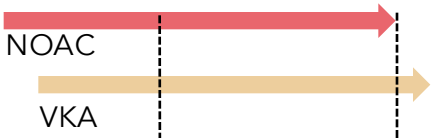
Switching

From VKA to NOAC

Stop VKA and evaluate INR:
INR ≤ 2.0 – start NOAC immediately.
INR 2.0 – 2.5 – start NOAC the next day.
INR 2.5 – 3.0 – Re-check INR in 1-3 days.
INR ≥ 3.0 - Postpone NOAC.

According Summary of Product Characteristics:
→ Rivaroxaban – INR ≤ 3
→ Edoxaban – INR ≤ 2.5
→ Dabigatran or Apixaban – INR ≤ 2

From NOAC to VKA



INR < 2.0 – NOAC + VKA

Continue NOAC and evaluate INR:
INR < 2.0 – NOAC + VKA.
INR > 2.0 – Stop NOAC. Repeat INR 1 day after stopping NOAC.
Continue INR sampling for 1 month
(Goal ≥ 3 consecutives INR values 2.0 - 3-0)

INR > 2.0 – Stop NOAC. Repeat INR 1 day after stopping NOAC.

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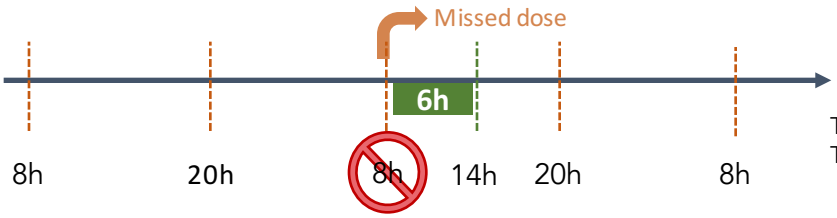
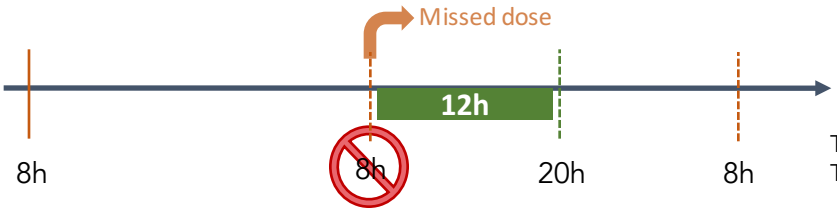
Dealing with dosing errors?

Missed Dose



Twice Daily

Take the forgotten dose in the next 6h.
Take the next dose in the usual schedule



Once Daily

Take the forgotten dose in the next 12h.
Take the next dose in the usual schedule

TIP: A forgotten dose may be taken **until 50% of the dosing interval has passed**.

After this intervals (6h | 12h) just skip the forgotten dose. Take the next dose in the usual schedule.

Double Dose

Twice Daily – The **next planned dose may be left out**. Restart 24h after the double dose intake.

Once Daily – Don't skip any dose. Continue the normal schedule.

Elective Surgical Interventions

Adjustments depend on the surgical bleeding risk

Minor Bleeding Risk	Low Bleeding Risk	Hight Bleeding Risk
Dental interventions	Endoscopy with biopsy	Complex endoscopy (eg. polipectomy)
Cataract or Glaucoma intervention	Prostate or bladder biopsy	Spinal or epidural anaesthesia; Lumbar diagnostic puncture
Endoscopy without biopsy	Electrophysiological study or catheter ablation	Thoracic surgery
Superficial Surgery (abcess incision, small dermacotological excisions,...)	Non-coronary angiography	Abdominal surgery
	Pacemaker or ICD implantation	Major orthopedic surgery
		Liver biopsy
		Transurethral resection
		Kidney biopsy
		Extracorporeal shockwave lithotripsy

Don't interrupt anticoagulation. Schedule procedure to **12-24h after last NOAC intake. Restart 6h after procedure**.

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