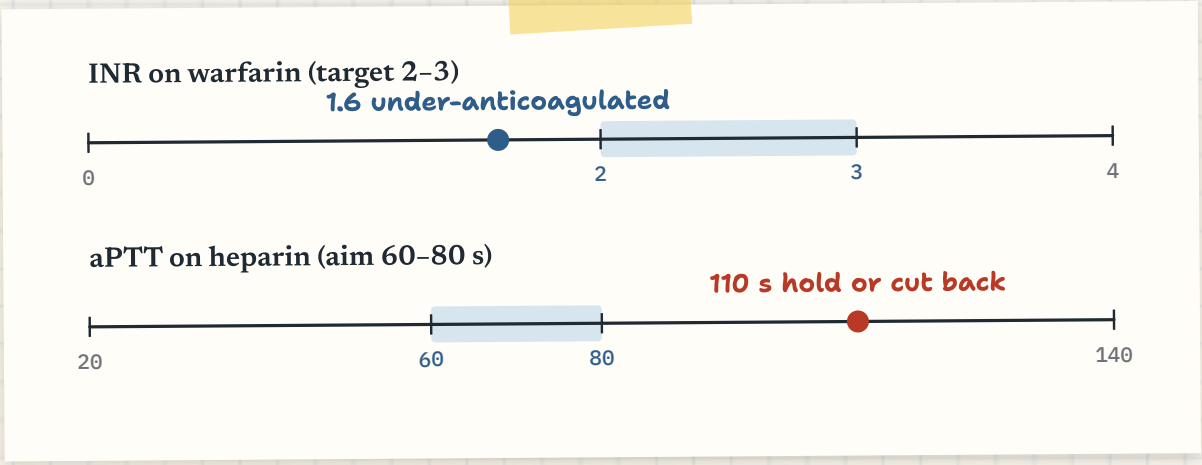
Anticoagulants

Target, monitoring test and reversal agent



Step by step

1. Thrombin makes fibrin; factor Xa drives thrombin
2. Heparin makes antithrombin about 1000-fold more potent
3. Warfarin blocks vitamin K: factors II, VII, IX, X
4. Warfarin effect is delayed: days, not hours
5. DOACs: fixed dose, no routine monitoring

Drug	Monitor	Reversal
Heparin (via antithrombin)	aPTT	Protamine
Warfarin (vitamin K recycling)	INR	Vitamin K + PCC or FFP
Dabigatran (thrombin)	None routine	Idarucizumab
Rivaroxaban, apixaban (Xa)	None routine	PCC now; andexanet withdrawn in US
LMWH (mainly Xa)	Anti-Xa level	Protamine, less effective

One mechanism, one antidote

Rule of thumb

Heparin: antithrombin, aPTT, protamine

Warfarin: vitamin K, INR, vitamin K + factors

Dabigatran: idarucizumab

Exam traps

- Protamine does nothing for dabigatran or warfarin.
- Vitamin K helps warfarin only; DOACs do not work through vitamin K.
- Plasma supplies factors but does not neutralise a DOAC.
- Early warfarin can be briefly procoagulant (protein C and S fall first).

For exam study only, not medical advice. Follow local guidelines and your lab's ranges.
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