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## Clinical Guideline

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# ***Perioperative Bridging of New Oral Anticoagulants in Adult Patients Undergoing Elective Surgery***

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Key:  
CrCL- creatinine clearance  
VTE - venous thromboembolism  
NOAC – new oral anticoagulant

# Peri-operative Surgical Bridging Protocol for patients receiving New Oral Anticoagulants (NOACs)

Identify indication for NOAC (either prevention of stroke in non-valvular AF or VTE treatment or secondary prevention)

NOACs for AF or VTE occurred > 6 weeks ago

NB: Patients with VTE in last 6 weeks  
Discuss with Thrombosis team (bleep 0122)

Pre-operative: Is the procedure minor or major?

Minor: e.g. ophthalmological & dental procedures

Timing of last NOAC dose pre procedure:

Renal function (as calculated CrCl <sup>a</sup> )	Dabigatran (minimum)	Rivaroxaban / apixaban / edoxaban (minimum)
>80ml/min	24h	24h
50-80 ml/min	36h	24h
30-50 ml/min	48h	36h

Major: e.g. cardiac, chest or abdominal surgery

Timing of last NOAC dose pre procedure:

Renal function (as calculated CrCl <sup>a</sup> )	Dabigatran (minimum)	Rivaroxaban / apixaban / edoxaban (minimum)
CrCl>80ml/min	48h	48h
CrCl 50-80 ml/min	72h	48h
CrCl 30-50 ml/min	96h	48h

Post-operatively: Assess patient's bleeding risk and risk of VTE

Haemostasis achieved & no further surgery planned:

Day 0: Restart pre-admission dose 6-8 hours post-wound closure  
(Adjust dose as per SPC if renal function has altered)

Ongoing bleeding risk postoperatively:

Day of procedure:

- Bridge with prophylactic dalteparin. Give first dose 6-12 hours post wound closure, if haemostasis achieved.  
If traumatic epidural catheter insertion- wait 24 hours after insertion before restarting dalteparin

Weight	Prophylactic dose if calculated CrCL ≥ 30ml/minute	Prophylactic dose if calculated CrCL < 30ml/minute
30-39 kg	2500 units OD	1250 units OD
40-49 kg	2500 units OD	2500 units OD
50-99 kg	5000 units OD	2500 units OD
100-139kg	7500 units OD	5000 units OD
140-179kg	5000 units BD	5000 units OD
>180kg	Seek Haematology Advice	

- Once bleeding risk reduced, restart NOAC 12-24 hours after last dose of dalteparin (determined by surgeon)
- If renal function has deteriorated, please review dose of NOAC
- Ensure patient has not been started on any drugs that could potentially interact with NOAC e.g. cytochrome P-450 3A4 inhibitors and P-glycoprotein inhibitors - contact ward pharmacist / resident pharmacist for advice.