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# Clinical Guideline

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## ***Venous Thromboprophylaxis in Adult Surgical In-patients (Excluding Orthopaedics)***

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Oct 2013	Enoxaparin switch to dalteparin	DTC

# Venous Thromboprophylaxis in Adult Surgical Inpatients (Excluding Orthopaedics)

This guideline refers to :  
Cardiac surgery, Gastro-intestinal surgery, Gynaecological (not obstetric), thoracic and urological surgery, Vascular Surgery and Other Surgery.  
FOR ORTHOPAEDIC SURGERY, SEE SPECIFIC GUIDELINES

## Is the patient at increased risk of VTE?

- Surgical procedure with total anaesthetic time > 90 minutes  
OR
- Surgical procedure involving pelvis or lower limb with total anaesthetic time > 60 minutes  
OR
- Additional risk factor for VTE <sup>a</sup>

Yes

No

## On admission:

- AES (unless contra-indicated <sup>b</sup>)
- Check allergies - If patient allergic to heparins/history of HIT, consult on-call Haematology StR for alternatives (via switchboard)
- Is pharmacological thromboprophylaxis contra-indicated? <sup>c</sup>

No

Yes

Does the patient have renal failure, with a CrCL < 30 mL / minute?

No

Yes

Continue AES  
And consider other mechanical methods in addition, if high risk  
Reassess regularly  
For vascular surgery patients: if peripheral arterial disease present, seek expert opinion before fitting AES

## Dalteparin (according to weight) subcutaneously

Weight	Dalteparin dose
< 49kg	2500 units OD
50 - 99kg	5000 units OD
100-139kg	7500 units OD
140-179kg	5000 units BD
>180kg	Seek Haematology advice

**Pre-op:** If admitted, continue to give up to 12 hours before surgery

**Post-op:** Give 6 - 12 hours post wound closure and prescribe this dose on Time Dependent section of drug chart  
Give subsequent daily doses at 08:00 or 18:00

## Dalteparin (according to weight) subcutaneously ONCE daily <sup>d</sup>

Weight	Dalteparin dose
< 39kg	1250 units OD
40 - 99kg	2500 units OD
100-179kg	5000 units OD
>180kg	Seek Haematology advice

**Pre-op:** If admitted, continue to give up to 12 hours before surgery

**Post-op:** Give 6 - 12 hours post wound closure and Prescribe this dose on Time Dependent section of drug chart  
Give subsequent daily doses at 08:00 or 18:00

Continue until patient's mobility not significantly reduced

For major cancer surgery in abdomen/pelvis: continue pharmacological thromboprophylaxis AND AES for 28 days post surgery

## Key:

AES – anti-embolic stockings  
CrCL- creatinine clearance  
HIT- heparin-induced thrombocytopenia  
THR – total hip replacement  
TKR – total knee replacement  
VTE – venous thromboembolism

## <sup>a</sup> Additional risk factors for VTE:

- Active cancer/cancer treatment
- Age > 60 years
- Critical care admission
- Dehydration
- Known thrombophilias
- Obesity (BMI > 30 kg / m<sup>2</sup>)
- One or more significant medical co-morbidities e.g. heart disease; metabolic, endocrine or respiratory pathologies; acute infectious diseases; inflammatory conditions
- Personal or first-degree family history of VTE
- Hormone therapy - combined oral contraceptives, HRT, high dose progestogens, selective oestrogen receptor modulators
- Varicose veins with associated phlebitis
- Pregnancy or < 6 weeks post partum – Refer to the 'Management of thrombosis and thromboprophylaxis in pregnancy and the puerperium' guideline

## <sup>b</sup> Contra-indications to AES:

- Gross oedema
- Leg deformity/condition
- Peripheral vascular disease:
- If peripheral arterial disease present, seek expert opinion before fitting
- Peripheral neuropathy

## <sup>c</sup> Contra-indications to pharmacological thromboprophylaxis:

- On oral anticoagulant with INR > 2.0
- Thrombocytopenia (platelets < 50 x 10<sup>9</sup> / L)
- Known bleeding disorder
- Evidence of active bleeding
- Uncontrolled hypertension (BP > 230 / 120 mm Hg)
- Lumbar puncture/ epidural/ spinal analgesia expected within next 12 hours or performed within last 4 hours (24 hours if traumatic)
- New stroke (ischaemic or haemorrhagic)
- Procedure with high bleeding risk

## <sup>d</sup> Anti-Xa level testing in renal failure (SEND ON ICE)

- Dalteparin levels can accumulate in renal failure over time. This is taken into account in the dosing table
- Check trough anti-Xa levels if there are concerns about bleeding or bruising after 7 days of dalteparin
- If trough (pre-dose) anti-Xa level is >0.2 international units/mL, please discuss with Thrombosis StR (bleep 0122 / switchboard)