

RGH Pharmacy E-Bulletin

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A joint initiative of the Patient Services Section and the Drug and Therapeutics Information Service of the Pharmacy Department, Repatriation General Hospital, Daw Park, South Australia. The RGH Pharmacy E-Bulletin is distributed in electronic format on a weekly basis, and aims to present concise, factual information on issues of current interest in therapeutics, drug safety and cost-effective use of medications.

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Venous thromboembolism prophylaxis

Venous thromboembolism (VTE) is a well recognised risk of hospitalisation, and all hospitalised patients need to be individually assessed for their risk of VTE as early as possible during their admission, with prophylaxis initiated accordingly. Risk factors for VTE include surgery, major trauma, malignancy, previous VTE, age (particularly over 75 years of age), active infection or inflammation, exacerbations in heart failure or pulmonary disease, obesity, thrombophilia, varicose veins, pregnancy, oestrogen medications and immobility. Pharmacological prophylaxis of VTE includes unfractionated heparin (UFH), low molecular weight heparins (LMWH) such as enoxaparin or dalteparin and the synthetic agent fondaparinux. Aspirin alone is not recommended for VTE prophylaxis.

LMWHs are generally preferred over UFH in orthopaedic surgery, ischaemic stroke and major trauma settings. LMWHs have the benefit of once daily dosing and decreased monitoring requirements when compared to UFH. LMWHs require dose adjustment in renal impairment. Fondaparinux is only indicated for orthopaedic surgery and its cost limits its use in these settings. Fondaparinux has been associated with an increased risk of bleeding in the elderly, and is contraindicated where the estimated GFR is <30 ml/min.

The VTE risk associated with medical and surgical patients and the guidelines for prophylaxis are summarised below, individual hospitals may vary in their guidelines. Further information is available from the American College of Chest Physicians supplement on Antithrombotic and Thrombolytic Therapy 8th edition: <http://chestjournal.org> or from the Australian Therapeutic Guidelines: Cardiology Edition.

MEDICAL PATIENTS	Prophylaxis Required	Duration
HIGH RISK <i>Medical patients admitted with:</i> <ul style="list-style-type: none"> ○ Ischaemic stroke, ○ History of VTE, ○ Active malignancy, ○ Decompensated heart failure, ○ Acute inflammatory disease, ○ Acute on chronic lung disease <i>or</i> ○ >60 years of age and not fully ambulant 	Enoxaparin 40 mg daily s/c or Heparin 5000 units bd or tds s/c or Dalteparin 5000 units daily s/c ** LMWH preferred in ischaemic stroke patients**	Until medical complaint has resolved or until discharge from hospital
SURGICAL PATIENTS		
HIGH RISK <ul style="list-style-type: none"> ○ Hip/Knee Arthroplasty ○ Hip fracture surgery (HFS) ○ Major Trauma ○ Surgery with prior history of VTE or active malignancy 	Enoxaparin 40 mg daily s/c, or Dalteparin 5000 units daily s/c or Fondaparinux 2.5mg s/c daily (for orthopaedic surgery only) or Heparin 5000 units tds s/c (not in orthopaedic surgery)	<u>Hip/Knee Surgery:</u> At least 10 days and can be up to 35 days (increased duration particularly for HFS, Hip Arthroplasty and patients with multiple VTE risk factors) Major Trauma: until hospital discharge <u>Major Surgery:</u> 5-10 days or until hospital discharge (Very high risk patients may need up to 28 days)
<ul style="list-style-type: none"> ○ Major Surgery in those >40 years (Major Surgery: Greater than 45 minutes or involving abdominal surgery) 	Enoxaparin 20 mg daily or Dalteparin 2500 units daily or Heparin 5000 units bd or tds	5-10 days or until hospital discharge.
LOW RISK All other surgery with risk factors for VTE - (e.g active inflammation, immobility, cancer, previous VTE)	Enoxaparin 20 mg daily or Dalteparin 2500 units daily or Heparin 5000 units bd or tds	Until discharge from hospital

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FOR FURTHER INFORMATION – CONTACT THE PHARMACY DEPARTMENT ON 82751763 or email: chris.alderman@rgh.sa.gov.au
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