Prophylaxis of Venous Thromboembolism

LONG DISTANCE TRAVEL

D To minimise the risk of thrombosis when travelling long distances (e.g. over 4 hours), especially by air, all travellers should be advised to:
- ensure good hydration
- restrict alcohol and coffee intake
- regularly carry out simple leg exercises and take occasional walks during travel

D The risks of bleeding should be considered (e.g. increased risk of major bleed with aspirin or heparin) and the balance of risk and benefits should be discussed with the individual patient.

The Scottish Intercollegiate Guidelines Network (SIGN) supports improvement in the quality of health care for patients in Scotland by developing national clinical guidelines containing recommendations for effective practice based on current evidence.

The recommendations are graded A B C D to indicate the strength of the supporting evidence.

Good practice points are provided where the guideline development group wish to highlight specific aspects of accepted clinical practice.

A Subcutaneous low dose UFH (5000IU 8-12 hourly or 7500IU 12 hourly for 5 days or until discharge) OR LMWH (dosage from manufacturer’s recommendations)
B Aspirin 150mg/day started preoperatively and continued for 35 days
C Graduated elastic compression stockings (GECs) (+ pharmacological prophylaxis or IPC)
D Mechanical foot pumps

PRECAUTIONS PRIOR TO INSTITUTING SPINAL AND EPIDURAL BLOCKS

D Aspirin – proceed normally, remembering interactions

UFH – proceed normally & exercise caution OR administer 4-6 hours before block OR delay first dose until after block or after surgery

LMWH – administer 10-12 hours before block

HOSPITAL PATIENTS

D Assess all patients admitted to hospital for:
- major trauma (e.g. immobilising fracture)
- major surgery (e.g. duration >30 mins)
- recent major medical illness (e.g. likely to involve >3 days bed rest)

INDIVIDUAL RISK FACTORS

D Assessment of individual risk factors should include:
- age
- obesity
- varicose veins
- previous VTE
- thrombophilia
- cancer
- heart failure
- recent MI or stroke
- oestrogen therapy
- high dose progesterone
- tamoxifen
- raloxifene
- pregnancy
- puerperium
- immobility
- inflammatory bowel disease
- nephrotic syndrome

SIGN Online

www.sign.ac.uk

Details of the evidence supporting guideline recommendations and their application in practice can be found in the full guideline, available on the SIGN website: www.sign.ac.uk.

This guideline was issued in 2002 and will be considered for review in 2006.

For more information about the SIGN programme, contact the SIGN Executive or see the website.
All patients with clinically suspected evolving acute MI should be:
- given aspirin, if not already receiving it (initially 150-300mg)
- considered for thrombolytic therapy

Heparins should not be used routinely in addition to aspirin but reserved for patients at increased thromboembolic risk (and for certain patients undergoing thrombolysis)

Compression stockings may be considered in patients who are at increased risk of VTE, especially when heparin prophylaxis is contraindicated

**ACUTE STROKE**

- Compression stockings (high risk patients)
- Early treatment with aspirin (initially 150-300 mg/day starting as soon as intracranial haemorrhage is excluded)
- Subcutaneous low dose UFH or LMWH (patients at high risk of VTE & low risk of haemorrhagic complications)

**GENERAL MEDICAL PATIENTS**

- Subcutaneous low dose UFH or LMWH (immobilised patients, especially those with heart failure, respiratory failure, infections, diabetic coma, cancer, IBD, nephrotic syndrome, leg paralysis e.g. Guillain-Barre Syndrome or in intensive care)
  when these agents are contraindicated substitute with:
  - GECs

**CANCER PATIENTS**

- Subcutaneous UFH, LMWH OR GECs when immobilised in acute medical or surgical wards
- Minidose warfarin (1mg/day in patients with central venous catheters)
- Low-dose warfarin (during chemotherapy in stage IV breast cancer)

**ORTHEOPAEDIC SURGERY & TRAUMA**

**Total Hip or Knee Replacement**

- Mechanical prophylaxis (GECs ± IPC or foot pumps)
  - Aspirin (150 mg orally, started before surgery and continued for 35 days)
  - Subcutaneous low dose UFH or LMWH (for 7-15 days, extended to 4-5 weeks in very high risk patients)
  - Warfarin (e.g. in those already receiving; target INR 2.0-2.5)

**HIP FRACTURE SURGERY**

- Early surgery (within 24 hours) where possible

**OTHER TRAUMA**

- LMWH for patients with spinal cord injury, major lower limb fractures or multiple trauma
- Mechanical prophylaxis in patients with contraindications to LMWH

- Aspirin in patients in whom LMWH is contraindicated and mechanical prophylaxis is not feasible

**GLOSSARY**

- COC: combined oral contraceptives
- DVT: deep vein thrombosis
- GECs: graduated elastic compression stockings
- HRT: hormone replacement therapy
- IPC: intermittent pneumatic compression
- LMWH: low molecular weight heparin
- PE: pulmonary embolism
- TURP: transurethral resection of the prostate
- UHF: unfractionated heparin
- VTE: venous thromboembolism