1. Assess Venous Thromboembolism (VTE) Risk and Allocate Patient into Risk Category

- **Higher Risk**
  - Consider VTE Risk Factors
  - Total hip replacement, total knee replacement, or hip fracture surgery
  - Abdominal or pelvic surgery for cancer
  - Multiple major trauma
  - Acute spinal cord injury with paresis
  - Moderate to major* surgery
    - Operating time > 45 minutes and/or involves abdomen
  - Prior history of VTE
  - Known thrombophilia (including inherited disorders)
  - Active malignancy or cancer treatment
  - Significantly reduced mobility relative to normal state
  - Age > 60 years
  - Congestive heart failure
  - Myocardial infarction
  - Active or chronic lung disease
  - Active infection
  - Inflammatory bowel disease
  - Active rheumatic disease
  - Obesity (BMI > 30 kg/m²)
  - Hormonal replacement therapy
  - Oestrogen-based contraceptives
  - Myeloproliferative neoplasms
  - Pregnant or < 6 weeks post-partum
    (Refer to Obstetrics Consultant / Team prior to commencing pharmacological and/or mechanical prophylaxis)
  - Varicose veins/chronic venous stasis
  - Nephrotic syndrome
  - Dehydration
  - Sickle cell disease

- **Moderate Risk**
  - Patients who are not in either the lower- or higher-risk group

- **Lower Risk**
  - Ambulatory patient without VTE risk factors
  - Ambulatory patient with VTE risk factors
    - BUT expected length of stay ≤ 2 days
  - Minor surgery* in patient without VTE risk factors
    - Same day surgery or operating time < 30 mins

2. Identify Contraindications and Other Conditions to Consider with Pharmacological Prophylaxis

- **Absolute Contraindication**
  - Active haemorrhage
  - Severe trauma to head or spinal cord, with haemorrhage in last 4 weeks
  - Thrombocytopenia (platelets < 50 x 10⁹/L) OR coagulopathy
  - End stage liver disease (INR > 1.5)
  - Therapeutic anticoagulation with medication e.g. warfarin, dabigatran, rivaroxaban, fondaparinux, apixaban
  - Other

- **Relative Contraindication**
  - Intracranial haemorrhage within last year
  - Cranietomy within 2 weeks
  - Intracranial surgery within 2 weeks
  - Gastrointestinal OR genitourinary haemorrhage within last month
  - Active intracranial lesions/neoplasms
  - Hypertensive emergency
  - Post-operative bleeding concerns
  - Use of antiplatelets (e.g. aspirin, clopidogrel, dipyridamole)
  - Inherited bleeding disorder
  - High falls risk

- **Other Conditions**
  - Heparin-sensitivity or history of heparin-induced thrombocytopenia (HIT)
    (Consult Haematologist for alternative treatment e.g. danaparoid use)
  - Insertion/removal of epidural catheter or spinal needle (lumbar puncture) (current or planned)
  - Creatinine clearance <30mL/min
    (see recommendations overleaf)
  - Acute stroke (Seek further advice from Stroke service)
  - Neurosurgery (Seek further advice from Neurosurgery Consultant)
  - Weight < 50kg or > 100kg
    (consider dosage adjustment as per local guidelines)

3. Identify Contraindications to Mechanical Prophylaxis

- **Skin ulceration**
- **Severe peripheral vascular disease**
- **Severe dermatitis**
- **Lower leg trauma**
- **Severe lower leg deformity**
- **Recent lower limb DVT** (anti-embolic stockings may be used)
- **Massive leg oedema/pulmonary oedema** due to congestive cardiac failure
- **Morbid obesity** (where correct fitting of stocking cannot be achieved)
- **Peripheral neuropathy**
  (Intermittent pneumatic compression can be used)
- **Recent skin graft**
- **Stroke patients** (avoid anti-embolic stockings)
4. Prescribe Appropriate Prophylaxis

Higher Risk

Select one pharmacological option:
- Enoxaparin 40 mg subcutaneous daily
- Enoxaparin 20 mg subcutaneous daily if Creatinine Clearance < 30mL/min (or use Heparin 5,000 units subcutaneous 8- or 12-hourly)
- Dalteparin 5,000 units subcutaneous daily
- Alternative oral agent for Orthopaedic Surgical patients (see below)*

OR

No pharmacological prophylaxis because of contraindication or not advised

AND Select one mechanical device
- Graduated compression stockings / anti-embolic stockings
- Intermittent pneumatic compression
- Foot impulse device
- No mechanical prophylaxis because of contraindication

PLUS Early mobilisation, Patient education

Moderate Risk

Select one pharmacological option:
- Enoxaparin 40 mg subcutaneous daily
- Enoxaparin 20 mg subcutaneous daily if Creatinine Clearance < 30mL/min (or use heparin)
- Dalteparin 5,000 units subcutaneous daily
- Heparin 5,000 units subcutaneous 8- or 12-hourly

OR

No pharmacological prophylaxis because of contraindication or not advised

OR Select one mechanical device for patients if not prescribing pharmacological prophylaxis:
- Graduated compression stockings / anti-embolic stockings
- Intermittent pneumatic compression
- Foot impulse device
- No mechanical prophylaxis because of contraindication

PLUS Early mobilisation, Patient education

Lower Risk

Prophylaxis not required

Early mobilisation, Patient education

5. Other Considerations

*Insertion or removal of epidural catheter or spinal needle (lumbar puncture) should be carried out ≥ 4 hours before a prophylactic dose of LMWH AND ≥ 10 hours after a previously administered dose. For other agents, please refer to the Product Information.

*Orthopaedic Surgery: Alternative agents may include
- Hip replacement: dabigatran, rivaroxaban, fondaparinux, apixaban
- Knee replacement: dabigatran, rivaroxaban, fondaparinux, apixaban
- Hip fracture: fondaparinux, aspirin in combination with LMWH

§ Note: In hip and knee replacement surgery, LMWH is preferred over heparin

6. Consider Duration of Therapy

Medical patients:
- Continue until acute medical condition is stable, patient is mobile or until hospital discharge

Surgical patients:
- Total hip replacement/hip fracture surgery: continue for 28 to 35 days
- Total knee replacement: continue for up to 14 days
- Lower leg immobilisation due to injury: until fully mobile
- Major general surgery: continue for up to 1 week or until fully mobile

Date completed: ____/____/____ Name: ______________ Signature: ______________ Designation: ______________

KEY:
LMWH = low molecular weight heparin e.g. enoxaparin, dalteparin