

## **British Orthopaedic Foot and Ankle Society Guidelines for Venous Thromboembolism Prophylaxis**

### **Scientific Committee British Orthopaedic Foot & Ankle Surgery Society**

Deep venous thrombosis (DVT) is widely considered to be a precursor of pulmonary embolus and a risk factor for post-thrombotic syndrome (PTS) and pulmonary hypertension (PHT). There is a potential increased risk of DVT and VTE events around the time of lower limb surgery. However, the incidence of DVT and its sequelae is poorly documented.

The final decision regarding the use, and the method of prophylaxis adopted should follow a risk assessment for VTE and bleeding (preferably at the preoperative assessment clinic) with a discussion usually at the point of consent between the treating surgeon and patient about the pros and cons of this management in each individual.

The risk factors are procedure specific and patient specific. The main controversy in foot and ankle surgery is with the former. There are some operations, which carry a definite increased risk, for example, Achilles tendon surgery but in the vast majority the currently available evidence is poor or non-existent. In addition, the decision making process is complicated by the relatively long periods of post-operative immobilisation in plaster casts and splints whether weight bearing or non-weight bearing. This is an area where foot and ankle surgeons should be actively involved in research, preferably to assess prospectively the baseline incidence and then to perform randomised control trials.

It should be emphasised that the currently available patient specific risk assessment tools, adopted by many Trust thrombosis committees, have significant limitations because none have validated scoring systems and are purely arbitrary. Further research to provide a lower limb surgery specific risk assessment tool is of paramount importance.

With the current limitations it should be emphasised that the following statement is simply a guideline.

## **General measures**

The surgical team should provide the patient with verbal and written information, before surgery, describing the risks of VTE and the effectiveness of prophylaxis.

If applied, graduated compression stockings, above the knee should be used on the non-operated leg, unless contraindicated, for example in patients with established peripheral arterial disease or diabetic neuropathy.

Intermittent pneumatic compression or foot impulse devices may be used as an alternative to anti-embolism stockings.

Regional anaesthesia reduces the risk of VTE compared with general anaesthesia.

Early mobilisation and weight bearing (if applicable) should be encouraged as soon as possible after surgery.

## **Patient related risk factors for VTE**

As stated above, there are no validated risk factor scores for VTE and bleeding. However, the following, not exhaustive list, need to be taken into consideration:

- Active cancer or cancer treatment
- Age > 60 years
- Critical care admission
- Dehydration
- Known thrombophilias
- Obesity (BMI > 30 kg/m<sup>2</sup>)
- One or more significant medical comorbidities (for example: heart disease; metabolic, endocrine or respiratory pathologies; acute infectious diseases)
- Personal history or first-degree relative with a history of VTE
- Use of hormone replacement therapy
- Use of oestrogen-containing contraceptive therapy
- Varicose veins with phlebitis.

## **Patients who are considered high risk**

Low molecular weight heparin or fondaparinux should be considered for high-risk patients, and should be started 6-12 hours after surgery. They should be continued until the patient regains adequate mobility or the plaster cast or splint is removed if non-weight bearing or when weight bearing in a cast or splint.

### **Procedure specific factors**

Most foot and ankle procedures are considered low risk. Therefore, in general terms, the need for chemoprophylaxis should normally be determined by the patient specific factors recorded above.

### **Prolonged immobilisation**

There is little evidence to show that prolonged immobilisation, in a below knee plaster or splint, in the absence of patient related risk factors merits the use of chemoprophylaxis.