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PRESS RELEASE

NICE guideline to reduce life-threatening blood clots in surgical patients

New guidelines launched today by the National Institute for Health and Clinical Excellence (NICE) are set to tackle the continuing problem of potentially life-threatening venous thromboembolism (deep vein thrombosis and pulmonary embolism) in patients who have undergone surgery. The guideline, produced for NICE by the National Collaborating Centre for Acute Care (NCC-AC), is the culmination of the most comprehensive review and analysis of the available evidence on ways to reduce the risk of venous thromboembolism (VTE) yet carried out. The guideline covers all patients admitted to hospital for an operation requiring an overnight stay.

Deep vein thrombosis (DVT) occurs in over 20% of surgical patients and over 40% of patients undergoing major orthopaedic surgery. Most of these thromboses are minor; the blood clot itself is not life threatening, and more often than not does not cause any symptoms. But if the blood clot comes loose it can travel in the blood stream to the lungs and cause a life threatening obstruction; this is called a pulmonary embolism. Pulmonary embolism following lower limb DVT is the cause of death in 10% of patients who die in hospital, many of them after surgery. Even if a blood clot does not come loose, it can still cause long-term damage to the veins: for example, 'post-phlebitic syndrome' may develop after some years, causing chronic swelling and ulceration of the legs.

Professor Tom Treasure, Consultant Thoracic Surgeon and Chair of the GDG, said: "The dilemma for the surgeon aiming to prevent VTE is that blood thinning medicines increase the risk of bleeding but their use saves lives by preventing clots. Individual doctors cannot balance these risks just by judgment – it requires detailed analysis of many studies. The work of our review group was to carefully weigh the evidence so that surgeons can be confident that the VTE prevention policies adopted

steer the safest course between the risks due to blood clots and the risks of bleeding."

The degree of risk of VTE is dependent on factors inherent in the type of operation being carried out, as well as factors related to the individual patient – for example, whether they are overweight or have longstanding problems with their heart or lungs. It is the combination of these factors that defines certain patients as being at 'high risk' of VTE. The guideline therefore recommends that all patients are assessed on admission to hospital to identify their individual risk of developing a VTE and that appropriate steps are taken to reduce any risk.

The guideline proposes a three step strategy for deciding the appropriate form of prevention. First, most people should be offered compression stockings to wear whilst in hospital, and for many the use of inflatable "boots" during the operation (to encourage blood flow in the legs) will also be beneficial.

Secondly, the guideline recommends that blood thinning medication, such as low molecular weight heparin or fondaparinux, should be given to all people having orthopaedic surgery and to other surgical patients who are at high risk of developing VTE. For people having surgery to mend a broken hip, this blood thinning medication should be continued for four weeks.

Thirdly, in some patients for whom it is feasible, the guideline recommends that regional anaesthesia (such as an "epidural" anaesthetic) instead of general anaesthesia would further reduce the risk of VTE, and should be considered.

Professor Colin Baigent, Clinical Epidemiologist and member of the GDG, said: "In many surgical patients the appropriate form of protection against blood clots is *both* compression stockings and heparin, but very often they are offered just one of these treatments. This guideline should ensure that both are considered routinely and thereby help avoid much unnecessary suffering caused by blood clots in the legs and pulmonary embolism."

One of the reasons clots develop in the veins is that patients who have undergone surgery are often lying or sitting still for long periods of time. The guideline recommends that healthcare professionals encourage patients to get up and move around as soon as is possible and safe after surgery.

Kim Carter, DVT Nurse Specialist and member of the GDG, said: "Provision of adequate protection against potentially life-threatening blood clots in surgical patients

is currently variable. This guideline should ensure that all patients are fully assessed for their risk of VTE and offered the form of protection that is most appropriate for them. The publication of this guideline will result in increased public awareness and understanding of the risks of VTE in surgical patients. This in turn, should result in increased adherence to protective measures which are often required to continue for days, or even weeks, after patients are discharged home from hospital."

David Farrell, patient representative on the GDG, said: "Had this guideline been available when I underwent surgery on my knee, I may not have developed the blood clot that resulted in an unnecessary stint in hospital and took 6 months to recover from. Compression stockings are a simple and effective way to reduce the risk of blood clots and give patients a degree of control over their own treatment. The accompanying Understanding NICE Guidance literature for patients and their carers is informative and written in plain English for everyone to understand."

NICE will be working closely with the VTE Implementation Group established by the Chief Medical Officer (CMO) which will provide the leadership and impetus, both within the NHS and the wider healthcare sector, to ensure that the recommendations in the NICE guideline, and those in the recently published CMO's guideline on prevention of VTE in hospitalised patients, are acted upon as quickly as possible.

Ends

Notes to Editors

1. The guidance, together with a costing template and costing report, are available at www.nice.org.uk/CG46 (from 25 April). In addition, the following implementation tools will be available on the website shortly: a slide set; key messages for local discussion, implementation advice; practical suggestions on how to address potential barriers to implementation and audit criteria.
2. The CMO's report: '*Report of the independent expert working group on the prevention of venous thromboembolism in hospitalised patients'* is available on the Department of Health website (www.dh.gov.uk).

Key recommendations in the guideline include:

3. Patients should be assessed to identify their risk factors for developing venous thromboembolism
4. Inpatients having surgery should be offered thigh-length graduated compression/anti-embolism stockings from the time of admission to hospital unless contraindicated. If thigh-length stockings are inappropriate for a particular patient for reasons of compliance or fit, knee-length stockings may be used as a suitable alternative.
5. Intermittent pneumatic compression or foot impulse devices may be used as alternatives or in addition to graduated compression stockings while surgical patients are in hospital.
6. In addition to mechanical prophylaxis, patients at increased risk of VTE because they have individual risk factors and patients having orthopaedic surgery should be offered low

molecular weight heparin (LMWH). Fondaparinux, within its licensed indications, may be used as an alternative to LMWH.

7. LMWH or fondaparinux therapy should be continued for 4 weeks after hip fracture surgery.
8. Regional anaesthesia reduces the risk of VTE compared with general anaesthesia. Its suitability for an individual patient and procedure should be considered, along with the patient's preferences, in addition to any other planned method of thromboprophylaxis.
9. Healthcare professionals should encourage patients to mobilise as soon as possible after surgery.

About NICE

10. The National Institute for Health and Clinical Excellence (NICE) is the independent organisation responsible for providing national guidance on the promotion of good health and the prevention and treatment of ill health.
11. NICE produces guidance in three areas of health:
    - **public health** – guidance on the promotion of good health and the prevention of ill health for those working in the NHS, local authorities and the wider public and voluntary sector
    - **health technologies** – guidance on the use of new and existing medicines, treatments and procedures within the NHS
    - **clinical practice** – guidance on the appropriate treatment and care of people with specific diseases and conditions within the NHS.