The original guidance issued by the National Institute for Health and Clinical Excellence (NICE) concerning venous thromboembolism (VTE) and surgical patients in 2007, caused concern among orthopaedic surgeons. In this issue, Treasure et al outline the efforts made by NICE to address our concerns. This involved recruiting an orthopaedic advisory group which was approved by the Council of the British Orthopaedic Association (BOA).

The group was heeded by NICE and they have changed the guidance. As “those who cannot remember the past are condemned to repeat it,” we should reflect on the errors of process which caused the problems with the initial guidance. In so doing, we must include the House of Commons Select Committee Report 2004-2005 which led up to the guidance from NICE.

Firstly, there was an inflation of the problem in relation to orthopaedic surgery. The Office of National Statistics recorded that, in 2008, pulmonary embolism was the primary cause of death in 3047 cases. Treasure et al quote a figure of 25,000, and reference the Select Committee Report. However, that document offers no primary reference and the high figure is an estimate of total population deaths derived from modelling exercises (Cohen AT, personal communication 2010).

As Treasure et al agree, this is not an orthopaedic problem. Also, as admitted by Treasure et al, there was concern that historical data might overestimate the rates of VTE today, due to profound changes in anaesthetic and orthopaedic practice, driven by the determination of the orthopaedic community to minimise problems from VTE.

Secondly, asymptomatic and symptomatic calf-vein thromboses were often conflated, a problem seen throughout the haematological literature. The latter may carry a high risk of a post phlebitic limb, while the former may be benign. The new guidance from NICE rightly states that the clinical importance of asymptomatic calf-vein thrombosis must be investigated.

Thirdly, there was an assumption of a linear relationship between the rates of asymptomatic calf-vein thrombosis and symptomatic events. The evidence shows a clear historical association between reduction both of the rate of asymptomatic calf-vein thrombosis and of symptomatic events. To extend this to a linear relationship is mathematically naive, since it attaches importance to the ability to draw a straight line through two points. To further assume a relationship of precise proportionality is probably erroneous and certainly contrary to logic in lower limb orthopaedic surgery because it implies that pulmonary embolism arises only from a venous thrombosis which develops in the calf and extends proximally. This ignores the contribution of primary damage to the proximal femoral veins due to manipulation of the limb in hip surgery or as a result of tourniquet trauma.

Finally, the original guidance combined clinical groups in which orthopaedic surgeons would intuitively believe that the risk of VTE would differ and it merged results from passive and active mechanical methods of prophylaxis. As Treasure et al correctly point out, orthopaedic surgeons are very conscious of the risks of VTE and the lack of intellectual rigour described above reduced the confidence of orthopaedic surgeons in the original guidance.

This confidence was most severely damaged by the tacit assumption that low-molecular-weight heparin (LMWH) was not associated with bleeding complications since none was noted in prospective studies. The contrary clinical experience has been reported but it is easy to criticise the methodology of a postal survey. Nevertheless, when 95% of surgeons report bleeding problems with LMWH of such severity that 50% abandon it, this expert opinion should be given significant weight, particularly when the study was organised by one of the members of the THRiFT group, upon whose opinion the thrombologists rely heavily. This decision to downgrade specialist opinion is surprising, since NICE, in my
experience, goes to great lengths to capture specialist opinion and balance it against level one evidence. Treasure et al\(^4\) assure us that this matter is accounted for in the modelling of the new guidance.

Professional concerns were weighed lightly due to “perception bias”\(^4\). The suggestion is made that orthopaedic surgeons would not know if the patient suffers a thrombotic complication and would be less concerned with this than with bleeding. By accepting these assertions, those originally chosen to represent orthopaedic surgery failed in their duty. The reality is that orthopaedic patients are followed up until the risk of VTE has passed and the surgeon will be aware of such problems. Clinicians are just as concerned and responsible if a patient has either a thromboembolism or a bleeding complication and they try to balance the risks.

Conversely, haematologists and chest physicians can be accused of perception bias. They do not see the large majority of orthopaedic patients who escape significant VTE and they are not competent to comment on the side effects of prophylaxis. This bias is likely to be greatest for intensivists or chest surgeons who are only involved in rare, life-threatening problems. If applied correctly, perception bias implies that VTE prophylaxis must be led by the specialist orthopaedic surgeons who will have responsibility for the entire therapeutic journey of patients. There would therefore be no place for haematologists, general surgeons or chest physicians to guide orthopaedic practice.

Our lesson is in the 1997 postal survey\(^12\). Then orthopaedic surgeons recognised a problem with LMWH and reacted by modifying practice. This was their prerogative as independent practitioners. Today, the regulatory framework is different. The government has put in place systems which direct our practice. The BOA has been slow to react and in future, must have stronger oversight of those speaking on its behalf. Whoever represents the BOA to NICE must report directly to the executive.

NICE has not been faultless with respect to orthopaedic surgery and its worst moment arguably was the production of guidance on osteoarthritis without an orthopaedic surgeon on the development group\(^14\). My belief is that both NICE and the orthopaedic community have learned that their mutual isolationism is unproductive. I think that the new VTE guidance\(^5\) is workable. It requires risk assessment to determine the method of prophylaxis. In patients at risk, this would range from active mechanical methods where the risk of bleeding outweighs the benefits of chemical prophylaxis, to a combined regime in the cases at highest risk. Prophylaxis should continue as long as a risk analysis justifies it. NICE advocates serial risk assessments and careful monitoring of adverse events. These will be time consuming and expensive but if the very active policy advocated by NICE is to be safe, the expense must be borne.

There is a considerable amount of work to be done. The specialist societies must produce the risk assessments, for only they will have the direct knowledge to do so.

The NICE guidance ought to ensure that orthopaedic surgeons are at last given all the tools to combat VTE in orthopaedic surgery.

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References