We agree with Howard et al that patients with subperiosteal collections who do not show dramatic response to intravenous antibiotics should have surgical drainage.

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Kaiser S, Rosenberg M. Early detection of subperiosteal abscesses by ultrasonography: a means for further successful treatment in pediatric osteomyelitis. *Pediatr Radiol* 1994;24:336-9.

DEATH AND THROMBOEMBOLIC DISEASE AFTER HIP REPLACEMENT

Sir,

Warwick et al in a retrospective study in the January 1995 issue entitled 'Death and thromboembolic disease after total hip replacement' (1995;77-B:6-10) recorded a thromboembolic morbidity of 3.4% and suggested that prophylaxis to reduce this would be justifiable if resulting complications did not produce an alternative morbidity. There are now many studies which show that prophylaxis for thromboembolism is effective in patients undergoing hip replacement and that low-molecular-weight heparin offers valuable protection. The authors refer to the complications of prophylaxis but those relating to low-dose heparin have not achieved statistical significance and may well relate to surgical technique. Properly designed prospective studies with adequate follow-up are required.

Orthopaedic surgeons who do not use prophylaxis against deep-vein thrombosis expose themselves to the risk of litigation.

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Warwick D, Bannister GC, Williams MH. Death and thromboembolic disease after total hip replacement. *J Bone Joint Surg [Br]* 1995; 77-B:6-10.

Authors' reply:

Sir,

We thank Mr Scurr for his comments on our paper. We agree about the need for proper endpoints, but teleologically, the only true endpoint is the *clinical expression* of venous thromboembolism, namely death, clinical pulmonary embolism and clinical thrombophlebitis; our study tried to quantify these.

Most randomised clinical trials address the *venographic* prevalence of deep-vein thrombosis (DVT). The unproven extrapolation is then made that a reduction in venographic DVT is reflected in a reduced clinical expression of venous thromboembolism. No studies have shown that mortality from pulmonary embolism after hip replacement can be reduced by prophylaxis.

Our study showed that, when prophylaxis was not used routinely, the mortality was considerably lower than is often assumed, although the clinical expression of venous thromboembolism was fairly substantial. Routine prophylaxis should therefore be considered, bearing in mind three contentious issues: the *scientific validity* of the studies supporting the prophylaxis, the potential *side-effects* of the prophylaxis, and the *extrapolation* between venographic DVT and clinical thromboembolism.

On this basis, low-molecular-weight heparin is the most effective chemical agent, reducing venographic DVT to about 17% with a low risk of side-effects (Imperiale and Speroff 1994). The AV Impulse Foot Pump has fewer published studies but appears to

offer a pronounced benefit with no risk of haemorrhagic side-effects. The use of regional anaesthesia, early mobilisation and graduated compression stockings also helps.

On the balance of probabilities, prophylaxis should be used after total hip replacement surgery, but the three contentious issues should be recognised and raised in defence against litigation or the imposition of guidelines.

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Imperiale TF, Speroff T. A meta-analysis of methods to prevent venous thromboembolism following total hip replacement. *JAMA* 1994;271:1780-5.

ULTRASOUND OF SOFT-TISSUE MASSES

Sir,

Johnstone and Beggs in an editorial in the September 1994 issue entitled 'Ultrasound imaging of soft-tissue masses in the extremities' (1994;76-B:668-9) advocate ultrasound imaging as "a widely available, inexpensive and accurate method of assessing suspected soft-tissue lesions of the extremities". They use high-resolution real-time equipment and have found it to be an accurate first-line investigation. We agree that demonstration of a popliteal or meniscal cyst by ultrasound is reliable but suggest that clinical examination combined with fine-needle aspiration cytology is equally cheap and safe.

Ultrasound is not diagnostic for other soft-tissue masses but CT or MRI is diagnostic for lipoma, which often mimics soft-tissue sarcoma, especially if it is deep-seated (Gelineck et al 1994). In addition, haemangioma and neurilemmoma often show specific signal characteristics on MRI (Greenspan et al 1992; Söderlund, Goranson and Bauer 1994). Malignant soft-tissue tumours cannot be diagnosed on MRI alone but the findings of necrosis and peritumoural oedema strongly suggest malignancy (Tung and Davis 1993).

The authors correctly state that soft-tissue malignant fibrous histiocytoma may present as a large spontaneous haematoma but we do not advocate early exploration of such a tumour which may lead to contamination of normal tissue, complicating later radical surgery (Mankin, Lange and Spanier 1982). Operation for deep-seated masses must be based on preoperative MRI or CT with a fine-needle or true-cut biopsy; open biopsy can be avoided in most cases (Åkerman and Rydholm 1994). MRI gives the best information for deep-seated soft-tissue tumours which will help pre-operative staging (Tung and Davis 1993).

The authors state that their experience with fine-needle aspiration cytology is disappointing, but there are a number of studies which confirm the value of this diagnostic tool (Åkerman, Rydholm and Persson 1985; Layfield et al 1986; Oland et al 1988; Young 1993).

We agree that solid masses always require further investigation but feel that patients with such masses in the extremities, especially if deep-seated, should be referred to a tumour centre for further investigation and management.

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Åkerman M, Rydholm A, Persson BM. Aspiration cytology of soft-tissue tumours: the 10-year experience at an orthopaedic oncology center. *Acta Orthop Scand* 1985;56:407-12.