results (table) suggest that only very high concentrations of cimetidine inhibit platelet aggregation. However, nasogastric fluid concentrations of cimetidine after an oral dose can be several thousand times higher than concomitant blood levels.[3] Might not these high concentrations influence local haemostasis? Another report[4] concluded that in the prophylactic treatment of patients at risk of gastrointestinal haemorrhage antacids offered better protection than cimetidine. Up to 400 mg cimetidine was administered intravenously every four hours, probably repeatedly achieving considerably high peak levels. The possibility that cimetidine may have impaired platelet function and increased haemorrhagic tendency was not considered.

Several cases of thrombocytopenia occurring during cimetidine therapy have been discussed (14 June, p 1453). However, there appears to be only one study[5] which investigated the possible effect of cimetidine on platelet aggregation. Administration of cimetidine to healthy volunteers and haemophiliac patients had no effect on platelet aggregation but only the short-term effects of treatment were assessed and it is not clear to us whether the controls were tested after oral or intravenous administration of cimetidine.

We believe that further investigations are indicated, particularly to assess long-term treatment with cimetidine and the drug's effect on patients with impaired platelet function. Perhaps future studies, similar to those recently published (12 July, p 95; 16 August, p 473), evaluating various H_2-receptor antagonists should include an assessment of the effect on haemostatic mechanism.

We thank Smith Kline and French for supplying additive-free cimetidine.

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[4] Priebe HJ, Skillman JJ, Bushnell LS, Long PC, Silen W. *N Engl J Med* 1980;302:426-30.
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Postoperative deep-vein thrombosis: identifying high-risk patients

SIR,—I read Mr J D Hamer's letter (13 September, p 745) on this subject. We are not strangers. Therefore I hope I may remind him, and through him Mr A J Crandon and others (2 August, p 345), that low-dose heparin is not the sole and unchallenged method of preventing deep-vein thrombosis. Deep-vein thrombosis starts during the operation owing to the combined effects of tissue damage and venous stasis. Venous stasis can be prevented by electrical stimulation or passive compression of the calf muscles in the theatre. Both methods are efficient, very practical, and above all cheap, except for patients with a malignant lesion.

Although Wessler demotes venous stasis to a role subordinate to a mystical state of general hypercoagulability,[1] clinical experience since 1964 has established that in most patients with a benign lesion preventing venous stasis is all that is required to avoid deep-vein thrombosis. If the condition is malignant heparin should be used.

Out of 51 022 gynaecological admissions in the West Midlands, there were 1578 (3·09%) malignant conditions. Mr Crandon and Mr Peel have a simple answer to their problem of the high-risk patient. They need give heparin only to those with a malignant lesion—that is, to very few. Mr Hamer could save a lot of money in general surgery because out of 113 425 admissions there were only 11 592 (10·1%) malignant conditions; the other 101 833 patients, having benign lesions, did not need heparin.

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Factor VIII supply and demand

SIR,—I should like to comment on the published dialogue between Dr A Aronstam (21 June, p 1532 and 20 September, p 810), and Dr J Cash (23 August p 656).

I have had some time to reflect why the National Health Service cannot provide more than a fraction of factor VIII concentrate required for the adequate treatment for haemophilia A. As early as 1957,[1] when the preparation and use of human factor VIII concentrate was described, and again in 1963,[2] when modifications for regional production of factor VIII concentrate were published, I was personally made aware of the very severe financial restrictions that the Health Service imposed on the production of and research into blood products. In part, these restrictions were responsible for the closure of the Lister Institute of Preventive Medicine, where much of the original work on the preparation of blood products for this country was carried out by Drs R A Keckwick and M E Mackay. The basic problem as I see it is as follows. The DHSS stipulates that since human blood is given as a voluntary donation its products cannot be financially exploited. The result of this dictum is that over the years "free" human blood products in this country have been in very short supply, so that for research and treatment human blood products have to be purchased from Sweden, the USA, or France.

If the rather rigid attitude of the DHSS were modified and blood products derived from free blood donations could be sold both here and abroad—the revenue being earmarked for expansion of production and research on human blood constituents—the escalating shortfalls of factor VIII and other blood constituents would probably disappear. Such a change of policy appears to me quite ethical and I have the impression that most blood donors would support such a policy of self-help by the Health Service.

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SIR,—We write to comment on the letters of Drs A Aronstam (20 September, p 810) and J D Cash (23 August, p 565).

When supplies of fresh frozen plasma exceed the capacity of the fractionation centres the extra plasma can be diverted to the preparation of dried cryoprecipitate, a product now available in Australia[1] and most of the EEC countries, including the Irish Republic,[2] which lacks fractionation facilities. We have been producing dried cryoprecipitate over the last year by a simple technique in which the cryoprecipitates from five donations of plasma are pooled and freeze dried with no appreciable loss of factor VIIIc in the drying process. The excellent yield of factor VIII obtained with conventional cryoprecipitate made by the rapid 4°C thaw method is maintained in this dried product. Our product provides 400 IU (range 300-700 IU) per litre of plasma used. It is rapidly reconstituted in 50 or 100 ml of distilled water, the specific activity is 0·19 IU/mg of protein, the fibrinogen accounts for 15% of the total protein present, and factor VIIIc:fibrinogen ratio is 1·26 IU/mg. The material has so far been given only to a small number of patients but it has been found efficacious and no side effects have been reported. A fuller description of the methods and clinical efficacy of the product will be offered for publication later.

The projected factor VIII requirement for the UK population is 1·8 IU per head of population per annum (1800 per 1000). When donor plasma supplies are limited to 8 litres/10^3 per year or less it is not possible to meet the requirements without using a certain amount of conventional cryoprecipitate, which Hassig and Lundsgaard Hansen[3] issue as a freeze-dried small pool product.

These two letters and the letter by Dr P Jones (21 June, p 1531) on factor VIII supply and demand underline a major unresolved problem. Perhaps the time has come to reassess our methods and to accept, as many other countries have done, the fact that there is room for both high-technology (low-recovery) and low-technology (high-recovery) products in the management of haemophilia.

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[1] Margolis J, Rhoades P. *Vox Sang* 1976;36:369-74.
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Percutaneous central venous cannulation

SIR,—May we describe a further refinement to the technique of ultrasound identification of the subclavian vein reported by Mr J L Peters and others (30 August, p 618)?

In the co-operative conscious adult a sharp expiration against a closed glottis produces immediate cessation of flow in the subclavian vein. The venous hum heard with an ultrasound probe stops completely, thus confirming that one has located the vein and is not listening to extraneous noise. In an anaesthetised subject raising the intrathoracic pressure for a few seconds by squeezing the reservoir bag produces the same Valsava effect, again