this does not necessarily affect the overall process of haemostasis in any clinically significant way.

While adding any comment in this area, we feel that our study lends weight to the view that the bleeding time test in isolation is of limited use when making clinical management decisions with respect to the provision of regional anaesthesia for women in labour.

We are grateful for the opportunity to reply to Dr Bromage's letter also. While it is gratifying to know that our paper [2] has provoked some discussion of this interesting topic, we feel that Dr Bromage may have misinterpreted much of what we were attempting to show. As to the question of how we performed the bleeding time test, we would reiterate that although, because of limited journal space, we were not totally explicit in our description of the execution of the test, care was taken to comply precisely with the manufacturer's instructions. By this we mean that the flow of blood was "stalled" with filter paper and the platelet plug was not disturbed by this process.

Dr Bromage criticizes the way in which we have interpreted our data. Although the variability between observers and subjects was similar, he divides the observer group into two and points out that, in doing this, he has established a significant difference in observer performance. We are unsure as to what significance Dr Bromage attributes to this observation, but we are also very dubious about the validity of performing this type of meta-analysis. There can be no basis for deliberately selecting certain aspects of the results to show an effect which the study was not designed to test. In doing this the scientific objectivity of the study is undermined.

Criticism is made also of the accuracy of the bleeding times as assessed by the study observers. Our study set out to examine the performance of clinical anaesthetists in a clinical setting and not to assess the merits of the bleeding time test per se. We were interested in examining the bleeding time as a clinical tool, rather than one used in the laboratory or in epidemiological practice. We specifically limited our interpretation of the results to the reliability of the bleeding time and not to its validity. We stated in our discussion that, whether or not the bleeding times measured were strictly accurate, we had demonstrated a large variation in the clinicians' performance. We concluded, therefore, that a single bleeding time result, when obtained by clinicians, should not necessarily be taken as reliable evidence of the presence or absence of a bleeding tendency.

While we would agree that anaesthetists should attempt to reduce anaesthetic adverse outcomes to zero, we would urge that this objective is achieved in a rational way. The anaesthetist may think that he is better armed to make an important clinical decision with the result of a bleeding time test, we would reiterate that although, because of limited journal space, we were not totally explicit in our description of the execution of the test, care was taken to comply precisely with the manufacturer's instructions. By this we mean that the flow of blood was "stalled" with filter paper and the platelet plug was not disturbed by this process.

In a recent major discussion of clinical measurement [5], Professor Sykes reminded us of the importance of questioning the significance of all clinical measurements we make. He stated that we must ensure that measurements are evaluated correctly by the study observers. Our study set out to examine the performance of clinical anaesthetists in a clinical setting and not to assess the merits of the bleeding time test per se. We were interested in examining the bleeding time as a clinical tool, rather than one used in the laboratory or in epidemiological practice. We specifically limited our interpretation of the results to the reliability of the bleeding time and not to its validity. We stated in our discussion that, whether or not the bleeding times measured were strictly accurate, we had demonstrated a large variation in the clinicians' performance. We concluded, therefore, that a single bleeding time result, when obtained by clinicians, should not necessarily be taken as reliable evidence of the presence or absence of a bleeding tendency.

In a recent major discussion of clinical measurement [5], Professor Sykes reminded us of the importance of questioning the significance of all clinical measurements we make. He stated that we must ensure that measurements are evaluated correctly by rigidly controlled trials before they are accepted into clinical practice. We agree wholeheartedly with this wisdom and would submit that our examination of the bleeding time test represents an attempt to follow this advice.

S. W. O'KELLY
E. G. LAWES
Southampton


TRAINING IN FIBREOPTIC INTUBATION

Sir,—I support Drs Brock-Utne and Jaffe [1] in advocating the sitting position for most patients in whom awake, fibreoptic intubation is indicated. At Green Lane Hospital, many anaesthetists have adopted this approach for awake intubation (usually nasotracheal), after observing the ease with which otolaryngologists (ORL) surgeons visualize the larynx in seated, unsedated outpatients.

The ORL clinics are used for the training of anaesthetic registrars, who are rostered to a minimum of two weekly clinics for preoperative and postoperative assessment of patients with head and neck cancer. Registrars are taught visualization of the nasopharynx and larynx by the surgeons and surgical registrars: the patient is awake, co-operative and relaxed, as the procedure is familiar, quick and brings minimal discomfort. An Olympus nasopharyngeal fibroscope (ENF P2 or P3) is inserted through the nose after the nasal cavity and oropharynx have been anaesthetized with two sprays of 10% lignocaine to each area. The appearance and dimensions of the nasal cavity, nasopharynx and "outside-down" larynx, are different from those in the anaesthetized supine patient approached from behind the head. Ten to 12 examinations are performed at the two clinics.

Registrars can then use the nasopharyngeal scope alone to assess difficult or obstructed Airways in the ORL ward as part of the preanaesthetic visit. Anaesthetists adapt readily to performing an awake fibreoptic intubation with the patient in the sitting position, using the fibreoptic bronchoscope with its narrower calibre and longer length. Other specialties within the medical profession in Australasia have adopted fibreoptic laryngoscopy more readily than anaesthetists. We must learn from them and pick up the fibreoptic scope with as much confidence and facility as we pick up the laryngoscope.

M. J. PESKETT
Auckland, New Zealand


BLOOD LOSS DURING TOTAL HIP REPLACEMENT

Sir,—We read with interest the paper entitled "Total hip replacement surgery without blood transfusion in Jehovah's Witnesses" by Drs Wittmann and Wittmann [1].

Recently, we completed a retrospective study to examine transfusion practice in 150 patients undergoing cemented Charnley total hip arthroplasty and found that 97% of patients received an average of 2.7 units per patient. The mean blood loss was 1500 ml and duration of surgery 85 min. These findings are similar to those of Friedman [2] and Sarma [3]. We are currently re-examining transfusion practice in a prospective study of total hip arthroplasty patients in whom specific guidelines for transfusion exist: PCV of less than 30% for males and less than 27% for females. Our findings after 60 patients have demonstrated a significant decrease in the proportion of patients transfused (currently 41%). The average transfusion for the group as a whole is now 0.44 units per patient. There has been no demonstrable increase in morbidity in or the duration of inpatient stay.

Our findings thus far suggest that the introduction of simple criteria for transfusion substantially reduces unnecessary transfusions. Our experience is that blood loss is significantly greater for the cemented Charnley than for the uncemented Ring type prosthesis.

We congratulate Drs Wittmann and Wittmann on their advocate of blood transfusion in Jehovah's Witness group; however, we would suspect that, in common with us, they are guilty of being generous with blood in the transfusion group, particularly in view of the small total loss of blood in these patients.

M. MCGSWEYN
G. JOSHI
M. MCCARROLL
Dublin


Sir,—Thank you for the opportunity to comment on the interesting points raised by Drs McSwiney, Joshi and McCarron.

Do we overestimate blood loss in total hip replacement (THR)? Obviously, we think not. In THR—either cemented or uncemented—complete haemostasis is difficult to achieve and there is invisible loss into the wound and around the deadspace created by the prosthesis. This may continue for 48 h or more after operation and is not accounted for in either the visible operative loss or the postoperative loss collected in the drains. However, it is revealed in the 10-day postoperative haemoglobin concentration, which is smaller than expected from measured blood loss. An accurate assessment of total blood loss in THR should therefore include the postoperative haemoglobin deficit (preoperative haemoglobin—postoperative haemoglobin).

Our data [1] showed that, in the transfused group, for whom average measured blood loss was 968 ml, the average haemoglobin deficit was still 2.2 g dl⁻¹. In the untransfused Jehovah’s Witnesses, the average haemoglobin deficit was 4.8 g dl⁻¹.

We have examined further the records of 503 consecutive patients who were transfused during uncemented THR. The average haemoglobin deficit was 1.92 (SD 1.43) g dl⁻¹ (95% confidence interval 1.87–2.12 g dl⁻¹). In 36 patients (7%) the postoperative haemoglobin concentration was greater than the preoperative value—in only eight patients (1.6%) by more than 1 g dl⁻¹ and in two of these (0.3%) by more than 2 g dl⁻¹.

Although McSwiney, Joshi and McCarron mention the PCV as a criterion for transfusion, they do not specify if the preoperative value alone is used or if further measurements are obtained. May we suggest that they measure the haemoglobin deficit after operation, to show how accurate has been their assessment of transfusion needs?

The postoperative management of THR involves vigorous physiotherapy so that patients are mobile from the third day. We were always concerned that anaemia might lead to weakness and slowing down of the normal routine in the Jehovah’s Witnesses. However, their motivation was quite striking and they seemed to overcome any obstacles.

P. H. WITTMAN
F. W. WITTmann
Redhill


ANTENATAL ASSESSMENT FOR ANAESTHESIA

Sir,—Recently, in this hospital an on-call anaesthetist received a call at 05:00 telling him of an emergency Caesarean section and (by the way) that the patient had osteogenesis imperfecta. We were grateful for the case report published in the April edition of the Journal [1], detailing the management of this unusual condition. However, our patient agreed to a subdural block, which pointed out the failure of communication between the anaesthetic department and the obstetric department relating to difficult cases. In our case, the first information the anaesthetist had of the patient was the 05:00 ‘phone call. In defence of the obstetric department, this patient failed to turn up for many of her antenatal visits, which reduced the opportunity to inform the anaesthetic department of the unusual diagnosis.

In order to ensure that information is passed to the anaesthetic department, many procedures exist. These may range from drawing up a list of conditions which must be notified to the anaesthetists (but would it have included osteogenesis imperfecta?), to the anaesthetists’ setting up an anaesthetic clinic at the antenatal outpatient department and meeting expectant mothers at first booking. This latter suggestion may be radical, but many problems relating to pain relief and anaesthetic screening could be dealt with at that time.

We would be grateful if any readers could supply ideas to deal with a communication problem that we believe exists throughout the world.

M. W. CODY
J. A. JOHNSTON
Emmishilen


VENOUS SEQUELAE OF DICLOFENAC

Sir,—We refer to a letter, “Venous sequelae after i.v. diclofenac” [1]. We have been using i.v. diclofenac as analgesia for adenotonsillectomy in children. Diclofenac was compared with papaveretum in a double-blind, randomized controlled trial.

In an attempt to reduce the incidence of reported thrombo-phlebitis around the injection site [2], we diluted diclofenac (Voltarol 75 mg in 3 ml) in 5% glucose to produce a 1-mg ml⁻¹ solution. A dose of 1 ml kg⁻¹ was given after induction of anaesthesia and the injection site was inspected at injection, on wakening and 15 min and 1, 4 and 24 h thereafter. There was no pain, thrombosis or inflammation at any time in any of the 20 patients who received i.v. diclofenac.

There were no significant differences in postoperative comfort, requirements for extra analgesia, nausea, vomiting or peroperative bleeding compared with the group receiving i.v. papaveretum.

Diclofenac is unlicensed for i.v. administration in the United Kingdom because of insufficient clinical information (personal communication, Ciba Geigy). Choice of diluent and volume of dilution are both important factors in the prevention of venous sequelae [2]. We have shown in this small group of children that diclofenac was safe and effective.

C. B. BERRY
N. S. MORTON
Glasgow


Sir,—From our experience in adults and a limited one in children, we observed that the nature of the diluent had no effect on the analgesic effects or potency. Glucose 5% may be more appropriate in the paediatric age group.

I feel that, at a dose of 1 mg kg⁻¹, a dilution of 1 mg ml⁻¹ may be a large volume of injectate and 5 mg ml⁻¹ would be more appropriate and could be given by infusion. I have used it in this way in only a few paediatric orthopaedic patients, without side effects.

R. GOPINATH
Hyderabad