

haemopoiesis. Interestingly, improved survival in this trial was not accompanied by any striking change in blood counts, but Kerndrup *et al* and Clark *et al* have shown a reversion of both neutrophil myeloperoxidase activity and abnormal cell surface markers towards normal as a consequence of treatment with tretinoin,<sup>8,9</sup> and leucocyte function may improve.

ALLAN JACOBS

University of Wales College of Medicine,  
Cardiff CF4 4XN

- Jacobs A. Human preleukaemia: do we have a model? *Br J Cancer* 1987;55:1-5.
- Breitman TR, Selonick SE, Collins SJ. Induction of differentiation of the human promyelocytic leukaemia cell line (HL-60) by retinoic acid. *Proc Natl Acad Sci USA* 1980;77:2936-40.
- Breitman TR, Keene BR, Hemmi H. Retinoic acid induced differentiation of fresh leukaemia cells and the human myelomonocytic cell line HL-60, U-937 and THP-1. *Cancer Surveys* 1983;2:263-92.
- Verma AK, Conrad EA, Boutwell RK. Differential effects of retinoic acid and 7,8-benzoflavone on the induction of mouse skin tumours by the complete carcinogenesis process and by the initiation promotion regimen. *Cancer Res* 1982;42:3519-25.
- Sporn MV, Roberts AB. Role of retinoids in differentiation and carcinogenesis. *Cancer Res* 1983;43:3034-40.
- Dennert G. Immunostimulation by retinoic acid. In: Nugent J, Clark S, eds. *Retinoids, differentiation and disease*. London: Pitman, 1985:117-31. (CIBA Foundation Symposium 1131.)
- Clark RE, Lush CJ, Jacobs A, Smith SA. Effect of 13-cis retinoic acid on survival of patients with myelodysplastic syndrome. *Lancet* 1987;ii:763-5.
- Kerndrup G, Bendix-Hansen K, Pedersen B, Ellegaard J, Hokland P. 13-cis retinoic acid treatment with myelodysplastic syndromes. *Leuk Res* 1987;11:7-16.
- Clark RE, Smith SA, Jacobs A. Myeloid surface antigen abnormalities in myelodysplasia: relation to prognosis and modification by 13-cis retinoic acid. *J Clin Pathol* 1987;40:652-6.

### Not all travellers need immunoglobulin for hepatitis A

SIR,—The leading article by Drs Jonathan H Cossar and Daniel Reid (13 June, p 1503), which was commented on by Drs G Kudesia and E A C Follett (11 July, p 118), reopens the argument about the cost benefit of screening for immunity to hepatitis A before foreign travel and before the administration of prophylactic normal human immunoglobulin.

The value of pretesting in regular business travellers is beyond question.<sup>1,2</sup> Not only have they probably had greater past exposure to infection but they will also need repeated injections of a preparation that, although safe, is costly and painful. Screening would identify immune subjects, reducing the numbers requiring prophylactic treatment. On the other hand, the need for screening holiday travellers, who generate most of the requests for immunoglobulin, depends on age, socioeconomic backgrounds,<sup>3</sup> and also the travellers' place of residence in the British Isles.

The figures for hepatitis A immunity in Avon (table) are much lower than those quoted by Drs Cossar and Reid for the west of Scotland, and pretravel screening in our area would not be cost effective below the age of 40. A recent report from Japan shows how rapidly susceptibility to hepatitis A may increase in a community as a result

of rising living standards.<sup>4</sup> It is important to review figures for local antibody prevalence in the United Kingdom regularly to give the most helpful advice. This should take into account not only the country to be visited but also the duration of stay and the lifestyle of the traveller while abroad.<sup>5</sup>

JANET PALMER  
E OWEN CAUL  
A P C H ROOME

Public Health Laboratory Service,  
Bristol BS2 8EL

- Bruton DM, Hughes Hallett I, Lawrence-Jones C. Protection against hepatitis A infection for travellers. *Lancet* 1984;ii:790-1.
- Skidmore S. Protection against hepatitis A infection for travellers. *Lancet* 1984;ii:790.
- Banatvala JE, Thorogood RJ. Hepatitis A antibodies in London blood donors, medical students and patients. *Lancet* 1980;ii:596.
- Ikematsu H, Kashiwagi S, Hayashi J, *et al*. A seroepidemiologic study of hepatitis A virus infections. Statistical analysis of two independent cross sectional surveys in Okinawa, Japan. *Am J Epidemiol* 1987;126:50-4.
- Hall SM, Mortimer PP, Vandervelde EM. Hepatitis A in the traveller. *Lancet* 1983;ii:1198.

### Reduction in postprandial energy expenditure during pregnancy

SIR,—Unlike Dr A M Prentice and colleagues (25 July, p 266), who used a method for measuring diet induced thermogenesis that is derived by exclusion with an estimate for physical activity, we actually derived our results by direct measurement of the thermic response to a meal (20 June, p 1573). We found a reduction in this response in all of our pregnant women in the second trimester. We measured the thermic response for only two hours after ingestion of the meal and would agree that this probably represents about two thirds of the total response induced by the meal. If this is the case and we extrapolate using the Cambridge group's own reported calculated intake for pregnant women in the second trimester—namely, 8.1 MJ—then the energy savings amount to 94 kJ, about 1% of total energy expenditure, as Dr Prentice and coworkers point out. If this is compared, however, with the rise in resting metabolic rate during the second trimester of 288 kJ/24 h then it represents an energy saving of one third.

An actual fall in resting metabolic rate would be a much more important energetic adaptation as the resting metabolic rate accounts for over 70% of total energy expenditure in humans. We were, therefore, interested to note that Dr Prentice and colleagues observed such a reduction in four out of seven women in the second trimester, as has been reported by Durnin *et al* in Glasgow women.<sup>1</sup> The direction of change in the resting metabolic rate may ultimately depend on the energy intake in each case. We therefore stand by our conclusion that the pregnant woman shows evidence of enhanced energetic efficiency in the second trimester, some more than others, which would reduce the need to consume as much extra energy as official estimates would have us believe.

Our data, nevertheless, indicate that even if dietary energetic savings are taken into account the

pregnant woman still needs to consume extra energy. In our women the calculated minimum extra intake necessary for energy balance was 310 kJ and 420 kJ a day during the second and third trimesters, respectively. These figures are much lower than the 630 and 1470 kJ officially recommended but, interestingly, somewhat nearer to those reported by Durnin *et al*.<sup>1</sup>

Dr Prentice and coworkers also emphasise the various estimates of energy intake observed by others, indicating a possible figure of 1 MJ for the rise in energy intake during pregnancy. This contrasts with their own work, which we quoted in the introduction to our paper, which showed no appreciable rise in intake.<sup>2</sup> As they recently have shown the unreliability of such measurements in giving a true picture of energy intake, we think that little reliability can be placed on those of others in evaluating a precise figure of energy intake by using similar methods.<sup>3</sup> This is best achieved by accurate measurement of energy expenditure.

P J ILLINGWORTH  
R T JUNG  
P W HOWIE

Ninewells Hospital,  
Dundee,  
Scotland

- Durnin JVGA, McKillop FM, Grant S, Fitzgerald G. Is nutritional status endangered by virtually no extra intake during pregnancy? *Lancet* 1985;ii:923-5.
- Whitehead RG, Paul AA. Diet and the pregnant and lactating woman. In: Turner MR, ed. *Nutrition and health: a perspective—the current status of research in diet related disease*. Lancaster: MTP Press, 1982.
- Prentice AM, Black AE, Coward WA, *et al*. High levels of energy expenditure in obese women. *Br Med J* 1986;292:983-7.

### Delivery after caesarean section

SIR,—In one of the largest published series Dr B G Molloy and colleagues (27 June, p 1645) report a low incidence of both elective and emergency repeat caesarean section. Their conclusion that these figures represent the lowest incidence of abdominal operative delivery in a group of patients after one caesarean section must be interpreted with caution, however, as the populations in the studies cited were not defined. We believe that these results reflect the patient population rather than their obstetric management.

As an example, we presented a review of 260 such patients at the 1987 meeting of the Bavarian Society for Obstetrics and Gynaecology. These women were delivered in the department of obstetrics, Grosshadern, at the University of Munich, which serves as a referral centre for high risk patients. Consequently, we assume that the patients cannot be compared directly with those described by Dr Molloy and coworkers. Of 260 patients, 26.5% were delivered by elective repeat caesarean section compared with only 18% in Dublin. The difference may be explained by analysing the percentage of infants born weighing less than 2500 g as an indicator of high birth risk. In our population 8.5% of infants fell into this category compared with 4.9% in Dublin. Low birth weight plays an important part in the decision to perform an elective repeat caesarean,<sup>1</sup> particularly when the fetus presents as a breech.<sup>2</sup>

The low proportion of emergency repeat caesarean sections reported (9%) compares with 22.3% in our study. If the population is analysed 62.3% of the patients described by Dr Molloy and colleagues had already delivered at least once vaginally compared with only 13.5% of our patients. It is well recognised that women who have had previous vaginal deliveries have a better chance of delivering vaginally after a trial of labour.<sup>3,4</sup>

Proportion of patients immune to hepatitis A, September 1985 to July 1987

	Age (years)						
	1-9	10-19	20-29	30-39	40-49	50-59	≥60
<i>Patients screened for immunity alone</i>							
No examined	0	16	85	103	103	95	57
No (%) ELISA IgG positive		0 (0)	7 (8)	16 (16)	36 (35)	43 (45)	42 (74)
<i>All patients tested except those with hepatitis A</i>							
No examined	38	207	444	378	284	265	112
No (%) ELISA IgG positive	5 (13)	23 (11)	93 (21)	110 (29)	139 (49)	146 (55)	92 (82)

ELISA = Enzyme linked immunosorbent assay.

Nevertheless, we do not want to detract from the importance of this paper with regard to the use of oxytocin and epidural anaesthesia, both of which are used when indicated in our department. We would also like to emphasise the importance of continuous fetal monitoring in all trials of labour; it should not be forgotten, despite such encouraging reports, that all women delivering after caesarean section are high risk patients and must be monitored accordingly. The delivery should always take place in a unit equipped to deal with the rare emergency.

AVRIL SCHNEIDER

Ludwig Maximilians Universität,  
Munich,  
Germany

- Westgren M, Dolfin T, Halperin M, *et al*. Mode of delivery in the low birth weight foetus. *Acta Obstet Gynecol Scand* 1985;64: 51-7.
- Confinio E, Ismajovich B, Sherzer A, Peyser RM, David M. Vaginal versus caesarean section oriented approaches in the management of breech delivery. *Int J Gynaecol Obstet* 1985; 23:1-6.
- Lavin JP, Stephens RJ, Miodovnik M, Barden TP. Vaginal delivery in patients with a prior caesarean section. *Obstet Gynecol* 1982;59:135-48.
- Jarrell MA, Ashmead GC, Mann LI. Vaginal delivery after caesarean section: a 5 year study. *Obstet Gynecol* 1985;65: 628-32.

### Hypotensive and sedative effects of insulin in autonomic failure

SIR,—The hypotensive effect of systemically administered insulin in patients with autonomic failure described by Dr Christopher J Mathias and colleagues (18 July, p 161) might be explained by the fact that insulin is a vasodilator. Using photoelectric plethysmography<sup>1</sup> to measure blood flow close to superficial subcutaneous injection sites, we have shown that insulin has a local vasodilator action.<sup>2</sup> Subsequent work has shown that systemic administration of insulin (in doses insufficient to cause hypoglycaemia) also causes vasodilatation.<sup>3,4</sup> In view of the findings of Dr Mathias and coworkers it is interesting that Takata *et al* found that systemic insulin caused dilatation of both resistance and capacitance vessels in diabetic patients with autonomic neuropathy but not when autonomic function was normal.<sup>4</sup> They suggested that vasodilatation was a major contributory factor in insulin induced hypotension.

The mechanism of action of insulin induced vasodilatation is obscure, although it may be mediated by  $\beta$  adrenergic receptors.<sup>3</sup> As Dr Mathias and colleagues suggest, greater sensitivity of deeper visceral vascular beds to the vasodilator effect of insulin may explain why hypotension appeared in their patients before any increases were observed in forearm muscle or finger blood flow.

GARETH WILLIAMS

Department of Medicine,  
Royal Postgraduate Medical School,  
London W12 0HS

JOHN C PICKUP

Division of Chemical Pathology,  
United Medical and Dental Schools of Guy's  
and St Thomas's Hospitals,  
London SE1 9RT

- Challoner AVJ. Photoelectric plethysmography for estimating cutaneous blood flow. In: Rolfe P, ed. *Non-invasive physiological measurement*. Vol 1. New York: Academic Press, 1979:125-51.
- Williams G, Pickup JC, Clark A, Bowcock S, Cooke E, Keen H. Changes in blood flow close to subcutaneous insulin injection sites in stable and brittle diabetes. *Diabetes* 1983;32:466-73.
- Creager MA, Liang C-S, Coffman JD. Beta adrenergic-mediated vasodilator response to insulin in the human forearm. *J Pharmacol Exp Ther* 1985;235:709-14.
- Takata S, Yamamoto M, Yagi S, Nata Y, Ikeda T, Hattori N. Peripheral circulatory effects of insulin in diabetes. *Angiology* 1985;36:110-6.

### Hospital developments in Scotland

SIR,—I read with great surprise Scrutator's comment that the Minister of Health for Scotland has imposed a building scheme on the Greater Glasgow Health Board that is not considered to be necessary (1 August, p 340). This is simply not true as the developments are the culmination of over 12 years' detailed consultation with all staff, including the members of the medical profession.

Since planning started in 1974 there has been a minimum of three hospital doctors on the planning team, but more often four, in addition to the chief administrative medical officer. Total agreement was reached with all disciplines, including medical staff, and minutes showing this are available for inspection. One of the doctors was a very well respected consultant surgeon, Mr Ronald Cumming, with over 20 years' experience at the hospital. Mr Parkin was appointed consultant surgeon less than 18 months ago.

When the board made its decision in February 1986 to proceed with the scheme the written advice from the area medical committee was: "All items in phase 1 of the hospital development are necessary and essential for efficient patient management." In short the committee, which consists of every doctor in Shetland, considered the developments, including the new maternity unit, to be essential. The area nursing and midwifery committee, the area dental committee, and the Royal College of Nursing also advised the board strongly that the scheme should proceed. The Confederation of Health Service Employees did not express any opposition, saying only: "Whatever decision was reached it was hoped that it would benefit the patients." The local health council, which is chaired by a retired Shetland doctor who has a deep appreciation of the needs of the local community, also gave public support in favour of the scheme at a meeting attended by the chief administrative medical officer.

Thus there was overwhelming support for the scheme to proceed, and the board voted accordingly. Finally, the board received a written report from its senior management team expressing unanimous support for the scheme to start. This team consists of the general manager, the chief administrative medical officer, the chief administrative nursing officer, the chief administrative dental officer, and the treasurer. It is true, however, that the chief administrative medical officer made certain reservations not expressed previously because of the two consultants having only recently been appointed.

The board quite clearly made the correct decision in view of the weight of advice received, and there is no question of the developments having been imposed on it by the minister.

D C MARCH

Shetland Health Board,  
Shetland ZE1 0QP

### The cost of nursing

SIR,—The English National Board circular 86/65/ERDB to which Dr K W M Scott refers in his letter (8 August, p 393) states that nursing training institutions "should show that progress is being made towards achieving... 1532 hours of theoretical instruction [in a three year training programme] which will include study blocks, seminars and clinically based theoretic training sessions."

The English National Board was established by statute "to provide or arrange for others to provide at institutions approved by the Board courses of training with a view to enabling persons to qualify for registration as nurses, midwives and health visitors" (Nurses, Midwives, and Health Visitors Act, 1979). Approval of training institutions is

therefore vested in the English National Board and not, as indicated in the letter, with the Royal College of Nursing. The board, in approving institutions, observes the nurse training rules prepared by the United Kingdom Central Council and agreed by parliament; its own agreed criteria; and the requirements in the appropriate European Community directive.

I am sure that Dr Scott is not suggesting that standards of nursing education and training should be less than those expected by the appropriate approving bodies in his own profession, and I am equally certain that readers will recognise that the theoretical element of undergraduate medical training programmes accounts for more than one year.

We in nursing do not have the advantage of supernumerary status for our students, who are considered to be part of the manpower equation. This is obviously totally inappropriate and leads to difficulties such as those indicated by Dr Scott. The statutory bodies, the United Kingdom Central Council, and the national boards consulted with the profession for a solution to this and other issues associated with nursing, midwifery, and health visiting education, and the result was Project 2000. The government has just completed its consultation with the service on Project 2000, and the profession awaits its response.

A commitment to supernumerary status is essential, and the support of our colleagues in the medical and other health care professions would be an indication of their understanding of the position of student nurses. Finally, may I emphasise that supernumerary status does not mean that students will learn nursing in the classroom. It means, rather, that their contract will be educationally directed, and, as a consequence, their acquisition of nursing skills will be structured and meaningful.

DAVID JONES

English National Board for  
Nursing, Midwifery, and Health Visiting,  
London W1P 0HA

Sir,—I continue to be dismayed at the attitudes of medical staff towards their professional colleagues (8 August, p 393). As the science and knowledge surrounding medicine increase I am amazed that anyone can say that we should not be improving the quality and quantity of instruction given to trainees. Do we hear doctors say that the type of training given to medical students is now so perfect that no changes should be made to their curriculum? Nurses have been handmaidens to the medical profession for too long, following orders without thought or knowledge. Those days have gone. Nurses must strive to be seen as the professionals they are. We wish to be knowledgeable in our work, caring for patients to the highest standards demanded by ourselves, our professional body, and most of all our patients. This can be achieved only if we attract intelligent men and women to the profession and train them to be knowledgeable and well informed nurses. How can nurses give adequate, much less good, care if their training has not prepared them sufficiently for the work they are to do? It is a disservice to the nursing profession to believe that they do not need to know. The attitude expressed by Dr K W M Scott, however, does more discredit to the medical profession than to the nursing profession. If Wolverhampton Health Authority does not think that its nurses should be trained even to the recommended standard it deserves to lose the facility to train nurses because it is not worthy of the responsibility.

LORRAINE K M BROOKS

Llandaff,  
Cardiff CF5 2TD