drug were studied. They all showed an increase in serum lactate, ketones, and non-esterified fatty acids and a decrease in serum bicarbonate, indicating the development of compensated metabolic acidosis. These findings in normal patients dictate increased care in the use of salbutamol, particularly in diabetic women, in whom the exaggerated changes in glycolysis and lipolysis may contribute to the development of severe acidosis.

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[1] Baillie, P, *et al*, *Australian and New Zealand Journal of Obstetrics and Gynaecology*, 1976, **16**, 94.

Jejunoileal bypass for obesity

SIR,—Minerva (15 January, p 178) notes that the Cleveland Clinic has abandoned jejunoileal bypass as a treatment for obesity because of high mortality (11·1%) and serious morbidity in 27 patients. This decision would seem to be well justified. I feel constrained to comment, however, lest readers might conclude that such is the general opinion of others experienced in this field.

In view of this subject[1] I quoted six series, all of which contained well over 100 patients, wherein the average overall mortality was 5·4%. This included the report of Payne *et al*,[2] who pioneered the operation and who understandably, therefore, had a mortality (9·7%) somewhat higher than the others. It has to be realised that the massively obese patients on whom this procedure is performed only as a last resort are bad-risk material and that consequently some deaths may occur from causes other than the bypass—for example, pulmonary embolism or myocardial infarction. In my personal experience of 198 patients over the past seven years the operative mortality has been two patients (1%); there have been six late deaths attributable to the bypass (3%) and four due to other causes (2%).

I have been pleased to find that the large majority of patients have benefited considerably by the weight reduction achieved and sustained. Breathlessness and backache have been improved, varicose ulcers healed, diabetes corrected, and hyperlipidaemia reduced. Three pregnancies have occurred without complication. Social and economic rehabilitation has been particularly gratifying. It is accepted, however, that about half have experienced, to a greater or lesser degree, some undesirable side effects. These have included foul flatus, gaseous distension of the colon (pseudo-obstruction), arthralgia, fluid and electrolyte difficulties, folate deficiency, and occasionally renal calculi and persistent diarrhoea. Pilkington and Gazet[3] have pointed out, and I would agree, that the last is usually due to excessive drinking or eating and can be dealt with appropriately.

By far the most worrying side effect, however, has been acute fatty liver and liver failure. Of my patients, 93% had fatty infiltration of the liver at the time of the bypass operation. The latter was abandoned in two other patients because histological examination proved early cirrhosis. The fatty change was increased in 46% and 44% respectively at the routine liver biopsies performed after one and two years. Four patients have developed cirrhosis during this time, being attributable to alcohol in two. Fourteen patients have developed symptoms which one now recognises as being due to acute fatty liver and four of these died from liver failure or Gram-negative septicaemia. The acute fatty liver can be reversed by early parenteral nutrition and a high-protein diet. Hence in future the mortality due to this cause should be reduced by awareness and prompt management.

There is no doubt that the problems associated with jejunoileal bypass can be reduced by careful patient selection. Prader-Willi syndrome, feeble-mindedness, inadequate personality, alcoholism, primary psychiatric illness, and known heart valve disease are contraindications to the operation. Furthermore, surgeons performing this type of surgery are committed to a close and long-term follow-up of their patients. They must be alert to the potential side effects, treat them early and vigorously, and be prepared to reverse the bypass without delay if they find lack of response or recurrence of symptoms despite treatment. They should also be prepared to reverse the operation if the patient feels unable to cope with such occasional difficulties as refractory arthralgia and persistent diarrhoea.

Perhaps there is something to be said for planning a reversal procedure in difficult patients when the desired benefits of weight reduction have been attained. At least this will have been a major achievement in a difficult problem for which other forms of treatment have been uniformly ineffective.

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[1] Baddeley, R M, in *Recent Advances in Surgery*, ed S Taylor, p 113. Edinburgh, Churchill, 1977
[2] Payne, J H, *et al*, *Archives of Surgery*, 1973, **106**, 432.
[3] Pilkington, T R E, and Gazet, J C, *British Medical Journal*, 1974, **4**, 311.

Diabetic feet

SIR,—Your leading article on this subject (5 February, p 338) stresses the conservative treatment of diabetic patients with swollen ulcerated feet. May I emphasise the advice given to raise the limb?

The usual procedure is to raise the limb 20-30 cm (8-12 in) from the bed. In my experience[1] the need for resolution of oedema is so urgent that the leg should be raised to as near 90° as possible every day until healing is complete. In three patients treated by this method there was extrusion of dead bone before complete healing of the affected foot took place. The patients were allowed to sleep normally flat each night.

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[1] Bourne, I H J, *British Medical Journal*, 1974, **2**, 581.

SIR,—I read your leading article on this subject (5 February, p 338) with great interest. Chiropodists have for many years been closely associated with the management of foot lesions in diabetics; indeed, it was the need for assistance with the treatment of diabetics which resulted in chiropodists being employed in hospitals at all. Until the 1930s chiropodists were not considered to be of any importance in treating anything except superficial lesions and worked in isolation from other disciplines as private practitioners. In the 1930s some enlightened medical men saw that their knowledge and skills would be useful in diabetic departments. Unfortunately, 40 years or so later many diabetic departments in the United Kingdom are still without chiropodists.

There is just one part of the article which slightly disturbes me. It states that "every diabetic patient should be taught the importance of foot hygiene, sensible footwear, and regular chiropody," which of course is absolutely right, but goes on to say, "for the elderly this will usually mean the services of a chiropodist." I cannot imagine that it is intended to imply that non-elderly diabetics should do their own chiropodial treatment. If that is the meaning I would hasten to urge diabetics not to follow such advice, since self-administered chiropodial treatment could be dangerous. Diabetic patients with neuropathy cutting their own corns with razor blades would surely increase the incidence of ulcers. All diabetics, irrespective of age, require the services of State registered chiropodists.

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Lumbar epidural analgesia in labour

SIR,—We have read with interest the article by Dr I J Hoult and his colleagues (1 January, p 14) and the letter from Professor B M Hibbard and others (29 January, p 286) on the relationship between instrumental delivery and lumbar epidural analgesia. At this hospital the assisted delivery rate rose between 1970 and 1975 from 14% to 30% associated with an increase of the epidural rate from 4% to 58%. Kielland's forceps rotations became as common as straight forceps deliveries. Because of this we investigated a possible method of increasing the spontaneous vaginal delivery rate. Until recently patients were made to start pushing as soon as the second stage of labour was diagnosed. The forceps rate was particularly high in the patients in whom full dilatation was diagnosed by routine vaginal examination before the presenting part was visible at the vulva. We divided 100 of these patients randomly into two groups. Group A were made to push immediately, while group B were left lying on their side until the head became visible or until progress in rotation and descent of the head ceased as judged by regular vaginal examination.

The table shows the method of delivery in the two groups. It can be seen that although there is no obvious reduction in the forceps rate there is a halving of the rotation rates in group B. This is due to a reduction of the number of occipitolateral positions. This would support the hypothesis of Professor Hibbard and his colleagues concerning the

Method of delivery of patients in whom full dilatation was diagnosed before the head became visible at the vulva

Method of delivery	Group A	Group B
Spontaneous	22	25
Instrumental:		
Occipitoanterior	10	15
Occipitolateral	12	5
Occipitoposterior	6	4

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