In February 1978 the patient went skiing with his school colleagues, and being afraid of taking drugs in the presence of his friends he stopped taking his immunosuppressive therapy for two weeks. Seen again at the end of March 1978 he was azotaemic, with a plasma creatinine of 884 $\mu\text{mol/l}$ (10.0 mg/100 ml). An open biopsy of the transplant showed the signs of an acute interstitial graft rejection. Under high-dose steroids administered in addition to his continuous immunosuppressive regimen the graft function improved again, and since June 1978 the plasma creatinine is stable at about 256 $\mu\text{mol/l}$ (2.9 mg/100 ml).

The history of our patient, showing an acute graft rejection episode five years after kidney transplantation, demonstrates clearly the danger of discontinuing immunosuppressive therapy in renal allograft recipients. We therefore would like to suggest that withdrawal of immunosuppressive therapy should be limited to cases of hazardous and life-threatening side effects of these drugs in this group of patients.

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On-demand analgesia equipment

SIR,—Mr T Lind and his colleagues (1 September, p 548) in their letter about our paper (21 July, p 166) raise three important points in the assessment of apparatus which can be used by the patient to deliver analgesic drugs on demand.

Firstly, there is always the problem of the "phantom knob twiddler." Mr Lind's solution of covering the thumbwheel control of the Cardiff Palliator seems excellent; with the Janssen prototype, once the machine is started on its run turning the switches has no effect. Essentially they provide settings for the microprocessor and once the machine is "initiated" changing the settings does not alter the microprocessor settings.

Secondly, Mr Lind and his colleagues ask if the Janssen machine can be programmed to set a maximum total dose as well as a maximum dose each hour. The answer is no, except that such a maximum dose could be added initially to the infusion bag. The third point they raise is whether the performance of the printer is satisfactory, so that operators can determine easily when the drug was last given. In our hands the recorder has not let us down.

We did not mention the cost of the machine. This version is a prototype. Shortly we hope to look at the performance of a production model.

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Unusual haemolytic-uraemic syndrome

SIR,—In my opinion the case of haemolytic uraemia that was discussed at the clinico-pathological conference (21 July, p 179) was unusual because it was very likely to have been exacerbated by the high-dose intravenous pyelogram that was performed after the onset of the illness. We are not given details of the patient's urinary output. It is now well

known that x-ray contrast medium will precipitate anuria in oliguric patients.¹ In part this is because it can cause some intravascular coagulation within the renal circulation. If this is the true explanation it would provide a salutary lesson. Moreover, such a sequence will explain why the patient had neither bruising nor an elevated bilirubin and why the anaemia and the red cell fragmentation only appeared some days later.

In retrospect we do not know whether the patient's renal endarteritis was caused by malignant hypertension alone or whether she actually had a Schwartzman reaction caused by a urinary tract infection. The white cells in the urine would favour the latter even though bacterial culture after admission was negative. Since gastroenteritis or urinary tract infection is a common accompaniment of the haemolytic-uraemic syndrome, which many believe to be a Schwartzman equivalent,² the correct way to make a retrospective diagnosis is to monitor such a patient's antilipid-A antitoxin antibody levels.³ When there has been a previous Gram-negative infection causing the haemolytic-uraemic syndrome the antibody titres will rise.

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- ¹ Alexander, R D, Berkes, S L, and Abuelo, J G, *Archives of Internal Medicine*, 1978, 138, 381.
- ² Wardle, E N, *Clinical Nephrology*, 1974, 2, 85.
- ³ Wardle, E N, *British Journal of Hospital Medicine*, 1979, 22, 104.

Marital pathology and the choice of partner

SIR,—I am enjoying Dr J Dominian's series of articles on marital pathology.

According to Toman,¹ there is another important factor in the choice of partner—namely, position in the sibship. Thus, if the elder brother of a younger sister marries the younger sister of an older brother, a stable marriage is probable. In this case the man is used to leading and looking after a younger girl while the girl is used to being led and to understanding an older man. An example of a marriage likely to fail is between the oldest brother of brothers and the oldest sister of sisters—in this case there will be rank conflict and gender conflict.

There are, of course, many other combinations, which have various probable outcomes. Toman gives statistical evidence that these factors are important.

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- ¹ Toman, W, *Family Constellations: Effects on Personality and Social Behaviour*. New York, Springer Publishing Company, 1976.

Mechanical aids to ventilation for use in the field

SIR,—Dr M G Harries is to be complimented on a most useful review of emergency resuscitation equipment (18 August, p 426). However, his recommendations regarding ventilatory resuscitators are questionable. A recent evaluation¹ of seven gas-powered resuscitators, including the Marion Flynn series 3, found that all the devices failed according to at least one criterion of safety. Common problems were excessive airway pressure and falling inspiratory flow rates when used with a test lung.

It is apparent that resuscitators giving gas flow rates of over 100 litres a minute will generate high pressures at the airway in patients with normal lung mechanics. In the face of abnormal respiratory mechanics this will lead to leakage of gas at the pressure relief valve if fitted.

While I agree that pressure-cycled mechanical resuscitators are unsatisfactory, automatic time-cycled devices may have advantages in allowing cardiac massage to synchronise with artificial ventilation and in facilitating the transport of the patient.

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- ¹ *Health Devices*, 1978, 18 (2), 24.

Diagnostic imaging

SIR,—Your leading article (22 September, p 690) on diagnostic imaging is indeed appropriate. However, the problems of obtaining and replacing radiological equipment must also be considered as this can have a significant effect on consultants' morale. The lack of modern equipment makes some departments unable to perform even renal angiography.

Radiological (and laboratory) equipment is expensive but, in my experience, health boards do not normally make any provision for the replacement of old equipment, merely relying on hope to come up with the cash when machines finally break down, with consequent reduction in services for several months while new equipment is being found—and all this despite numerous warnings and requests from radiologists with advice from appropriate scientific committees.

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Cubital tunnel syndrome

SIR,—I read with interest Dr T G Wadsworth's letter on the cubital tunnel syndrome (22 September, p 736). Perhaps I may be allowed to report my unpublished observations.

A 14-year-old boy presented with a complete bilateral ulnar palsy. He said that he first discovered the condition of his hands at the end of a three-hour hill walk during which he had kept his thumbs tucked under the shoulder straps of his rucksack. My curiosity being aroused, I asked about antecedent forearm flexion in all subsequent cases. During the following year I diagnosed the condition in 16 patients and in all but one I judged prolonged forearm flexion to be the cause. The exceptional patient was later shown to have a ganglion. In 10 patients the forearm flexion had occurred during sleep and in five while awake.

Gowers¹ disagreed with the view of Duchenne that external pressure is a cause of ulnar palsy and stated, "It is much more common for the nerve to suffer in long-continued flexion of the elbow, without external pressure, and from this cause the nerve is sometimes paralysed during sleep. I have three times seen a sleep palsy of the ulnar nerve." An experiment suggested itself. I asked several students to roll up their