The Samson infant resuscitator² may be preferable, since although high transitory pressures may be achieved the smaller reservoir does not allow maintenance of this high pressure. The question is what to recommend for the relatively inexperienced person and there is a need for existing apparatus to be critically appraised.

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¹ Karlberg P, et al. *Acta Paediatr Stockh* 1962;51:121-36.

² Samson HH. *S Afr Med J* 1974;48:628-30.

SIR,—In the correspondence resulting from Dr Valman's article "Resuscitation of the newborn" (24 November, p 1343) reference is made to the use of the Cardiff infant inflating bag (Penlon bag). Dr A R J Bosley (15 December, p 1590) raises the point that the Cardiff bag is not suitable for use with an endotracheal tube. Dr M J Boscoe (26 January, p 252) is correct that in our original description,¹ reference was made to the use of the bag with either a face mask or an endotracheal tube. However, may we refer to our letter of over nine years ago,² in which "we assumed that in those instances when the baby was intubated there would necessarily be a skilled operator present and that the little bag would be squeezed in a controlled manner. We have gained the impression that this does not always follow, and that a further safety factor is required to prevent any excessive pressure which might result from overenthusiastic compression of the bag when resuscitating an intubated baby. The patient outlet of the inflating valve has therefore been modified. A D-shaped slot has been cut along the internal bore of this outlet, providing an additional leak when the endotracheal catheter mount is plugged into the valve. The result is that the bag now produces similar pressure changes within the baby's lungs whether it is used with a face mask or with an endotracheal tube."

All Cardiff infant inflating bags manufactured since 1970 incorporate the safety slot in the outlet of the inflating valve. Any bags still in use which were manufactured before 1970 should be replaced.

Notwithstanding its inbuilt protective measures, the Cardiff bag, albeit of an extremely simple design, like any mechanical device needs to be used with a modicum of training and understanding that the way the pressure develops in the infant's lungs depends mainly on the compliance but also on the volume and rate of gas transfer—that is, the way the bag is squeezed.

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¹ Mushin WW, Hillard EK. *Br Med J* 1967;i:416-7.

² Mushin WW, Hillard EK. *Br Med J* 1970;iv:622-3.

Legionnaires' disease and hypoplastic anaemia

SIR,—I was interested to read the report of Drs V J Hajiroussou and R C Joshi (9 February, p 366) on the association of legionnaires' disease and hypoplastic anaemia. However, I feel that the role of co-trimoxazole and the nature of the anaemia should be further discussed. I agree that co-trimoxazole usually

produces different haematological effects than were seen in their patient. It interferes with the conversion of folic acid to folinic acid and thus features of a megaloblastic anaemia may be found. Yet co-trimoxazole therapy can have other effects. Depression of reticulocytes, neutrophils, and platelets without megaloblastic change in the marrow has been shown,¹ and aplastic anaemia has been reported.²

In the 11 months that this patient was observed, on only one occasion were his reported haemoglobin, white cell count, and platelets all normal on the same sample. The progress of this patient is similar to that in chronic acquired aplastic anaemia. This disease can have a protracted course with remissions and relapses over months or even years.³ In one reported case³ a 39-year old woman showed a remission which was followed by relapse and death two and half years later. In the patient of Drs Hajiroussou and Joshi chronic acquired aplastic anaemia cannot be excluded. Additional investigations that may be of value are the assessment of bone marrow cellularity by an objective method,⁴ neutrophil alkaline phosphatase, and fetal haemoglobin estimations.

In a patient who is still pancytopenic 10 months after discharge from hospital it would appear premature to assume that this is a transient hypoplasia associated with legionnaires' disease. Indeed, chronic acquired aplastic anaemia, in which in about one-third of all patients there is an association with a drug or chemical, would be a more likely diagnosis.

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¹ Dawborn JK, Castaldi PA, Kilgour A, Parkin JD, Pattison G. *Med J Aust* 1973;i:52-6.

² Salter A. *Med J Aust* 1973;i:70-4.

³ Lewis SM. In: Hoffbrand AV, Lewis SM, eds. *Tutorials in postgraduate medicine*. London: Heinemann, 1972:92-121.

⁴ Ho-Yen DO, Slidders WJ. *Clin Path* 1978;31:753-6.

Bone marrow aplasia associated with metronidazole

SIR,—In recently reported cases of leucopenia arising during metronidazole treatment (29 September, p 795; 18 November, p 1219) other drugs known to cause bone marrow depression have been given simultaneously. The role of metronidazole in these cases remains unclear. However, neutropenia during metronidazole treatment alone has been recorded.¹ We would like to report a patient who developed bone marrow aplasia that could be attributed only to metronidazole.

A 74-year-old man underwent right hemicolectomy for carcinoma of the colon. He received metronidazole, 200 mg thrice daily, orally for seven days before and 10 days after operation. Apart from anaesthetic agents and analgesics the only other drugs he received were ferrous sulphate and neomycin orally. Eleven days after operation he developed a generalised, erythematous, macular rash and a high, fluctuating pyrexia. Sixteen days after operation his leucocyte count had fallen from $8.2 \times 10^9/l$ to $1.2 \times 10^9/l$ and bone marrow examinations revealed markedly reduced erythropoiesis and granulopoiesis. Viral agglutination, monospot, and hepatitis B surface antigen tests were negative. The patient died 18 days after operation. Post-mortem examination revealed disseminated adenocarcinoma with secondary tumour in the liver, right kidney, right adrenal, and right lung. Bilateral pulmonary embolism from a deep-vein thrombosis of the right leg was the cause of death.

None of the other drugs given to this patient are known to cause bone marrow aplasia and we conclude that metronidazole was responsible. Although the leucopenia contributed to his death, it is possible that if he had lived longer his bone marrow would have recovered.

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¹ George R H. *Prescriber's J* 1979;19:18.

Group work with the elderly in a long-stay hospital

SIR,—We read with interest Professor Rudolf Klein's article on doctors and social workers (12 January, p 132), and would like to draw attention to group work with the elderly in a long-stay hospital as a "specific form of social work intervention, in specific circumstances, which can make a difference." As social workers specialising in the elderly, we felt that group work could be of value to help counteract the apathy of patients in a long-stay hospital, and promote self-development and growth in the elderly patients.

Our first group session was for 10 weekly hour-long meetings with a group of 10 elderly patients in the minimal care unit. We chose an activities-based group—making stuffed animals, knitting, playing draughts, etc; we found that this stimulated a much more positive approach from the elderly person. The patients rediscovered skills they thought they had lost forever, and recovering confidence in one small area of life made them more confident in other areas, and thus encouraged self-esteem. We found we had to be quite directive, and initiate and supply various forms of activities; but once we had done this the elderly were pleased to partake, and there were many chances for the discussion of feelings about handicap and life in hospitals during these sessions.

Our next 10-week session was in the day ward, with 15-20 long-stay patients with a mixture of physical and mental handicaps. We tried to break down their feelings of isolation and institutionalisation by bringing bits of the outside world to them and using these as a basis for communication and discussion. Different types of fur and leather awoke memories, as did bunches of flowers (including lavender), smells of paraffin, coffee, pictures of animals, fir cones, fruits, etc. One of the highlights was the visit of a dog which gladdened many hearts.

We did some basic exercises, arm lifting, etc; and played some ball games such as throwing, passing, and even wheelchair football. There is little outlet for overt frustration and aggression in hospital and it was interesting to watch its appearance in these games. The most important activity of all was singing. It was something even the most handicapped could join in with. We sang the "good old songs" and it was rewarding to watch those patients who could not speak properly managing to sing the words of their favourite song. We felt even the most brain damaged rediscovered something of themselves during these sessions, and one hopes that this will lead to their fulfilling more of their own potential. We are now running six once-weekly sessions with the nursing staff,

discussing the problems of working with the elderly, and the usefulness of bringing in aspects of normal life and using appropriate activities as a means of counteracting the apathy of institutional life. We hope and believe that this form of specific intervention by social workers has made a difference in some small way to the quality of life of the elderly people we worked with, and that there is much more urgent work to be done in this field.

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Services for the mentally handicapped

SIR,—I would like to support Dr N S Gordon's letter (9 February, p 403) on the principle that all doctors have a duty towards the mentally handicapped; and it is to be hoped that paediatricians, neurologists, and child psychiatrists will have sufficient interest to take over much of the specialist work.

It is, however, difficult to find consultants sufficiently versed in all the three main areas of need. These are: (i) the ability to understand the psychodynamics of a "handicapped family" and to offer a sensitive response with the appropriate techniques of family therapy; (ii) the implications of developmental neurology and psychology, particularly in relation to perceptual and communication problems; (iii) the management of the emotional and psychiatric problems peculiar to the severely brain damaged.

All these areas are grossly under-researched and should be sufficiently challenging to attract consultants specialising in this complex field.

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Possible cancer hazard associated with 5-methoxypsoralen in suntan preparation

SIR,—Professor M J Ashwood-Smith raised some questions concerning the use of 5-methoxypsoralen in sun products to induce tanning (3 November, p 1144).

The Bergasol line of products was designed to facilitate tanning without erythema and without ultraviolet burning. The rationale is that pigmentation is the best known protection against carcinogenesis induced by ultraviolet burning and possibly against all types of insults leading to damage and aging of the skin.

The concern about 5-methoxypsoralen is based on its chemical analogy to 8-methoxypsoralen, as pointed out by Professor Ashwood-Smith. He was of necessity limited to information from published data on 5-methoxypsoralen. Laboratoires Goupil have been accumulating data which show *biological* differences between 8-methoxypsoralen and 5-methoxypsoralen. Some of these are quantitative and some are qualitative. They include: (1) The acute and subchronic toxicity of 5-methoxypsoralen in several species is much less than that of 8-methoxypsoralen, with and without ultraviolet radiation. (2) The intracellular distribution appears different. (3)

Studies in progress indicate that 8-methoxypsoralen causes significantly more nuclear damage than 5-methoxypsoralen as measured by sunburn cells in hairless mice. (4) The extent of reaction with nuclear material seems different in quantity and perhaps in the kind of binding.

Since there is benefit in the tanning effect and the extent of risk is implied and not yet really known, the difficult question of how to balance benefit and risk is present. Laboratoires Goupil are very conscious of their responsibility to continue to investigate both sides of this question and are doing so at this time.

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Emergency admission arrangements in hospital with inadequate resources

SIR,—I concur with all that Dr J Andrews says in his letter (9 February, p 405). There are manifold effects of inadequate resources, some of which I would like to add to those mentioned in that letter.

(1) Inappropriate discharges home. As hospitals have progressively fewer beds to admit patients there is increasing pressure on junior staff to send a patient home when it would be more prudent to admit him to hospital. It is impossible to get junior staff to refrain from taking a chance because the realities in the accident and emergency department easily override all proffered advice. I myself have often been influenced by the bed state in making a decision whether to send a patient home, and many of my colleagues admit to the same.

(2) Difficult interrelationships in the accident and emergency department. As doctors request more investigations on patients, in an attempt to screen them more efficiently so that as many patients as possible can be sent home, stretcher boys are not available for doctors to examine other patients and the waiting time in the casualty department increases. The nurses resent constantly explaining to patients the cause of delay.

(3) Deterioration in relationships between casualty and other departments. As casualty officers request second opinions more frequently than before, other residents object to being called out at night, with a consequent deterioration in relationships.

(4) Stopping acute admissions. Administrators do not often see the urgency of getting more beds available and closing the hospital to acute admissions. I have known of hospitals where three patients with myocardial infarction were waiting in the casualty department with no bed in the hospital into which to admit them.

(5) Medical patients in surgical wards. In urban areas, particularly in London, the number of emergency medical admissions is greater than surgical and bed shortages prompt cancellation of booked admissions. The surgical specialties inevitably suffer by these cancellations.

(6) Deterioration in patient-hospital relationships. Increased waiting times, repeated cancelling of cold admissions, and a general sloppiness in attending to patients' needs results in patients' losing confidence in a hospital.

It may be unrealistic to expect more money from the Government in the present economic

state and perhaps the only way out for doctors is to tell the patients squarely the difficulties of the system.

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Radiotherapy work-load statistics

SIR,—The useful work load of radiotherapy departments is very easy to assess but not, I think, by means of DHSS SH3 returns, as the article by Dr R F Mould (16 February, p 501) would suggest.

We add together all the salaries paid to department staff in a year and a machine and room cost (about £18 000 per cobalt machine, a little more for linear accelerators). From the cancer registry we know not only the number of cases treated but the number cured. At Pembury it cost £10 a day to treat an out-patient and £40-50 to treat an inpatient, so it costs £250 to cure a case of testicular cancer (mostly curable) and perhaps £300-400 for Hodgkin's disease. Although each patient is treated as an individual, radiotherapy departments are much more like small factories than any other part of the hospital service in that their work can be costed.

I would like to argue that we must look at particular departments and diseases and make decisions about closure on such real evidence.

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Are health services important to the people's health?

SIR,—Dr J N Morris in his article "Are health services important to the people's health?" (19 January, p 167) raises important issues which are fundamental to the better provision of "health."

"Prevention" of disease is politically attractive but in practice conventional preventive medicine has little to offer the majority of patients. Dr Morris raises the novel concept of "prevention" as applicable to the "prevention" of deterioration in a chronic illness; this polemical argument may have a significant practical advantage if by invoking the "prevention" label it is possible to reverse the current trend of depleting the acute hospitals of resources in order to provide more facilities for the chronically ill *after* their disability has irreversibly progressed.

Successive governments have failed to take the necessary measures to curb alcohol, tobacco, and food addiction and to promote health education; this has a disproportionately severe effect on the lower social classes, who thereby are most liable to develop ill health—provision for which is already jeopardised by the curtailment of facilities for the prevention of chronic ill health. The serious debate asked for by Dr Morris must include consideration of the proposition that the National Health Service is a misnomer¹; the National Health Service is really an amalgam of three services—a National Illness Service, a National Wellness Service, and a National Social Service. At present what is happening is that the National Illness Service is being depleted in favour of the other services, whereas in fact the National Illness Service, particularly the