methods which vary markedly in accuracy and sensitivity. Indeed, use of the same method in different laboratories can lead to alarmingly inconsistent results. We have not seen reports of any systematic study on adequately large samples of the sensitivity and specificity of COHb levels to discriminate between smokers on the one hand and non-smokers and ex-smokers on the other. From our own experience we would hesitate to be dogmatic in setting any arbitrary level of COHb which gave, say, 95% sensitivity with 95% specificity (as defined by Holland and Whitehead³), and this level of discriminant power would seem to be warranted before assuming that someone was lying.

We believe that the upper limit of 2% COHb suggested by Dr Turner and his colleagues⁴ is too low. One study of 13 non-smoking patients with haemolytic anaemia, which increases endogenous production of CO, reported seven as having a COHb level in excess of 2%.² We found that among 12 of our own colleagues whom we knew to be non-smokers, four had levels above 2% in the middle of a normal working day; after deliberate exposure in a smoke-filled room no fewer than 10 of them had a COHb above 2% and the three highest levels were 3.2%, 3.3%, and 4.2%.¹ This suggests that account should be taken of recent proximity to smokers.

It is unlikely that COHb on its own will discriminate adequately. It should ideally be used in combination with other tests such as plasma, urinary, or salivary nicotine⁵ or thiocyanate levels.^{6,7} We are exploring all these methods with a view to eventually finding the most reliable combination.

To be specific in answer to Dr Turner's query, of the 11 subjects who claimed abstinence from smoking, one had a COHb of 6.0% and was, as mentioned in the paper, classified as a failure. The ten "successes" had the following levels: 0.8%, 0.6%, 0.4%, 1.2%, 2.0%, 0.2%, 2.8%, 3.7%, 1.0%, and 1.8%. The subjects with suspicious levels (2.8% and 3.7%) had plasma nicotine levels of less than 6.2 nmol/l (1.0 ng/ml), which are well within the non-smoker range. The subject with 3.7% COHb was a mechanic who had spent his day working in a garage.

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¹ Russell, M A H, Cole, P V, and Brown, E, *Lancet*, 1973, **1**, 576.

² Coburn, R F, Forster, R E, and Kane, P B, *Journal of Clinical Investigation*, 1965, **44**, 1899.

³ Holland, W W, and Whitehead, T P, *Lancet*, 1974, **2**, 391.

⁴ Sillett, R W, Turner, J A M, and Ball, K P, in *Proceedings of the 3rd World Conference on Smoking and Health*, ed E L Wynder, D Hoffman, and G B Gori. Washington DC, US Government Printing Office. In press.

⁵ Russell, M A H, and Feyerabend, C, *Lancet*, 1975, **1**, 179.

⁶ Pettigrew, A R, and Fell, G S, *Clinical Chemistry*, 1972, **18**, 996.

⁷ Butts, W C, Keuhnen, M, and Widdowson, G M, *Clinical Chemistry*, 1974, **20**, 1344.

Drought dangers

SIR,—Now that the public is being urged to use less water and in some areas water supplies are cut off at night it is likely that gastrointestinal infections will spread more

easily because people will not wash their hands so thoroughly after defecation.

I would urge all general practitioners to be particularly vigilant in reporting cases of actual or suspected food poisoning to their local environmental health department. Unless this is done the water authorities will not be aware of the problem and will continue to maintain water supplies to industry at the expense of domestic consumers and thereby create a health hazard.

D HOWE

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Security units for dangerous and difficult patients

SIR,—The new security units for dangerous and difficult patients proposed by the Butler Committee could undoubtedly improve the psychiatric care available in the NHS provided that they are correctly sited and planned. Incorrectly planned, they will be ineffective and even harmful both to the patient himself, confined to an aggressive atmosphere, and to the hospital in its efforts to maintain a caring rather than a custodial role. If these locked units are attached to existing mental hospitals they will immediately threaten the "open-door" policy which modern psychiatric thinking has striven to implement. There is a great risk that by their security they will once again produce the institutional outlook which the hospital service has tried hard to overcome. The image of the modern psychiatric hospital is one of care and return to the community for ordinary people. To incorporate locked units for dangerous and difficult patients in such hospitals would undoubtedly set the clock back.

However, although it may be argued that the siting of security units in mental hospitals is a retrograde step, yet a case could be made for placing them there if they were organised in a different way. At present they are envisaged as static, self-contained units, but it may be of more value to plan them as a part of a progressive stage of treatment. Experience of 75 patients suffering from severe character disorders and contained in a firm of 300 beds has shown that for most of the time none of these dangerous psychopaths requires seclusion. Occasionally it is necessary to seclude one person, rarely to seclude two, and almost never to seclude more than that number. Patients in an open ward will accept the necessity for one or two people to be secluded when they are disturbed. They will not accept the locking of the whole ward (that is, the creation of a secure unit) on that account. Therefore, since so few patients require seclusion at any one time it would seem logical to place small secure units in the prisons rather than build locked wards in hospitals.

These units, staffed by psychiatric nurses trained to care for dangerous, aggressive, and difficult patients, should be regarded as intensive care psychiatric units and the medical investigations, stabilisation, and treatment would form a part of the first stage of the patient's therapy. Only a small part of the containment and assessment of psychopaths—that is, the first stage of treatment—requires to be carried out in security. Such intensive psychiatric units would add a new dimension to prison life instead of threatening the "open-door" policy of the psychiatric hospital.

It has been found that a patient does not benefit by undergoing merely the first stage of

the programme. It is in the second stage that he begins to assess himself and the hospital community. Now he requires peace while he not only evaluates himself but also himself against the specified world outside. It is now that he needs the therapeutic atmosphere of a general mental hospital and this is when the patient is transferred to the second stage of treatment.

In the third stage, which is the stage of community evaluation, he again needs the protection of familiar surroundings (in this case the hospital) while he tries his new self in the external world, be it work, school, or university.

Stage four is his final maturation into the community, when he takes on a full burden of work, marriage, and social relationships.

Each stage in this therapeutic programme requires careful assessment and evaluation by the same trained staff who have come to know the patient, who, in his turn, trusts them and relies upon them. He uses these consistent figures to learn adaptations. The programme also, however, requires the patient to progress from one type of world to another and not remain incarcerated in a closed and static unit.

If a large number of units is established in the form in which they are at present envisaged there will undoubtedly be a temptation to use them merely as an easy method of disposing of difficult cases. Many courts are concerned only with disposal, and many other factors, such as cost-effectiveness and Parkinson's law, will operate against the patient and against everyone seeking the best disposal. Indeed, they will frequently provide no more help for the person in need than does the present legal system of imprisonment, whose ineffectiveness is demonstrated by the repeated reappearance in court of the same prisoner.

A case can be made for the establishment of one or two of these special units as a research programme, but to ask every region to provide one as a proved therapeutic tool could perhaps prove to be an expensive mistake. There is undoubtedly a time for security and this is when the patient has undergone a course of proper therapy which has failed. There are intractable mental diseases just as there are intractable physical diseases, but this does not preclude the physician from making the attempt to cure before abandoning hope.

If these security units are established as planned in the psychiatric hospitals they may not only offer no hope and no future but may simply provide what earlier generations requested of their mental hospitals—"someone, somewhere, to rid us of this problem."

JOHN HARDING PRICE

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Caecocolic intussusception: an unusual physical sign

SIR,—I should like to report an unusual physical sign in a child who had a caecocolic intussusception.

A 2½-year-old male child had a history of abdominal pain and vomiting for three days and of passing frequent bloodstained stools; the vomiting had been bilious. There had been little crying but the child had been restless and irritable. On examination the most striking feature was the odd position in which the child preferred to lie. This was similar to a "knee-elbow" position, with the buttocks high off the bed but the head on the sheet. Since the onset of the illness the child had been comfortable

only in this position and even slept in this manner. This was not an individual habit and had not been present before the onset of this illness. The only other physical signs were in the abdomen, where there was slight general distension and a characteristic tumour palpable in the left iliac fossa. Rectal examination was normal.

Laparotomy was performed that evening, and an easily reducible caecocolic intussusception was found, which, owing to partial spontaneous reduction, was in the left hypochondrium. Numerous enlarged lymph nodes were found in the mesentery, and histological examination of one of these showed reactive hyperplasia. The child made an uneventful recovery.

The position adopted by this child clearly relieved his pain, and in view of the anatomy in this particular case it would seem likely that the child was unconsciously using gravity in an attempt to reduce the intussusception. This sign does not feature in textbooks and is obviously unusual. It was not encountered in any of 67 cases described in clinical detail by Kark and Rundle.¹ However, although unusual, the sign is a dramatic one and should alert one to the diagnosis at a glance if its significance is appreciated.

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¹ Kark, A E, and Rundle, W J, *British Journal of Surgery*, 1960, 48, 296.

Fear of ECT

SIR,—What is "inexplicable" (28 August, p 526) to me is that no responsible medical body appears to have made any attempt to allay the fear engendered among filmgoers by the demonstration of punitive, unmodified ECT in "One Flew over the Cuckoo's Nest."

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"Market research"

SIR,—I have recently received from a market research company a request to fill in a questionnaire about each drug company representative visiting me in the month of September, the drugs which they offer, and those which I prescribe. The paltry bribe offered for doing this very detailed work is a book or record to be chosen from a given list.

An obvious purpose which this might have is to get me to gather information about drug companies' sales methods, presumably for some client among the various drug companies. This in other fields is a known form of industrial espionage. I consider this approach impudent and the method distasteful, and I am sure that many GPs will agree with me.

SHEILA J HANDEL

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Lymphoma in dermatitis herpetiformis

SIR,—We would like to report a case of dermatitis herpetiformis associated with the development of lymphocytic lymphoma of the skin. Although the association between adult coeliac disease and lymphomas developing outside the gastrointestinal tract is well recognised,¹ this appears to be only the second

confirmed case of dermatitis herpetiformis with villous atrophy in which lymphoma subsequently developed.²

The patient, a man aged 59, presented after three months' progressive dyspnoea. His chest x-ray appeared to show fibrosing alveolitis with fibrosis around a cavity in the right apex. Because of the association between fibrosing alveolitis and gluten enteropathy^{3,4} the following investigations were performed: rheumatoid screen, positive; sheep cell agglutination test and reticulocyte antibody, negative. Tests for avian precipitins, and those for *Aspergillus fumigatus* and *Micropolyspora faeni* were also negative. Pulmonary tuberculosis was excluded by a weekly positive tine test and negative sputum cultures.

He had had treated dermatitis herpetiformis for seven years, and jejunal biopsy showed subtotal villous atrophy. Steroids were given for the severe breathlessness and produced a short-lived dramatic improvement without change in serial chest x-rays. He was also started on a gluten-free diet. He remained ill, and although lung biopsy was considered, this remained impracticable owing to his breathlessness. Shortly before his death he developed widespread papillomatous skin lesions which on biopsy proved to be lymphocytic lymphoma. He died from septicaemia and no necropsy was held.

This is the second case report of a lymphoma developing in dermatitis herpetiformis, giving added weight to the hypothesis that adult coeliac disease and dermatitis herpetiformis are prone to the same complications. We also feel that the appearance of fibrosing alveolitis and the cavity in the chest x-ray might represent a cavitating lymphomatous tumour. This is speculative as unfortunately permission for a post-mortem examination was refused.

J M FOWLER
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¹ Harris, O D, et al, *American Journal of Medicine*, 1967, 42, 899.

² Goodwin, P, and Fry, L, *Proceedings of the Royal Society of Medicine*, 1973, 66, 625.

³ Berrill, W T, et al, *Lancet*, 1975, 2, 1006.

⁴ Robinson, T J, *British Medical Journal*, 1976, 1, 745.

Misleading chest x-ray film in psoriasis

SIR,—A 30-year-old man was recently admitted here for treatment of long-standing psoriasis. During his stay we had reason to take chest x-rays, which were reported as showing multiple calcific foci in soft tissues and overlying the lung fields. These were consistent with cysticercosis. Further views were taken of the thighs and buttocks, but these were normal.

Closer investigation showed that the initial

films had been taken after application of a standard preparation of dithranol in Lassar's paste (zinc oxide 24%, salicylic acid 2%, starch and white soft paraffin to 100%) to the psoriatic plaques on the chest. However, these areas did not match the x-ray appearances, being far greater in size and distribution. There were no palpable subcutaneous nodules.

It was later realised that Tubegauze had been applied as a protective "vest" after treatment and this was later seen to cause the formation of balls of Lassar's paste by frictional movement. The latter were the opacities seen on x-ray, a repeat film minus Lassar's paste being normal. The doctor's lesson is always to x-ray patients with skin disease before the application of topical medicaments, an oversight in this case leading to unnecessary worry and extra investigations.

G A R PRICE

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School pregnancies

SIR,—In your leading article on this subject (4 September, p 545) you state that a girl under the age of 16 years cannot marry. This is not so. The Registrar General's annual statistics record the number of marriages of women under 16 years of age and the numbers of such are often over 1000. The reason is that in Northern Ireland the legal age of marriage is 15 years, and every year many girls who are over 15 and under 16 and who become pregnant go to Northern Ireland for three weeks and are then able legally to marry.

It is a strange thing that very few people in Great Britain are aware of this—except parish priests. I have asked bishops, barristers, MPs, a judge, and even registrars if a girl under the age of 16 years can marry and the answer is always, "certainly not."

D W G BARTLETT

Leafield, Oxford

Home treatment of convulsions

SIR,—Even today some patients are left in convulsions for some considerable time before being given effective treatment.

May I suggest that suitable prepacked syringes of, say, diazepam be made available to the parents or relatives of patients at risk? With careful instructions and graded dosages to suit all ages the risks of such a scheme would seem to be minimal.

A STEPHEN

Bingley,
W Yorks

Iodine content of food

SIR,—We recently expressed our concern over the indiscriminate contamination of common foods with iodine and the possible harmful consequences (14 February, p 372). It is illustrative of the complexity of dietary management that we now find ourselves concerned that over-reaction to the dangers of excess iodine may lead to ill-considered intervention. We are led to believe, for example, that in some states of Australia a complete ban on the use of iodophors in the dairy industry has been considered.