proportion of women experiencing intercourse and the proportion of sexually active women who used contraceptives were greater than those found in Britain and America."

In an unpublished survey of both university (undergraduate) and non-university (for example, secretarial) students in Cambridge in 1973 we found the proportion of sexually experienced women in both groups (57%) to be close to that of the Australian sample (62%). On the other hand, Dr Cole's data on the relationship of age to sexual experience (15% having had intercourse by the age of 16 and 95% by the age of 21) correspond to our non-university group only, for whom the figures were 14% and 88% respectively compared with 3% and 67% for undergraduates.

When one looks at contraceptive use the contrast between Britain and Australia is not just modified but reversed in our survey, since 86% of our undergraduates (and 72% others) who were sexually "active" during the four-week period of study had used a reliable method of contraception (pill, IUD, cap, or sheath) on every occasion of intercourse and another 4% less consistently. Dr Cole's figures are 49% for consistent and 38% for intermittent use. Particularly striking was that 74% of our women undergraduates (and 64% of our other group) were on the pill in contrast to only 30% of Aberdeen undergraduates studied 18 months previously¹—maybe because of the great publicity given to the scheme for free contraception under the NHS during this time.

The aspect of our data that prevented us feeling complacent was that even among these groups of successful contraceptive-users only 60% of the experienced women and 35% of the men felt that contraceptive advice was adequately available, and 18% of the experienced women (20% of the men) felt that their own knowledge was inadequate. Dr Cole's reference to "iatrogenic" pregnancies endorses our experience that use of the pill does not necessarily imply "contraceptive sophistication" and that for many people contraception means the pill or nothing. In fact, I fear that emphasis on the pill as the reliable contraceptive—at the expense of other methods—may "encourage" rather than prevent unwanted pregnancy, given that there are circumstances (medical contraindications, unexpected or infrequent intercourse) in which the pill may not be suitable or available.

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¹ McCance, C. and Hall, D. J., *British Medical Journal*, 1972, 2, 694.

Cryosurgery for piles

SIR,—We feel we should respond to the letter from Mr R E B Tagart (18 October, p 165), who reports an unfavourable assessment of his results with a liquid nitrogen probe. It is our submission that liquid nitrogen produces far more intense freezing than is necessary for satisfactory results in piles. In discussing cryosurgery we feel it must be clearly stated which type of probe is used, as the lesion produced differs according to the rapidity of freezing, the degree of lowering of tissue temperature, and of course the size of the ice ball. Although the method has been made very clear by Mr Tagart, it

has not been by other authors—for example, Lloyd Williams *et al.*¹ If the method of cryosurgery is not specified it is likely that a satisfactory method of treatment produced by one type of probe may be overshadowed by bad results produced by another type.

We have treated more than 200 patients with a cryoprobe using nitrous oxide, which causes less intense freezing but appears to be adequate to produce satisfactory results without causing the unpleasant side effects detailed by Mr Tagart. Our experience with the nitrous oxide type of probe for internal piles leads us to believe that, provided each pile mass is treated for at least two minutes and that the whole of the pile mass is frozen, the short-term results are comparable with those of haemorrhoidectomy, whether the piles are minor or major. In most patients the technique can be used without anaesthesia, and the morbidity and side effects are less than those produced by elastic band ligation.^{2,3}

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¹ Lloyd Williams, K., Haq, I. V., and Elem, B., *British Medical Journal*, 1973, 1, 66.

² Jones, C. B., and Schofield, P. F., *Proceedings of the Royal Society of Medicine*, 1974, 67, 51.

³ Wilson, M. C., and Schofield, P. F., *British Journal of Surgery*. In press.

Access by GPs to physiotherapy services

SIR,—I read with interest the article by Dr P Norman and others (25 October, p 220) referring to access by general practitioners to the physiotherapy department of a district general hospital. For 25 years we have employed a similar system in a unit administered by the British Red Cross Society and local GPs, subsidised by the Oxford Regional Hospital Board (now the area health authority). Although immaculate records as shown in the article referred to have not been kept, our findings and comments are very similar. Our area has no general hospital, and this policy has resulted in much saving of time and money which would otherwise have been expended on treatment and transport. The system has not been abused, which can be shown by the fact that since a consultant in rehabilitation medicine was appointed with responsibility for Milton Keynes, so that we now have someone of this clinical specialty to whom we can refer, our numbers and manner of working have not changed in any way. Of course it is better that clinics are now held on our premises, but such good relations have always prevailed between the consultants and the GPs with whom we work that physiotherapists have welcomed the extra responsibility offered, and we have never been short of competent and enthusiastic staff.

We have also run a minimal domiciliary service, another aspect rejected by the Tunbridge Report. We consider that, carefully employed, this is a vital part of any physiotherapy service. Visits are made only for assessments, general guidance, the immediate treatment of patients with hemiplegia not admitted to hospital, and acute chest conditions.

In conclusion I would hope that this system could be employed more widely in order to sift patients from long waiting lists

and to reduce time lost from work and the prolonged discomfort suffered by all those with musculoskeletal disorders which can be cured, or at least very much alleviated, by prompt and carefully chosen physiotherapy.

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HLA antigens in haemochromatosis

SIR,—HLA antigen studies have been carried out on six patients with haemochromatosis and one patient with a high serum iron and marked iron deposition on liver biopsy attending this department. The results of HLA typing in these cases are shown below.

Patient	Age (years)	HLA
1	56	1, 3, 7, W15
2	56	3, 7
3	53	1, 3, 7, W14
4	34	3, 11, 7, 12
5	49	1, 3, 7, 8
6	44	2, 3, W10, W27
7*	68	3, 7

*Haemosiderosis

The incidence of the combination of HLA-3 and HLA-7 in these cases is 85.7%, whereas in a control group of 86, composed of 36 members of staff and 50 general medical outpatients, the incidence of the combination was only 20.9%. The difference is highly significant ($\chi^2=12.136$, $P<0.001$). Applying the correction for Bonferroni inequality as suggested by Bodmer to avoid problems of sampling in view of the large number of variables (antigens) being tested,^{1,2} a significant increase in the incidence of HLA-3 and HLA-7 is still found in the group with haemochromatosis. (Patients with coeliac disease or suspected ankylosing spondylitis were not included in the control group.)

Recently, Simon *et al.*³ found a highly significant increase in the incidence of HLA-3 in 20 patients with haemochromatosis compared with a control group of 120 (HLA-3 present in 85% and 31%, respectively). Our study, while confirming their findings, suggests that there is a corresponding increase in the incidence of HLA-7.

Although the numbers of patients with haemochromatosis and controls were small, it seems possible that our results represent another disorder associated with HLA-type.

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¹ Vladutium, A. O., and Rose, N. R., *Immunogenetics*, 1974, 1, 305.

² Bodmer, W. F., in *National Cancer Institute Monographs*, 1973, 36, 127.

³ Simon, M., *et al.*, *Nouvelle Presse Médicale*, 1975, 19, 1432.

Overprescription of psychotropic drugs

SIR,—Dr W J Reilly (25 October, p 223) is right to draw attention to the possibility that many road accidents happen as a result of impaired judgment caused by psychotropic drugs. However, his article exposes a much

wider and more serious problem to which he refers in his last paragraph when he writes, "There are many GPs like myself, who feel that such drugs have little to offer the unhappily married woman or the man whose business is failing." He is absolutely right. So often these drugs do no more than convert an anxious but clear-headed person into an anxious but woozy-headed person.

There is, of course, a proper place for the correct use of anxiolytics, antidepressants, and other psychotropic drugs. However, their abuse has become a menace which is well illustrated by Dr Reilly's patient who "had been discharged from a mental hospital taking daily 50 mg of Sinequan (doxepin), 3 mg of Ativan (lorazepam), 100 mg of Surmontil (trimipramine), 50 mg of Melleril (thioridazine), and 10 mg of Mogadon (nitrazepam)." I cannot conceive of any psychiatric disorder for which this could be the appropriate treatment.

Professor W H Trethowan has recently called attention to this problem in your columns (27 September, p 749). He concludes correctly that the situation has implications for medical education that should worry us.

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Organisation of cardiac surgical services

SIR,—We agree with the suggestion in your leading article (13 September, p 609) that cardiac surgical services in this country need to be organised on a more rational basis. In some areas inadequate facilities and staffing are responsible for dangerously long waiting lists. Elsewhere there are still units operating on insufficient numbers of patients to enable efficient and economic use to be made of existing resources. The establishment of a national register similar to that in Australia since 1963 would be the first step towards rectifying the situation.

We believe that the Society of Thoracic and Cardiovascular Surgeons of Great Britain and Northern Ireland is the most appropriate body to organise such a register and suggest that each year every cardiac surgical unit in the country should submit details of its work load in terms of numbers and categories of operations performed, the length of its waiting list, and the hospital mortality figures for that year. Only on the basis of such knowledge can proper regional planning be instituted in the future.

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Amoebic meningitis

SIR,—In his article on meningitis and encephalitis (8 November, p 335) Dr C C Smith mentions amoebic meningitis (usually referred to as primary amoebic meningo-encephalitis) in the section devoted to "rarer forms of bacterial meningitis"! He makes the statement that the condition is "rare in temperate climates, but may occur in Britain during a hot summer." Although it is true that most cases have been associated with swimming or playing in warm

water (for example, warm springs in New Zealand, indoor swimming pool in Czechoslovakia), nearly all have occurred in temperate climates—Australia, Belgium, Czechoslovakia, and Virginia. There is doubt whether the rarity of this condition in Britain is real or due to failure in diagnosis. Free-living amoebae should be sought whenever the cerebrospinal fluid from a patient with meningitis is bacteriologically sterile, particularly if the patient is an adolescent.

Dr Smith also states that the causative organism is sensitive to clotrimazole; Jamieson¹ has shown that although *Naegleria fowleri* is sensitive to clotrimazole in vitro, this drug has no protective effect when given to infected mice.

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¹ Jamieson, A, *Journal of Clinical Pathology*, 1975, **28**, 446.

Anaemia, smoking, and pregnancy

SIR,—I was interested to read the paper by Dr T G B Dow and others (1 November, p 253) on changes in comparative carboxy-haemoglobin (COHb) concentrations after smoking a single cigarette in non-pregnant, normal pregnant, and anaemic pregnant women. While marked variations in mean percentage COHb level were clearly demonstrated in the three groups of women studied, and while these changes may be important, alterations in absolute COHb concentration are possibly of much more fundamental significance. Recalculation of the authors' data yields the following absolute COHb concentrations (mg/dl) for mean values in the three groups.

	Blood COHb (mg/dl)		Difference
	Before	After	
Normal pregnancy ..	203	672	469
Anaemic pregnancy ..	150	596	446
Non-pregnant controls ..	300	583	283

When expressed in this manner the results show that (1) anaemic pregnant women have the lowest mean COHb before smoking, (2) non-anaemic normal pregnant women have the highest mean COHb after smoking, and (3) non-pregnant women have both the highest mean COHb before smoking and also the smallest rise after smoking.

The contention that anaemia may increase the undoubted risks to the fetus caused by cigarette smoking in pregnancy does not appear to be supported by these results.

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Hyperactivity in children

SIR,—Your leading articles (18 October, p 123, and 10 February 1973, p 305) on childhood hyperactivity have provided valuable contributions to the debate on this important but controversial topic. We were surprised, however, that you did not mention the recent

findings that hyperactivity can be induced in experimental animals as an early symptom of lead intoxication¹⁻⁴ and by δ -aminolaevulinic acid (ALA).⁵ ALA excretion in the urine is elevated in both acute intermittent porphyria and lead poisoning, and this fact raises the possibility that neurological abnormalities which can be brought about by the administration of sublethal doses of lead may be a secondary effect consequent upon an interference with haem synthesis. The biochemical mechanism may involve inhibition by ALA of the (Na⁺-K⁺)-dependent ATPase in human brain tissue.⁶

Lead-induced hyperactivity resembles the form of childhood hyperactivity discussed in your more recent article in its paradoxical response to drugs: amphetamines and other central nervous system stimulants reduce the degree of activity and phenobarbitone increases it.^{1,2} This evidence for lead-induced hyperactivity in experimental animals does not in itself establish that the same phenomenon can occur in man; but it is of special interest in connection with the report by David *et al*⁷ that some hyperactive children have higher lead burdens than do non-hyperactive controls. David has obtained further evidence that hyperactivity per se does not produce elevated lead levels (personal communication to DBS).

The evidence does not, of course, enable us to state which place lead occupies in the ranking order of causes of hyperactivity. However, confirmation that lead produces behavioural effects in children would offer some prospect of a more fundamental contribution to the prevention of the syndrome since environmental lead levels are more amenable to correction than are social stresses. It might also be possible to hope that curative rather than palliative treatment could be offered in those cases in which lead was shown to be a factor.

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- 1 Silbergeld, E K, and Goldberg, A M, *Experimental Neurology*, 1974, **42**, 146.
- 2 Silbergeld, E K, and Goldberg, A M, *Life Sciences*, 1973, **13**, 1275.
- 3 Sauerhoff, M W, and Michaelson, I A, *Science*, 1973, **182**, 1022.
- 4 Golter, M, and Michaelson, I A, *Science*, 1975, **187**, 359.
- 5 Goldberg, A, and McGillion, F B, *British Journal of Pharmacology*, 1973, **49**, 178P.
- 6 Kramer, S, *et al*, *South African Journal of Laboratory and Clinical Medicine*, 1971, **17**, 103.
- 7 David, O, Clark, J, and Voeller, K, *Lancet*, 1972, **2**, 900.

Mortality of pathologists and medical laboratory technicians

SIR,—In their most interesting study Dr J M Harrington and Mr H S Shannon (8 November, p 329) report the surprising finding that eight male English pathologists died from neoplasms of the lymphatic and haemopoietic tissue (ICD 200-209) whereas the expected number was 3.3. No excess was noted for Hodgkin's disease (ICD 201) or leukaemia (ICD 204-207), which leaves lymphomata, multiple myelomatosis, and polycythaemia rubra vera—six deaths found and 1.4 expected.

This article reminded me of a study I undertook in 1968 on the causes of death of South African doctors, in which I found that