know slightly fewer overall; less than 30% of the doctors knew the constituents of the final drug, which was prescribed most frequently by the general practitioners, including those who had not known what it contained.

Most doctors favoured an improved system of naming but many suspected that it would be very difficult to implement, although insistence that the name chosen was related to the generic name or that the generic name was always given in brackets beneath the proprietary name, even if cumbersome, might be helpful.

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Prevalence of multiple sclerosis in north-east Scotland

SIR,—It is interesting to note in the epidemiological study reported by Drs D I Shepherd and A W Downie (29 July, p 314) that there is a "significant deviation from a random distribution" in the prevalence of multiple sclerosis in north-east Scotland. The local differences in observed prevalence may not reflect the true geographical incidence of the disease. The observed rate should be standardised for age, as the existence of a higher proportion of the population in early and mid-adult life, in areas of Aberdeen, for example, would increase the prevalence.

The other feature of note is the tendency for the observed prevalence to increase the nearer the area is to Aberdeen. This increase may reflect easier access to specialist diagnostic services, which are concentrated in Aberdeen.

The geographical distribution of HLAA3 and B7, if significantly correlated with the local prevalences, might support the observed differences in the latter. Such a study within a population at high risk would be of interest.

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Lorazepam unsuitable for day surgery

SIR,—A leaflet entitled "Ativan Injection in Day Surgery" has recently been circulated to hospital doctors and I am anxious to prevent any misconceptions that may arise. To my relief the manufacturers, John Wyeth and Brother Ltd, assure me that this document was not intended as promotion for the use of lorazepam (Ativan) in this situation but rather as a data sheet for anyone wishing to use it for day cases.

As an anaesthetist I strongly believe that a long-acting drug such as lorazepam, while excellent for use in certain situations, is in fact contraindicated in day-case procedures. Indeed, it has recently been shown¹ that significant plasma levels of lorazepam are still detectable 24 h after a single dose of the drug, and, although intravenous administration results in an initially rapid decline in plasma levels, this is followed by a very slow fall over the subsequent 24 h irrespective of the route of administration.

In their leaflet the manufacturers have, quiet correctly, included warnings about the

need for patients to be accompanied home and to be cautioned against doing anything requiring any degree of judgment for the rest of the day. However, when there are other, shorter-acting drugs on the market I feel that it would be a shame if a drug as promising as lorazepam for use in certain circumstances were discredited by adverse reports following its use in an inappropriate situation.

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¹ Dundee, J W, *et al*, *Anaesthesia*, 1978, **33**, 15.

Health education in schools

SIR,—Minerva may have been abashed (5 August, p 441) to hear an American health educator say that American schoolchildren have 180 hours of health education in their schooldays. The fact is that the hours of British-style health education cannot possibly be counted in this seemingly superficial way. I should like to know what constitutes the 180 hours in the USA—lectures followed by multiple choice questionnaires marked by a computer, perhaps?

In Britain health education is rarely taught as a curriculum subject in which the hours spent could be "clocked up." It should never be taught just as a series of facts to be poured into empty vessels. It is frequently integrated into the whole school curriculum—ideally, from the primary school to the end of the school career.

In secondary schools it crops up in the obvious subjects such as biology, home economics, and PE; it may also appear in rather more subtle form in drama, art, English, science, social studies, environmental studies, and religious education. Do we have to attach a special label to a topic for it to be considered as "education for health"? Doesn't the school medical officer or school nurse have a part to play in informal health education? I hope we never reach a state where health education is so tightly defined that we can indeed state that every schoolchild will have "done" x hours of it. Would it change their health-related behaviour for the better anyway?

To answer Minerva, perhaps that explains why American children often ask for Coke instead of milk.

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PUVA treatment of psoriasis

SIR,—I refer to the letters from Professor M J Ashwood-Smith and Dr S Igali (29 April, p 1138) and Dr M Whitefield and others (27 May, p 1418) concerning risks associated with the PUVA treatment of psoriasis. Dr Whitefield and his colleagues suggest that the 8-methoxypsoralen used in the photochemotherapeutic treatment, on excitation to its triplet state by light of wavelength around 365 nm, might act as a photosensitiser for dimerisation of adjacent thymine molecules in a single DNA strand as well as forming addition compounds with two thymines on opposite strands of the DNA spiral, which by blocking cellular division reverse the psoriatic

process. It was suggested that such photosensitised formation of thymine dimers may cause mutagenic and carcinogenic changes normally only associated with absorption of light directly by DNA in the higher energy region around 260 nm.

I wish to point out that the triplet energy levels of 8-methoxypsoralen (263 kJ/mol)¹ and thymine (315 kJ/mol)² are such that the triplet energy transfer from 8-methoxypsoralen to thymine invoked by Dr Whitefield and his colleagues may be excluded on energetic grounds, although the reverse triplet energy transfer process from thymine to 8-methoxypsoralen would be expected to be efficient. Psoralen triplet states can in fact only be quenched by thymine by non-energy transfer processes.³ Photochemotherapy of psoriasis by PUVA is therefore unlikely to lead to side effects due to reactions of excited states of pyrimidines or purines in DNA.

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¹ Mantulin, W W, and Song, P-S, *Journal of the American Chemical Society*, 1973, **95**, 5122.

² Eisinger, J, and Shulman, R G, *Science*, 1968, **161**, 1311.

³ Bensasson, R V, Land, E J, and Salet, C, *Photochemistry and Photobiology*, 1978, **27**, 273.

Stroke after acute myocardial infarction

SIR,—I read with interest the paper by Drs P L Thompson and J S Robinson (12 August, p 457) on the relation of stroke after myocardial infarction to infarct size. While I accept their conclusions on the basis of the analysis of aspartate transaminase levels, which showed a correlation coefficient of 0.85 with creatine kinase levels, I find the choice of the latter as the index of infarct severity rather unfortunate in the context of the study, since it is also present in brain and released into the blood in cases of cerebrovascular accident.

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Injuries to cricketers

SIR,—There has been considerable interest of late regarding the use of protective headwear in cricket by batsmen and close-in fielders. I am writing this letter in the hope that some British-based doctors will be motivated to conduct a survey of cricket facial injuries. If the extent of the problem can be defined by such a study surely this will be a further stimulus for cricketers to adopt the use of protective headwear—and, probably more important, facewear. Many readers will be familiar with the story of the county cricketer who, this season, was fielding close to the bat while wearing protective headwear but not facewear. He was hit by the ball and sustained severe facial injury.

Experience in Canadian ice hockey illustrates how a study of sports injuries can add impetus to the introduction of safety measures. Pashby *et al*¹ reported in 1975 a Canadian Ophthalmological Society study of eye injuries in ice hockey. A questionnaire was sent on two occasions to the 525 ophthalmologists who are COS members: 540 hockey-related eye injuries were reported, 15% of all injured eyes being rendered legally blind. The highest number of

eye injuries was in players aged 11 to 15 years. Largely as a result of this study and others like it protective headwear and facewear is now mandatory in almost all junior ice hockey in Canada.

There have also been recent articles regarding eye injuries in badminton² and squash.³ I am not aware of such an article on cricket eye injuries. This is just the right time for such a survey. I write from the land of ice hockey to the land of cricket in the hope of stimulating somebody to tackle the sticky wicket.

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¹ Pashby, T J, *et al*, *Canadian Medical Association Journal*, 1975, **113**, 663.

² Chandran, S, *British Journal of Ophthalmology*, 1974, **58**, 757.

³ Easterbrook, M, *Canadian Medical Association Journal*, 1978, **118**, 298.

Antipodean summer

SIR,—Dr Malcolm Schonell (18 March, p 711) states that the bite of the blue ringed octopus is always fatal as there is no known antidote. Certainly there is no known antidote, but the bite should never be fatal if there is a second person present. The toxin, related to tetrodotoxin, produces paralysis. The patient dies from anoxia due to his inability to breathe. If he is given artificial respiration he recovers. Dr Schonell will find his beach-walking hours less worrying if he purchases a copy of *Dangerous Marine Animals of the Indo-Pacific Region* by Dr Carl Edmonds, published by Wedneil Publications, Newport, Victoria, Australia, and available from any diving shop or good bookshop in Australia.

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Bell's palsy and herpes simplex

SIR,—Last year Dr P Grout described in these columns a case of Bell's palsy associated with herpetic stomatitis (24 September 1977, p 829). Dr Grout's claim that the Bell's palsy was probably caused by herpes simplex virus was, however, subsequently questioned by Dr B E Juel-Jensen (1 October 1977, p 1086).

In the four months following the publication of these two letters four cases of Bell's palsy occurred in my practice and the opportunity was taken to determine the herpes simplex antibody titre in each case (see table). The rising antibody titres in cases 1 and 2 indicate current antigen stimulation, though the speed with which antibody was produced in case 1 suggests that the infection was not a primary one.

Case 1 has already been the subject of comment (12 November 1977, p 1292), for 12 months previously the patient had suffered

an attack of Bell's palsy on the opposite side. In case 2, though there was a significant rise in antibody titre to herpes simplex virus, the patient had, 10 days before the onset of the Bell's palsy, developed a typical herpetiform rash around the auricle, spreading into the neck below the ear. The varicella-zoster antibody titre in both samples of blood was elevated to 256.

These results demonstrate a definite relationship between Bell's palsy and herpes simplex infection or reinfection in two of these cases and support the concept that Bell's palsy is a disease of multifactorial aetiology.

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Relative activity of beta-blockers

SIR,—Dr J D Harry and Anne G Shields (8 July, p 128) report that in a healthy volunteer study atenolol is significantly more effective 24 hours after ingestion than metoprolol in reducing heart rate. Professor J H Barber (29 July, p 357) reports that in a double-blind general practice study he has shown metoprolol and atenolol equipotent three and 23 hours after ingestion in the treatment of hypertensive patients. He further comments that, in view of these results, metoprolol is preferable to grounds of comparative cost.

Professor Barber suggests that studies of real patients in general practice are of greater value than investigations in volunteers. Shaw,¹ writing on the use of once daily sotalol in general practice, comments that the drug gives effective 24-hour control of lying, standing, and postexercise blood pressures and pulse rates.

Lehtonen and Sundquist² have recently published their findings of a double-blind comparative study of sotalol and metoprolol in hypertensive patients, medication being administered once daily. Sotalol (240 mg) and metoprolol (200 mg) were shown to have similar hypotensive effects 24 hours after ingestion, but the effect of sotalol on pulse rate reduction was seen to be greater than that of metoprolol and lasted for at least 48 hours after a single dose. This suggests that sotalol may have a better cardioprotective effect than metoprolol when both drugs are given once daily.

There is a growing tendency towards using single daily doses of beta-blockers in the management of cardiovascular disease. In the light of these clinical findings, perhaps Professor Barber would now consider sotalol. The economic comparison is also favourable.

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¹ Shaw, H L, *Journal of the Royal College of General Practitioners*, 1977, **27**, 742.

² Lehtonen, A, and Sundquist, H, *Current Therapeutic Research*, 1978, **23**, 131.

Drugs acting on the bladder and urethra

SIR,—In the recent article by Mr Stuart L Stanton entitled "Drugs acting on the bladder and urethra" (17 June, p 1607) a number of statements were made which we found surprising.

(1) It is difficult to equate urethral sphincter dysfunction with genuine stress incontinence, since there are many cases of sphincter overactivity which do not result in "stress." The author is aware of this, as he recommends the use of baclofen in external sphincter spasm later in the text.

(2) It was pointed out that since the prostaglandins (PG) stimulate bladder muscle in vitro they might be of some consequence in the treatment of "decreased bladder activity." The author added, however, that he had been unable to initiate bladder contractions after intravesical administration of PGE₂. By contrast our studies¹ have shown that PGE₂ administered in this way will initiate bladder contractions in atonic bladders and we now use PGE₂ routinely to treat idiopathic chronic retention in women and also in men who remain in chronic retention after relief of the causative outflow obstruction.

(3) The author rightly suggested the use of carbachol or bethanechol for treatment of the atonic bladder but went on to say that its action is due to an ability to release acetylcholine from parasympathetic nerve terminals. Surely a direct action at muscarinic receptors on the smooth muscle is the major effect, with increased transmitter release being only a contributory factor.

(4) In the section on side effects attention is given to diphenylhydantoin in that it may aggravate incontinence because it is an α -blocking agent. We do not know any evidence to support this suggested mode of action.

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¹ Bultitude, M I, Hills, N H, and Shuttleworth, K E D, *British Journal of Urology*, 1976, **48**, 631.

*. *We sent a copy of this letter to Mr Stanton, whose reply is printed below.—Ed, BMJ.

SIR,—I should like to make these points in reply to the letter of Dr Bowery and Mr Hills.

(1) Urethral sphincter dysfunction is a term I have used for several years to denote incompetence or decreased activity of the urethral sphincter mechanism. It is a parallel term to genuine stress incontinence. I never use it to describe sphincter overactivity or spasm, which is very different and which does not result in "stress incontinence."

(2) I think Bowery and Hills's experience with PGE₂ is unique and would welcome evidence of its efficacy from other centres.

(3) I would not dispute that the major direct action of carbachol and bethanechol is at muscarinic receptors on smooth muscle. In endeavouring to be succinct, I have perhaps oversimplified the property of choline esters by describing their action as one of stimulation of the parasympathetic nervous system to release acetylcholine.

(4) I would refer Bowery and Hills to a

Cases of Bell's palsy and reciprocal herpes simplex antibody titres

Case	Age	Sex	Date of onset	First specimen		Second specimen	
				Date	Titre	Date	Titre
1	62	F	11.9.77	14.9.77	32	3.10.77	256
2	92	F	16.9.77	26.9.77	32	11.10.77	256
3	48	M	7.1.78	7.1.78	128	15.2.78	64
4	25	F	1.2.78	1.2.78	128	14.2.78	64