rate of 38% at the end of 12 months deserves serious consideration, it is disquieting to read that seven out of the 47 abstainers in the "active" gum group were still chewing the gum, taking in an average of 11.4 mg of nicotine daily. This represents 15% of abstainers with what appears to be continuing nicotine dependence. At our walk-in Advisory Centre (Latimer House, 40/48 Hanson Street, London W1) we have been approached by several people using the gum, because their doctor is proposing to discontinue prescribing and they fear that the result will be a recurrence of desire to smoke which they will find very difficult to resist.

Whether doubts thrown up by a recent report on blood levels of nicotine metabolites in pipe smokers¹ on the accepted view² that nicotine shares with carbon monoxide a major role in causation of arterial disease are confirmed or not, substitution of one dependence for another is not an ideal result. The decision whether to prescribe the gum must, of course, rest with the patient's own doctor, but I suggest that it should not be considered until other approaches have been tried: not only general counselling on the lines of the Health Education Council booklet *So You Want to Stop Smoking*, combined perhaps with such adjuncts as a dummy cigarette, but also more intensive programmes like the five-day plan first developed in this country by the British Temperance Society.

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¹ Wald NJ, Idle M, Boreham J, Bailey A, Vunakis HV. *Lancet* 1981;iii:775.

² Royal College of Physicians. *Smoking or Health*. Tunbridge Wells: Pitman Medical, 1977.

SIR,—Having read with interest the accounts by Mr M J Jarvis and others (21 August, p 537) of trials of nicotine chewing-gum, I feel that I may be able to make a contribution by recounting my own experience as a user.

I have used 2 mg nicotine chewing-gum (Nicorette) since November 1980 (about 21 months up to the time of writing) with success in as much as I was able to stop smoking completely at the outset and have not since been in danger of relapsing. It is true that I was, and still am, strongly motivated by fear of the consequences of smoking.

Unfortunately though not a very heavy smoker (17-20 a day) I had developed a strong dependence on cigarettes, and this was soon supplanted by a corresponding dependence on the gum. According to my records, over the period up to February 1982 (15 months) my consumption showed no overall tendency to decrease, although there was a curious demiannual rhythm peaking at 10.4 pieces daily in March and September and falling to six daily in June and January.

Despairing of giving up the gum painlessly by simply using fewer pieces, I decided to try reducing the dose by dividing the pieces. This approach has been very successful, although I have found that in order to avoid noticeable effects apart from perhaps increased appetite I have had to reduce the dose in steps of two-thirds, halving it being too severe.

Over the past six months I have worked through doses of two-thirds, a half, one-third, a quarter, one-sixth, and am now on one-ninth. I have found that I quickly become accustomed to the smaller pieces and that I do not tend to compensate by using more pieces at each

stage. As a consequence, I am now using the equivalent of less than one piece of gum a day, whereas a year ago I would have considered four a day an achievement.

The method may appear pedantic, but it has enabled me to enjoy the benefits of cutting back on nicotine without any of the usual stresses, thereby making the process self-reinforcing.

NICHOLAS B TAYLOR

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Warfarin and albumin

SIR,—The report by the Royal College of Pathologists on drug interaction with anticoagulants (24 July, p 274) lists hypalbuminaemia among the physical states that will potentiate coumarin-type drugs. The best known of these, warfarin, circulates as an albumin-bound (98% in equilibrium with the 2% free) pharmacologically active drug. Interaction with other albumin-bound drugs displaces this equilibrium through competition for binding sites on the protein, and hypalbuminaemia mimics this effect by offering fewer binding sites.

The effect of an albumin variant (as in alloalbuminaemia, bisalbuminaemia) will be less predictable: the alloalbumin may bind either warfarin or its competing drugs differently from the albumin-A normally present, and this virtual hyper- or hypalbuminaemia will be reflected in unexpectedly low or high prothrombin activities. In-vitro tests by Wilding *et al*¹ have shown that a European alloalbumin bound more warfarin than albumin-A, and two variants found in Amerindians (where bisalbuminaemia is common) bound less. The differences would be large enough to account for clinical effects.

The condition is rare in Europeans, and the reason for the unexpected prothrombin time will easily be missed. Total warfarin concentrations will show no significant change.

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¹ Wilding G, Blumberg BS, Vesell ES. *Science* 1977; 195:991-4.

Methaemoglobinaemia due to monolinuron—not paraquat

SIR,—I was interested to read the report of methaemoglobinaemia and haemolysis after ingestion of Gramonol (10% paraquat) (15 May, p 1445) since I too have encountered these problems with this paraquat formulation.

A 63-year-old woman drank a cupful of Gramonol and within nine hours was noted to be an unusual colour. Her haemoglobin was then 11.8 g/dl, reticulocyte count 0.9%, and the blood film was normal. Forty-three hours after ingestion her skin was a deep slate-blue colour and her total haemoglobin was 8.8 g/dl, of which 36% was methaemoglobin and 7% sulphaemoglobin. The reticulocyte count had risen to 5%, Heinz bodies were present, and Schum's test was positive. Methylene blue (50 mg intravenously) reduced the methaemoglobin concentration to 12%. Over the next five days the haemoglobin fell to 6.4 g/dl, the reticulocyte count rose to a maximum of 8.8%, and 19 normoblasts/100 white cells together with immature myelocytes appeared in the blood film. As was our practice at the time she was

treated by haemodialysis on several occasions in an attempt to remove paraquat, although much later measurement of the plasma paraquat concentration (0.1 mg/l 15 hours after ingestion) indicated that she was not at serious risk.¹ Fortunately she recovered completely.

I have reviewed the records of 71 patients with paraquat poisoning managed in this unit since 1968, and this is the only one in whom methaemoglobinaemia was noticed. She is also the only one who ingested Gramonol. To the best of my knowledge methaemoglobinaemia has not been reported after ingestion of other paraquat formulations, and I believe Dr Ng and his colleagues are wrong in attributing it to paraquat in their case.

The other active constituent of Gramonol is monolinuron (140 g/l), which together with monuron, linuron, and diuron belongs to the substituted urea herbicides. Nothing is known of the acute toxicity of these compounds in humans,² but studies in animals suggest that they are metabolised to aniline derivatives and giving monolinuron alone has produced methaemoglobinaemia in cats and dogs.³ The propensity of aniline and its derivatives for causing methaemoglobinaemia and haemolysis is well documented.² Although it is encouraging to have found a remediable cause of cyanosis in "paraquat" poisoning it seems that Dr Ng and his colleagues have recorded the first case of toxicity of monolinuron in man rather than a new feature of paraquat poisoning.

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¹ Proudfoot AT, Stewart MJ, Levitt T, Widdop B. *Lancet* 1979;iii:330.

² Gosselin RE, Hodge HC, Smith RP, Gleason MN. *Clinical toxicology of commercial products*. 4th ed. Baltimore: Williams and Wilkins, 1976.

³ Maier-Bode H, Hartel K. *Residue Rev* 1981;77:3.

Interaction between flurbiprofen and coumarins

SIR,—Recently our monitoring centre received two reports suggesting a serious clinical interaction between the coumarin anticoagulant acenocoumarol (Sintrom) and flurbiprofen (Froben), a propionic acid non-steroidal anti-inflammatory agent. This interaction was not listed by the Standing Advisory Committee for Haematology of the Royal College of Pathologists (24 July, p 274).

Case 1—A 64-year-old man, stably anticoagulated for several years with acenocoumarol (13 mg weekly; varying daily dose) was treated with flurbiprofen (150 mg daily) because of a painful cervical syndrome. After three days he developed haematomas and melaena. The Thrombotest time¹ before the use of flurbiprofen was 158 s (therapeutic standard: 105-180 s). During the period of bleeding the Thrombotest time was 13.5 min. Both drugs were discontinued and the patient was successfully treated with intravenous vitamin K₁. After three and a half weeks he was again anticoagulated with the usual dose.

Case 2—A 41-year-old woman, also stably anticoagulated for several years with acenocoumarol (41 mg weekly; varying daily dose), was treated with flurbiprofen (300 mg daily) because of painful thrombophlebitis. Two days later she developed haematomas and haematuria. The Thrombotest time before the start of flurbiprofen was 127 s. At the time of the haemorrhagic complications the Thrombotest time was 200 s. She was successfully treated with intravenous vitamin K₁, and both drugs were discontinued. Six weeks later she was again stabilised with the same amount of acenocoumarol.

Neither of the patients had used other drugs, changed their diet, had any serious illness, or taken more of either medicine than the recommended dose. Both patients were being assessed regularly in an experienced thrombosis service centre.

Flurbiprofen is a known in-vitro inhibitor of platelet release and to a lesser degree platelet aggregation.^{2,3} It has been successfully used in a patient with spontaneous platelet aggregation.⁴ Unfortunately, the bleeding time was not assessed in these patients. A prolonged bleeding time, however, does not account for a prolongation of the prothrombin time as observed in these patients.

The only documented investigation of an interaction between flurbiprofen and a coumarin (phenprocoumon) showed slightly enhanced anticoagulation. The authors considered the interaction of little clinical importance.⁵ We recommend that if these drugs are used concurrently, the Thrombotest time should be monitored regularly. Additional prospective interaction studies are required.

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¹ Owren PA. *Lancet* 1959;ii:754-8.

² Cockbill SR, Heptinstall S, Taylor PM. *Br J Pharmacol* 1979;67:73-8.

³ Rosenberg JC, Sell TC. *Arch Surg* 1975;110:980-3.

⁴ Politis-Tsegos G, Wolff S, Shaw S, Mitchell TR. *Br Med J* 1978;ii:1323-4.

⁵ Marbet GA, Duckert F, Walter M, Six P, Airenne H. *Curr Med Res Opin* 1977;5:26.

Chaplain to casualty

SIR,—Robin Lapwood (17 July, p 194) seems to have had two purposes in stationing himself in a casualty department: to comfort those in distress by sympathetic listening and to offer the option of comfort from the Christian religion. I have no quarrel with his first purpose; no doubt he fulfilled his function successfully. I am disturbed, however, that he merged these two purposes without making clear to patients from the outset the reasons for his presence. To this end he was disguised as a doctor. Only when people had already unburdened themselves to a sympathetic person did they realise they had been talking to a chaplain. Perhaps Mr Lapwood's motive for maintaining this disguise was his awareness that patients might otherwise have declined to talk to him, since most of the inhabitants of Great Britain are not Christian. Many would feel it an unwelcome intrusion to be prayed over and given a short course in Christian dogma while in such distressing circumstances. It is not, however, Mr Lapwood's Christianity per se I object to, but his impersonation both of someone vaguely medical and of a detached but sympathetic comforter when he was neither medical nor detached. He was sailing under false colours on two counts.

Another consideration is that of medical confidentiality. In the situation Mr Lapwood describes a lay person was allowed to be present at consultations under the assumption by the patient that he was at least paramedical. Would all the patients be equally happy to give their stories in front of a chaplain in a clerical collar? Or to any other lay person in the role of

comforter for that matter? Should they not at least be informed of that person's identity and given the option of excluding him from the consultation? Surely when one enters hospital one should be assured that one will be dealt with by hospital staff, except when it is clear that non-staff, such as various voluntary workers, are present.

I commend Mr Lapwood's work as comforter. I object most strongly, however, to his incorporation into the medical team and to the deception involved in camouflaging his role as chaplain.

V HARTLEY-BREWER

Bath

*.*We sent a copy of this letter to Mr Lapwood, who replies below.—Ed, *BMJ*.

SIR,—The vignette of a Christian rampant, inveigling his way into cubicles, ostensibly to soothe the sick and dying, but really only to administer an emergency course in Christian dogma (after first restraining the patient for compulsory prayers) fills me with as much disgust as it so obviously does Dr Hartley-Brewer. Indeed my revulsion is greater than hers since, apparently, this wolf in sheep's clothing is none other than myself. I am sorry my article was so ineptly written as to allow room for such an unfortunate premise. As a Christian I do have profound convictions about man's need for God's forgiveness, but I believe also that man has a God-given right to choose his own destiny. To act as Dr Hartley-Brewer suggests would denigrate rather than commend my faith.

When present at consultations it was always with the patient's consent, except when they were unable to communicate, whereupon the medical staff themselves would decide whether I should be called in. The staff regarded me as a full member of their close-knit team, not as a "lay person," and my white coat was worn (at their suggestion) as an outward sign of this. The ease of access to patients my uniform allowed was a privilege I would not abuse; rather I feel I used it wisely with distressed patients who, in the context of casualty, fear not the man in the dog collar so much as the air of death his black clothing suggests. I sought to communicate God's acceptance of me in my acceptance of others. Accepting their rejection was thus integral to my ministry. It is something Dr Hartley-Brewer's wolf could never understand.

ROBIN LAPWOOD

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Suffolk

Careers of doctors qualifying in Britain in 1974

SIR,—The "Talking Point" article (14 August, p 522) was most interesting, informative, and surely reassuring to those who have been expressing concern about medical unemployment.

It had, however, one significant deficiency. The writers state that they "had been looking at the career preferences of doctors qualifying in the *United Kingdom*," and yet despite the sampling frame for such doctors having been obtained from their medical schools in the United Kingdom and updated from the *Medical Directory*, Medical Register, and the General Medical Council, they have

failed to include any medical graduates from the Queen's University of Belfast.

Some 120 doctors graduate annually from Queen's, and Belfast is in *Northern Ireland*, an integral part of the United Kingdom. That so many doctors should be overlooked, a greater number than from any single London medical school and all but one of the provincial schools listed is surely a sad omission, and although I am sure not intended, could be taken as a slight on either the British nationality so highly valued by the majority of Ulstermen or, worse still, on the status as doctors of Queen's University graduates, of whom I am proud to be one.

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*.*We sent this letter to Dr Parkhouse, who replies below.—Ed, *BMJ*.

SIR,—I should like to thank Dr Gilmore and others who have written to me personally for drawing attention to a misleading statement in our article (14 August, p 522). We apologise sincerely for this.

The position is as follows: in 1972 and 1973 we surveyed the career preferences of qualifiers from the Sheffield and Manchester medical schools. In 1974, for the first time, we pushed the boat out and sent questionnaires to the qualifiers from all the medical schools in England, Scotland, and Wales. Hence the term Britain in the title of our recent article. The success of the 1974 study was such that we decided in 1975 and subsequent years to include the Queen's University of Belfast. Thus it is correct to say, as in our first paragraph, that we have for some years been looking at the career preferences of doctors qualifying in the United Kingdom. Regarding the 1974 study, however, we should, of course, have referred under our description of methods to the sampling frame for doctors qualifying in England, Scotland, and Wales. If this error has given offence, as well as causing possible misunderstanding, we greatly regret this. Since 1975 we have had full and enthusiastic responses from Belfast graduates, and we much appreciate this.

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Electric convulsion therapy apparatus

SIR,—Dr A A Robin (7 August, p 441) wrote about the report of a working group set up by the Secretary of State for Social Services on electric convulsion therapy equipment. As the representative of the Royal College of Psychiatrists on that working group it is appropriate that I should answer his criticisms.

Dr Robin says that the advice to discontinue sine wave stimulation was reached by confusing the aim of producing the desired therapeutic effect with *minimum* energy with that of producing an adequate bilateral clonic seizure with *minimum* energy. He suggests that the working group assumed that all bilateral clonic seizures are associated with equal therapeutic benefit. This is not so: the word "adequate" covers the probability that seizures are not "all-or-nothing" phenomena and that there may be an optimal pattern of cerebral