of dose in Procrustean NHS methadone programmes.

We believe that the time is right to form a multidisciplinary group to promote the rational, humane, and research validated maintenance treatment for opiate addicts that has been a valuable and traditional feature of British practice since the Rolleston committee first recommended it in 1926. We invite interested doctors to join us in setting up a British Methadone Maintenance Forum and we hope to establish an annual conference on methadone.

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Managing drug misuse in general practice

SIR,—John Cohen and colleagues suggest that problem drug misusers can be managed in general practice.¹ We report the findings of a questionnaire study that looked at ways of increasing general practitioners' involvement with this client group.

All general practitioners in Croydon Family Health Services Authority received a questionnaire on their contact with patients who misused drugs. Completed answers were returned by 102 of 177 doctors. Only a fifth (21/102) had seen any intravenous drug misusers in the four weeks before they completed the questionnaire. Interestingly, despite the increasing prevalence of intravenous drug use, the proportion of practitioners involved with drug misusers does not seem to have changed since the comparable national study by Glanz and Taylor in 1985.²

Our questionnaire introduced additional questions about specific incentives that might increase general practitioners' involvement with patients who misused drugs. The general practitioners were asked to respond to each poten-

tial incentive on a five point Likert scale ranging from "strongly agree" to "strongly disagree." In the table the figures for "strongly agree" and "agree" are combined and ranked by frequency of agreement. The two most popular incentives for the whole sample were also most popular with those practitioners who were not seeing any intravenous drug misusers.

If the practitioners responded as indicated to the incentives of support from community nurses or drug dependency units this would more than double the number of doctors seeing drug injectors. There was little support for financial incentives to work with drug misusers.

Community drug teams and drug dependency units should strongly consider developing their liaison with local general practitioners. This would not only help educate general practitioners about managing drug misuse but, more importantly, facilitate the management of drug misuse in the community.

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Monitoring ambulatory blood pressure in general practice

SIR,—Several local general practitioners have recently approached us for advice on interpreting ambulatory blood pressure profiles obtained with machines lent by pharmaceutical companies. We have since learnt that several companies are lending, or plan to lend, ambulatory monitors for use in general practice. We are concerned that widespread introduction of this technique for monitoring hypertensive patients in general practice would be premature, for two reasons.

Firstly, and perhaps most importantly, the ambulatory pressure above which treatment should be started has not yet been defined. Although some studies suggest that ambulatory pressure is a better predictor of risk than the pressure measured in a clinic, there is still uncertainty and considerable debate about what constitutes the upper limit of normal ambulatory blood pressure.¹ Large scale trials have clearly shown that drug treatment significantly reduces the risk of stroke in patients with clinic diastolic pressures above 100 mmHg. For most hypertensive people the ambulatory pressure is lower than the clinic pressure. If treatment was to be based on ambulatory diastolic pressures, but using the same limits for intervention as have been

obtained in clinic based trials, a substantial group of patients might be denied treatment. Until prospective clinical trials show that ambulatory pressures can better select those patients requiring treatment, and until the pressures at which treatment should be started have been clearly defined, clinic pressures must remain the yardstick.

Secondly, an increasing number of different ambulatory monitors have been offered for use in clinical practice, and the importance of validating these machines has been emphasised.² At least one of those being offered for use in general practice, however, has not consistently met standards.³

We accept that ambulatory blood pressure monitors have an important role in clinical research and that ambulatory monitoring may identify certain groups of patients who do not need anti-hypertensive treatment,⁴ but we believe that widespread use of this technique in general practice must await the outcome of definitive clinical trials.

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For and against Eusol

SIR,—It is ironic that David J Leaper now agrees that a strong case can be made for using Eusol in debriding burns or necrotic chronic wounds such as venous ulcers¹ since it was largely his work that led to the current prejudice against Eusol.

I now rarely use it as our pharmacy does not stock it. When I tried to order it recently for an ulcer that had failed to improve after one month's inpatient treatment with several different modern dressings I was told by a nurse that this would not be possible because she does not approve of it as it damages tissue. This was, in the new nursing jargon, an example of "patient advocacy."

I explained to the nurse that in my daily practice I use several agents such as topical silver nitrate, trichloroacetic acid, cautery, and scalpels, all of which cause far more tissue damage than Eusol, but I know how to use them. I further explained that I am familiar with Leaper's work as I wrote the section on wound healing in a standard textbook,² but clean animal wounds differ from dirty leg ulcers with adherent slough.

The nurse then showed me an article by Tingle, a lawyer, which states that "in using Eusol, qualified nurses are clearly breaking the UKCC [United Kingdom Central Council for Nursing, Midwifery, and Health Visiting] code of practice."³ The tone of the article suggests that doctors who prescribe Eusol are bordering on the negligent, and Tingle thinks it is reasonable for nurses to refuse to apply Eusol even when requested to do so by a consultant. He gives his opinion that "the argument can now be advanced by nurses who have read the studies on Eusol and its effects that by not using it they are satisfying both their legal and professional duties."

According to Tingle, "The problem appears to be that some doctors do not recognize that wound care has become a nurse-led discipline. The Eusol issue represents perhaps the first shot in the battle

General practitioners' response to four potential incentives to increase their involvement with drug misusers

Incentive	Agreement	
	No (%) of all general practitioners (n=102)	No (%) who did not see any misusers (n=81)
(1) I would be willing to see more drug misusers if I had direct access to community nurses with special training in drug misuse	43 (42)	31 (38)
(2) I would be willing to see more drug misusers if I had more support from the local drug dependency unit	41 (40)	28 (35)
(3) I would be willing to see more drug misusers if I was offered further training in drug misuse	30 (29)	19 (23)
(4) I would be willing to see more drug misusers if they attracted an enhanced capitation fee	14 (14)	7 (9)

for medical recognition of nursing autonomy and expertise in this field."

In view of the medicolegal and other implications of this article, I wish to state that I and many other dermatologists consider that short term use of a Eusol dressing to clear adherent slough from an ulcer is perfectly reasonable. We object to the way in which Eusol has been effectively banned by nursing diktat without appropriate consultation and for no very good reason.

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SIR,—Despite the many papers that have been against the continued use of Eusol opinion remains divided about Eusol's value as well as its toxicity. Farrow even commented that the issue may actually be "the surface manifestation of a deeper dispute between doctors and nurses about authority and autonomy."

David J Leaper points out that there have not been any reliable, randomised controlled trials that might resolve the issue.² Most of us have been brought up to believe that no treatment should be given unless it has been validated by randomised controlled trials, but in the case of Eusol I suspect that an ethics committee's approval would be almost impossible to obtain, particularly as nurses are represented on most committees.

I conducted a controlled experiment on myself. I applied full strength Eusol to a cotton wool ball to one forearm and saline to the contralateral arm. The cotton wool was taped down, non-occlusively, with Micropore tape. I did not abrade any skin surfaces. Within one hour I experienced discomfort and, later, pain on the Eusol side only. Twenty four hours later there was an area of erythema, which subsequently progressed to blistering and superficial ulceration (figure). No lesion appeared on the contralateral arm. The lesion on the Eusol side was still visible two weeks later, and some skin pigmentation persisted for a further two years.

My experiment leads me to believe that Eusol should not be applied to normal, let alone wounded, skin. It would therefore be difficult to persuade me to subject any of my patients to a randomised controlled trial. We succeeded in persuading our pharmacy department to stop dispensing Eusol, although a senior surgical colleague circumvented

the embargo by obtaining supplies from an adjoining district hospital.

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Adrenaline in allergic emergencies

SIR,—In their paper on angio-oedema related to angiotensin converting enzyme inhibitors Thomas Hedner and colleagues suggest that with "symptoms . . . an immediate subcutaneous adrenaline administration is of vital importance and the patient should be observed and hospitalised." This recommendation is repeated in the relevant paragraph on the "This week in the *BMJ*" page, which states that "admission and prompt subcutaneous adrenaline administration are vital."

Current recommendations suggest that adrenaline should be given intramuscularly rather than subcutaneously, as in allergic emergencies absorption from the site of the subcutaneous injection may be too slow, especially if the patient is shocked due to severe anaphylaxis.^{2,3} After intramuscular injection absorption is rapid and usually adequate if reasonable circulation is present.

As soon as any allergic reaction is recognised, first line treatment should include managing the airway, restoring blood pressure by laying the patient flat, and giving 0.5-1.0 mg adrenaline intramuscularly.^{2,3} Intravenous adrenaline is rarely warranted in allergic emergencies and, indeed, may be hazardous.⁴ If required it should be given slowly and in high dilution.⁴ Second line treatment should include an antihistamine—for example, intravenous chlorpheniramine 10-20 mg—which should be given immediately after intramuscular adrenaline.³ Intravenous corticosteroids have little place in immediate management as the beneficial effects are delayed.³

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AUTHORS' REPLY,—Gregory Y H Lip and Malcolm J Metcalfe state that current recommendations suggest that adrenaline should be given intramuscularly rather than subcutaneously, referring to the *British National Formulary*.¹ In Sweden, though, the recommendation is to give adrenaline (1 mg/ml) 0.5-0.8 ml subcutaneously as soon as possible in cases of suspected anaphylactic reactions, urticaria, or angio-oedema.^{2,3} The subcutaneous administration of adrenaline was also considered to be preferable in a recent review on anaphylaxis in the *New England Journal of Medicine*.⁴

In severe cases when cutaneous circulation is impaired, other ways of giving adrenaline must be considered. The current recommendation in Sweden is to give diluted adrenaline (0.1 mg/ml) slowly intravenously in cases of anaphylactic shock. Circulatory shock was not seen in any of the

Swedish cases of angio-oedema in association with angiotensin converting enzyme inhibitors that we reported.

Regardless of the route of administration, we agree that adrenaline is the preferred drug for treating angio-oedema affecting the mouth, pharynx, or larynx.

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Steroid ulcers

SIR,—M Guslandi and A Tittobello¹ accept the conclusion of Piper *et al* that patients taking a combination of corticosteroids and non-steroidal anti-inflammatory drugs double their chances of developing peptic ulcer.² This is an erroneous conclusion from that study. Piper *et al* reported that patients admitted to hospital with a peptic ulcer were more than twice as likely to be taking this combination of drugs than controls, an interesting observation that does not, however, prove that these drugs lead to the development of peptic ulcers. Alternative explanations are that this combination of drugs increases the risk of complications of peptic ulcer and that ulcer healing is delayed by this combination of drugs.

The distinctions are more than academic as a full understanding of mechanisms should aid the development of strategies for preventing drug associated complications of peptic ulcer disease. We provided direct evidence that non-steroidal anti-inflammatory drugs retard the healing of ulcers.³ In experimental studies with cryoulcers in rats the ulcers were larger, healed slower, and showed less reparative proliferative activity in the healing edge when non-steroidal drugs were given. When peptic ulcers from patients taking non-steroidal drugs were compared histologically with those from patients not taking such drugs the mitotic index of gastric crypts, a marker of the rate of regenerative repair, was considerably reduced at the ulcer edge in the patients taking the drugs.

We have studied the size and rate of repair of experimental gastric ulcers in rats receiving prednisolone and compared these with the effects of indomethacin or control vehicle (table). We have also investigated the effect of misoprostol, an analogue of prostaglandin E₁, on the healing rate of cryoinduced ulcers during administration of corticosteroid. Our results show that prednisolone, like indomethacin, results in larger gastric ulcers after cryoinjury than occur in the absence of these

Effect of various drugs on size of experimental gastric ulcers in rats (eight animals per group)

Drug treatment	Mean (SE) ulcer size (mm ²)	
	After 3 days	After 6 days
Control	3.1 (0.4)	1.6 (0.3)
Indomethacin 2 mg/kg	4.8 (0.3)*	3.1 (0.2)*
Prednisolone 10 mg/kg	5.7 (1.0)*	3.4 (0.3)*
Misoprostol 300 µg/kg	2.2 (0.3)	1.6 (0.2)
Prednisolone + misoprostol	2.5 (0.8)	2.0 (0.0)

*p<0.05 compared with control.

Arm 24 hours after application of Eusol