surgeons), who would no doubt be happy to co-operate. In one town the surgeon in charge of the accident unit gave police officers tuition in airway control at the hospital, and this was greatly appreciated.

Equipment of most police cars was inadequate and often consisted only of first-aid boxes containing bandages and dressings. Patrol cars attending road accidents should have modern respiratory resuscitation equipment, spinal boards, cervical collars, inflatable splints, and waterproof sheets. They should also carry light rescue and cutting equipment for the release of trapped casualties, particularly in rural districts.

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¹ Hoffman, E, *Annals of the Royal College of Surgeons of England*, 1976, **58**, 233.

SIR,—I was interested to read your special correspondent's article entitled "Road accidents and the police" (20 January, p 177). I feel he highlights an important problem in the lack of respect felt towards traffic laws, which must have its effect on the attitudes of society towards the law and police in general. As he says, there is no possibility of the police enforcing all the traffic laws in any equitable sense, so that prosecution has become a vast and enormously unjust lottery with large penalties for those unlucky enough to have their names drawn; and four out of five cases heard in magistrates' courts are now motoring offences.

Might I suggest that the nature of the problem derives very largely from the proliferation of the laws themselves? For eight years now there has been no road in this country free of a speed limit. Many would agree that they are almost all unrealistic, and indisputably they are universally ignored. Drivers choose a safe speed for the conditions to the best of their ability, regardless of the law, and any special meaning of the limits is lost by virtue of their very universality. Possibly if one were to abolish the majority of these limits and keep them only on roads especially at risk (where they should be seen to be realistic), then they would command far more respect, and could for once be properly policed with no fear of resultant ill will. Both road safety and the attitude of the public towards the police might then be improved.

I feel it was unfortunate, however, that the half page of sensational journalism on motorcycle helmets headed "If preventable why not prevented?" was juxtaposed with this interesting article. Glibly to label the anti-compulsion lobby as irresponsible does the writer no credit. It is the very responsibility of these people that causes them to look beyond the narrow issues of road safety. In this country we have always accepted that personal liberty is to be prized above life itself. Wars have been fought on this basis, and many lives lost involuntarily. Yet here it is not sought to withdraw the opportunity from a motorcyclist to wear a crash helmet—or from a driver to use a seat belt. The important point is that the choice must be his. By all means count failure to wear a helmet as contributory negligence in the event of an injury, but it is surely wrong for the law to make a man a criminal for failing to comply with a requirement that affects no one but himself. We have already seen one climb-down with respect to the Sikh religion,

and it is worthy of note that few countries with a written constitution have succeeded in implementing this legislation.

RICHARD GARRATT

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Motorcycle and bicycle accidents

SIR,—As another retired surgeon who walks and drives but no longer cycles I should like to add a footnote to the letter of my friend Mr F Noel Kirkman (20 January, p 195). Hearing is important but needs the confirmation of sight. A cyclist or pedestrian hearing a vehicle behind him moves towards the kerb or grass verge and the vehicle overtakes him; he then moves out into the roadway unaware that there is another car on the heels of the first, which either hits him or swerves. With the sound of a lorry in his ears he cannot hear the lesser sound of a car behind; he *must* check with his two eyes whether there is a following vehicle. I do not seem to remember mention of this not rare factor in the causation of accidents.

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If preventable why not prevented?

SIR,—The legend to the pictures accompanying the road accident article (6 January, p 40) makes the point that pedestrians are reluctant to walk a few hundred metres to a zebra crossing or bridge. But of course they are. Why should they have to walk even 100 metres to get to the other side, and then have as far to walk back again on the other side? And it is those heavily laden or with physical difficulties who object most to such a detour and also are most at risk from slowness at getting out of the way when vehicles come tearing along. Bridges or tunnels are little help to such people as they may be unable to manage the slopes or stairs. Recently, as we found at some local crossings in the snow and ice, such slopes and stairs were impossible even for normal people.

It seems that there is some propaganda to drive people off the roads whether they like it or not, and this supposedly for their own safety; but what if they cannot reach as far as a crossing or have a heart attack or break a leg on the slopes? One does not make a road safe by blocking it to a more important group of the public than the motorist. And when the motorist is unable to drive and whenever he gets out of his car he becomes a pedestrian. One can even see the pedestrian's basic wish to minimise his amount of walking by the way the motorist tries to park as near as possible to wherever he wishes to go, often blocking the way for others—even blocking entrances to hospital buildings. So, please, more consideration for the pedestrian, not by forcing him away a few hundred yards to a bridge or subway but making far more surface crossings, at the places where people want to cross.

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Treatment of accidental hypothermia

SIR,—Rational consideration of the treatment of accidental hypothermia is made more

difficult by the assumption that accidental hypothermia is a single clinical entity. As emphasised in the letters from Drs P J Andrew and R S Parker (9 December, p 1641) and Dr Mary C MacInnes (13 January, p 130), this is manifestly not so.

There are at least three common types: firstly, "immersion" hypothermia, where the cold stress is greater than the maximum heat production of the body; secondly, exhaustion hypothermia, where the critical factor is depletion of the body's usable food (fuel) stores; and, thirdly, subclinical chronic hypothermia, which is the usual type found in the elderly, in whom, though the core temperature may be normal, the chronic cold stress has resulted in considerable intercompartmental fluid shifts—which complicate the management of any superimposed acute episode. The types can be distinguished only by the case history; for example, a climber disabled by a broken leg will probably cool as if immersed, whereas a strong swimmer lost overboard in relatively warm water is a candidate for exhaustion hypothermia.

When research is planned, hypothermia is usually induced, for obvious logistic reasons, by acute severe cold stress—for example, immersion in cold water. Ethical considerations often dictate the use of animals, which may have physical and physiological idiosyncrasies; if humans are used, the core temperature is not allowed to drop below 33°C. At this level, and possibly much lower, shivering is very active in victims of immersion hypothermia, whereas it has probably ceased in exhaustion hypothermia, even if it was ever very marked. Even with the unethical Dachau experiments the only definite conclusion that should be drawn is that for thin or emaciated prisoners with little hope the best treatment for immersion hypothermia is immersion in a hot bath. Clinical experience with more normal victims has widened the scope and current opinion is that for immersion hypothermia the best treatment is immersion in a hot bath, with the caveat that it may only be of real value if done within 20 minutes.

This knowledge, however, may be of little relevance to mountain exhaustion hypothermia or to hypothermia in the elderly. The heat equation of a non-shivering hypothermic man on the mountain, whether exhausted or not, is obviously totally different from the immersion victim with the same temperature who is shivering. The latter will inevitably rewarm if the cold stress is removed, whereas the former may require every possible source of additional heat and prevention of heat loss however small the absolute quantities.

Another example of conflict is the use of steroids in hypothermia. These have been shown to be of no value in treating the elderly but Dr MacInnes has found them to be of clinical value in mountain hypothermia. Her work has been criticised because measurement of plasma corticosteroid levels has not given consistent results. However, this is irrelevant since in normothermic patients on long-term steroid treatment exposed to the stress of surgery, hypotension may be found with a normal plasma corticosteroid level and a normal blood pressure with low corticosteroid levels,^{1,2} but nobody advocates the withholding of steroid treatment if there is a drop in blood pressure during the postoperative period.

Future progress in the treatment of accidental hypothermia in the field may come when researchers decide to investigate the reasons

for the clinical convictions of the rescue services, since the inability of the laboratory-based research worker to reproduce the clinical results found in the field may be due to a fault in the design of the laboratory experiment and not, as is presumed at present, to errors of observation by the rescuers.

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¹ Kehlet, H, *et al*, *British Journal of Anaesthesia*, 1974, 46, 73.

² Oyama, T, *Canadian Anaesthetists' Association Journal*, 1969, 16, 361.

Rugby injuries to the cervical cord

SIR,—The letters published (20 January, pp 192 and 193) can only increase the concern already felt by the Medical Officers of Schools Association. We urgently need to know the incidence of cervical cord injuries due to rugby football, and hope that the suggestions made by Dr J R Jenner and his colleagues (p 193) for a central reporting system will bear fruit. Meanwhile the association is (conducting its own retrospective survey of these injuries in schoolboys in order to report to a meeting which has been called for 22 March, and I have already written to many colleagues who may know of cases. May I, through the courtesy of your columns, ask any readers who have not already heard from me to get in touch without delay if they can provide information about any cervical spine injury due to rugby football in a schoolboy?

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Rugby injuries involving the hand

SIR,—With reference to the article (23-30 December, p 1759), written by Drs J E Davies and T Gibson about injuries in Rugby Union football, we noted with interest the absence of any significant injuries to the hand reported in their studies of 185 players.

During our six months in a busy accident department in Newcastle upon Tyne, attached to a hand injuries unit, and because of our specific interest in sports injuries, we have noted eight cases of significant injury to the hand as the result of playing rugby.

Seven out of eight injuries resulted from a dislocation of the proximal interphalangeal joint during the tackling of opponents. The eighth injury was a fracture of the second metacarpal, which was the result of a hyper-extension force applied to the fingers during the act of catching the ball. Four out of the initial seven injuries resulted in a boutonniere-type deformity of the fingers as a result of rupturing of the central slip of the extensor expansion as it crossed the proximal interphalangeal joint; all were treated by external splintage.

Of particular interest was the observation that the boutonniere type injuries occurred because of the fingers being caught in the clothing of the opponents during the tackle. In two of the cases it was the pockets of the shorts of the opposition that were the culprits.

It raises the question of the usefulness of pockets in rugby shorts, particularly as we have seen injuries directly attributable to their presence.

We must also make the point that any manual worker who suffers a boutonniere injury to any of his fingers is not able to pursue his normal employment because of the injury and the splintage used in treating the condition. This results in both loss of productivity by employers and, if he is privately employed (for example, as a dentist, like one of our patients), loss of income. Clearly rugby injuries of this sort represent a not insignificant proportion of the upper limb injuries sustained in the game of rugby, and the morbidity resulting from these injuries causes both loss of playing time and loss of income.

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"Trench foot" caused by the cold

SIR,—In this generally temperate climate localised cold injury is relatively uncommon. Because of this we think the following case of "trench foot," presenting at the end of the recent cold spell, to be of some interest.

The patient was an 18-year-old male student who lives in a comfortable, well-heated hall of residence. It was not until the sixth day after the initial exposure that he came for medical advice. The history was that six days previously, after a rather meagre breakfast, he went for a 20-mile cycle ride on a dry, clear day when the temperature was freezing or just below, wearing on his feet stretch-nylon socks and tightly laced training shoes, with a pair of tight bicycle clips round his ankles. He cycled quite slowly for about three hours, with the arches of the feet, not the toes, on the pedals, during which time he realised that his feet were very cold as after a short time he was unable to feel them. At home that evening his right foot began to be painful over the fourth and fifth toes. During the following two days the pain in the right foot increased and he noticed a macerated area between the fourth and fifth toes, but these discomforts did not prevent him walking several miles into university from his hall in the same footwear and in equally cold weather, the temperature averaging 2-4°C. The fourth day was again very cold (-3°C), and again he went cycling. His feet went cold and numb. When he was some four miles from hall his cycle broke down and he had to walk home. That evening, when sensation had returned, the right foot had become swollen and blue; indeed the area near his fourth and fifth toes was almost black, and he was unable to put his shoe or slipper on. Next morning, despite pain and great difficulty getting his right shoe on, he cycled three miles. By mid-day blisters had developed on his toes, and sufficient "sticky" fluid had oozed from his foot for him to be aware of a squelching noise as he walked. However, after this the shoe became easier on his foot and the pain was relieved.

Examination of the foot showed that the dorsum was moderately swollen and was a mottled bluish colour near the toes. There was blanching on pressure, but with poor capillary return. There were small blisters on the great and second toes. The thickly macerated area between the fourth and fifth toes was thought to represent a coincidental flare-up of tinea pedis. He was kept in sick bay and treated conservatively with bed rest, no specific "warming" being applied, and he made a slow and steady recovery. Interestingly, despite the absence of superimposed infection, the small blisters have taken over two weeks to heal.

In addition to the foot condition he developed an itching, macular rash, initially on the hands and

later involving the lower limbs and the umbilical area. Indeed, he primarily sought advice because of the rash. The rash faded without any specific therapy concurrently with the improvement of the foot. Unfortunately it was not possible to perform a cold agglutinins estimation until the eighth day, and the result was negative. We cannot be sure of the exact aetiology of the rash, but believe it on clinical grounds to be directly associated with the cold injury. A full blood count was normal; the erythrocyte sedimentation rate was 2 mm in the first hour.

This is a case of "trench foot" occurring in a cyclist. It demonstrates the necessity, even in our so-called temperate climate, of adequate protection of the extremities even in those who, by virtue of their physical activity, might otherwise expect to keep reasonably warm.

I C FRASER
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Epidural analgesic for bronchitic patients with fractured ribs

SIR,—The review of epidural analgesia relating to labour and delivery (13 January, p 72) brings to mind two recent patients who obtained remarkable benefit from this technique.

Both patients were middle-aged bronchitics who had fallen during the previous few days and fractured several ribs. One had been treated at home with bed rest and inadequate oral analgesia; this led to inability to cough owing to severe pain and consequently stasis of secretions resulting in hypostatic pneumonia. The other also obtained little benefit from oral analgesia and opiates were contraindicated because of his history of bronchitis. Both obtained immediate and remarkable relief of pain, were able to breathe and cough properly, and were rescued from impending respiratory failure by the timely relief of pain without any danger of respiratory depression by the use of epidural anaesthesia. I feel that this form of analgesia for the treatment of fractured ribs in the bronchitic patient is not practised sufficiently often.

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Terminology of enuresis

SIR,—I support Mr John R Hindmarsh (16 December, p 1714) in his plea for more precision in the terminology of enuresis. But I would prefer more precision than he shows in his letter. Firstly, it is important to qualify the term enuresis with "night-time" (or nocturnal) or "day-time" (or diurnal). Too often the day-time wetting problems get overlooked and yet are a serious problem to a great many schoolchildren.

The term enuresis is usually reserved for persons who void urine inappropriately at an age when continence is to be expected. I agree that it is inappropriate to use it for persons who have an organic lesion, such as a neuropathic bladder, and are suffering from overflow incontinence. However, to suggest that nocturnal enuresis should be applied only to persons who have "persistently wet the bed all their lives" will cause confusion. It is exceedingly uncommon to find anybody over the age of 5 who has wet the bed every night.