agonist like BRL 26830A to have any cardiovascular effect in hypertensive subjects, but it would be interesting to know if this drug, by reducing body weight through its thermogenic action, could lower the blood pressure in obese patients with mild essential hypertension.

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Deaths from injury

SIR,—I recently spent 12 months working in a trauma centre in Toronto and would strongly suggest that similar centres are set up as soon as possible in the United Kingdom. One of the problems in Britain (money aside) is the often remote location of the neurosurgical services in relation to the other specialties. This leads to considerable morbidity and mortality as was shown by Mr I D Anderson and others (7 May, p 1305).

In Canada I was impressed by the paramedical staff (not discussed by Mr Anderson and others), who are in direct contact by radio with a doctor at the base hospital and so can start early resuscitation and perform lifesaving procedures.

I am concerned that so many young people are dying in Britain of potentially treatable disorders resulting from injury. Perhaps some of the emotion that has been produced by the issue of AIDS needs harnessing to help fight the far larger epidemic of trauma.

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SIR,—Mr I D Anderson and others (7 May, p 1305) show that many patients with trauma die not because of poor initial resuscitation but because they do not receive the early attention of skilled and experienced surgeons and anaesthetists.

People working in accident and emergency departments know how rarely senior surgeons become involved in the early assessment of seriously injured patients. The reasons for this are often organisational: surgeons are often busy with routine operations or duties outside the hospital. The care of injured patients could be improved greatly by a more enlightened organisation of surgical services in district general hospitals.

The institution of a network of trauma centres, presumably based on existing cardiac and neurosurgical centres, would avoid the need for such changes and no doubt save many lives. In a world of finite resources, however, it is important that the

present system of local ambulances and accident and emergency departments is not deprived of funds. Good local facilities are needed increasingly to treat the large number of emergencies other than trauma cases. About 60 000 sudden deaths a year are caused by primary cardiac arrhythmias compared with about 5000 deaths a year from road accidents. Yet often attempts to supply defibrillators to ambulances have to rely on charitable donations as there are insufficient NHS funds available. We must guard against developing two parallel systems, one for traumatic emergencies and one for other cases, neither properly funded.

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Treating claudication

SIR,—In his leading article on intermittent claudication Dr E Housley (28 May, p 1483) mentions the use of streptokinase. He concludes that it "has only a limited success rate with serious complications," quoting Amery *et al.*¹ In view of the natural course of stable claudication and the potential complications of thrombolysis we agree that for claudication alone treatment with thrombolytic drugs has little to offer. We would like to point out, however, that Amery *et al.* used high systemic doses of streptokinase—1 200 000 units at 12 hourly intervals after a loading dose—in patients with recent thromboembolic occlusions; 22 haemorrhagic complications occurred in 85 patients (26%), six (7%) of whom died. Several authors have shown that local low dose intra-arterial treatment with thrombolytic drugs (5000 units an hour) is associated with an improved rate of success and a reduced rate of complication²⁻⁴ and is therefore the method of choice when such drugs are indicated in the management of acute critical ischaemia. Newer agents such as recombinant tissue plasminogen activator are more specific for fibrin and may offer additional benefit.⁵ It remains to be seen whether these agents are safe and effective when given systemically.

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SIR,—Dr E Housley rightly emphasised the role of smoking in degenerative vascular disease in his instructive and amusing article on treating claudication (28 May, p 1483). It is, however, important not to ignore the role of impaired thyroid function in claudication in women. In a recent study 22 out of 80 (28%) women seen consecutively with claudication or pain at rest had myxoedema or a raised serum thyroid stimulating hormone concentration. Seventy per cent of the patients with a serum

thyroid stimulating hormone concentration in the normal range were continuing smokers compared with only 38% of those with a raised serum concentration. This suggests that impaired thyroid function is a separate risk factor from smoking for claudication in women. For all subjects with a normal serum thyroid stimulating hormone concentration among patients and controls in this study a positive correlation of serum thyroid stimulating hormone with serum cholesterol concentration was found ($R=0.68$, $p<0.001$). This suggests that even small increases of serum thyroid stimulating hormone concentration contribute to cardiovascular morbidity. The patients with claudication and a raised serum thyroid stimulating hormone value were treated with thyroxine sodium. After one year of normal serum thyroid stimulating hormone values favourable changes were found in serum concentrations of lipids, lipoproteins, and especially apolipoprotein B, which is currently considered to be the main influence on atherogenesis.²

It is now nearly 30 years since Dr Broda Barnes's report about the prophylaxis of ischaemic heart disease by thyroid treatment was published³; at that time no worthwhile tests of thyroid function existed. Dr Barnes's observations are now largely forgotten, but increasingly sensitive tests of thyroid function have shown in women an association of impaired thyroid function with degenerative cardiovascular disease.^{1,4,7} Most subjects with cardiovascular disease do not have familial hypercholesterolaemia but fall within the top end of the normal distribution curve for serum cholesterol concentration. An attempt to shift this distribution curve favourably by reducing marginally raised serum thyroid stimulating hormone concentrations deserves consideration by those obsessed with dieting to the exclusion of considering the metabolism and fate of what is eaten.

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SIR,—Dr E Housley (28 May, p 1483) seeks to provide a review of the treatment of claudication as a guide to general practitioners. It is refreshing to read an account which does not attempt to review, and hence promote, the various drugs which are claimed to improve peripheral blood flow.

The dismissive statement "in patients with appreciable claudication and a bruit over the abdominal aorta or the iliac or superficial femoral arteries balloon angioplasty may be worth while" is, however, inaccurate and out of date. It is unnecessary for a bruit to be present over an artery for an angioplasty to be useful. Occluded segments can be rendered patent by angioplasty once a guide-wire has been passed across the segment. Angioplasty can provide an improved quality of life when surgery is inappropriate or unwarranted. Andrews *et al.* reviewed two large groups of patients referred