required. This means work for doctors and others and illustrates the vital but often neglected role of doctors in accident prevention.

Though such evidence may be necessary to define the problem in young teenagers, we believe that there is enough knowledge of young children's lack of capability in traffic and sufficient concern over the problem to warrant action being taken. We think that those responsible for organising this sport should show a greater sense of responsibility and, as Dr Mason suggests, should raise the lower age limit for participation from 6 to 13 or 14. If they did this parents would recognise the reasons and would not start their children riding outside official races until they are old enough to ride officially. After all, if officials allow 6 year olds to ride why should ordinary parents do otherwise? If the organising bodies do not take this action voluntarily then legislation may be necessary. We have no doubt that the Parliamentary Advisory Council on Transport safety will be watching this closely.

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- 1 Committee on Child Health Services. *Fit for the future*. London: HMSO, 1976;1:43. (Court report.)
- 2 Stilwell JH. Motorcycling scrambling injuries in boys. *Br Med J* 1978;ii:758.
- 3 Place M. Injuries to boys who scramble. *Br Med J* 1979;ii:1322.
- 4 Jackson RH, Craft AW. Injuries to boys who scramble. *Br Med J* 1979;ii:1625.
- 5 Place M. Injuries to boys who scramble. *Br Med J* 1979;ii:48.
- 6 Sadler J. Children and road safety: a survey among mothers. London: HMSO, 1972.

SIR,—Mr M A Mason (6 October, p 854) does well to bring to public notice the high incidence of accidents in children under the age of 16 riding motorcycles. There is, however, another aspect of this current craze—namely, pollution of the atmosphere by noise. Admittedly it has never killed anyone, but I believe that distress is caused to many people, often in rural districts, because of this iniquitous pastime.

The underage rider off the public highway is interested in two things only—speed and noise—and the more of either that he can produce the higher he stands among his peers. The parents of such children generally seem to be indifferent both to the dangers to the child and to the annoyance of anyone in earshot. I believe that the time has come for legislation to raise the lower age limit, restrict the use of these vehicles to certain limited supervised centres, and define upper limits of permissible noise.

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SIR,—The unbridled enthusiasm with which the BBC latched on to this subject is matched only by that of the *BMJ* for publishing a leading article on a subject about which few data are available. Quite correctly the original article by Mr K Sherman and Dr J MacKinnon appeared as a short report—correct because apart from describing a new group of accidents little else of interest emerged.

Why then boost this interesting but otherwise unremarkable set of figures with a

leading article that concludes with a demand for legislation. How about demanding some statistically valid information? For example: what percentage of young motorcyclists are involved in these accidents; was the age range evenly spread; and, perhaps more relevant, how does the accident rate compare with other juvenile risk activities such as horseriding, cycling, rollerskating, skateboarding, skiing, climbing trees, and even football?

Dr M A Mason's leading article was not even logically argued—for if, indeed, many more children ride motorcycles unsupervised than in recognised clubs then the fact that the unsupervised group provided only half of the accident cases would seem to support the outlawing of supervised riding, and not the reverse—clearly a nonsensical conclusion, or is it?

Finally, BMX bike injuries seem to present a problem of apparently greater magnitude than motorcycle injuries. Can we now expect a call to have these machines outlawed?

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How common are risk factors among young patients suffering heart attacks?

SIR,—Professor M F Oliver (7 July, p 50) states that young patients with acute myocardial infarction are commonly found "without any measurable risk factors." Over 16 years since 1966 we have seen 795 successive men under 60 who have had their first myocardial infarction at this hospital and have survived 28 days. The table records their distribution into different categories of risk, using standard criteria to identify the three primary risk factors—hyperlipidaemia (serum cholesterol greater than 6.29 mmol/l, (240 mg/100 ml), hypertension, and cigarette smoking. Only 1.8% of these patients were without any of the three primary risk factors, and the proportion did not alter significantly in the younger age groups.

Can Professor Oliver provide data to support his contention that young patients with myocardial infarction are often encountered with no measurable risk factors?

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*.*Professor Oliver replies below.—ED, *BMJ*.

SIR,—Professor Mulcahy and Dr Conroy provide valuable information confirming the frequency of risk factors in survivors of first myocardial infarction: indeed, this may be the first time that the documentation has been so thorough. But their apportioning

of the presence or absence of risk factors depends, of course, on the cut off points used. These appear to be arbitrary. If those for hypertension are near the median and smokers of 1-10 cigarettes daily are included we may not be so far apart.

My contention that it is not uncommon to find young patients with myocardial infarction at more normal levels of risk than those used for the analysis by Professor Mulcahy and Dr Conroy is based on an earlier international study of risk factors in nine countries.¹

Of 240 men aged 40 or less who survived acute myocardial infarction 53% had serum cholesterol concentrations less than 6.22 mmol/l (240 mg/100 ml) and only a quarter had cholesterol concentrations of 7.25 mmol/l (280 mg/100 ml) or more; 79% had systolic blood pressures equal to or less than 158 mm Hg, and 74% had diastolic blood pressures less than 90 mm Hg; 30% either did not smoke or smoked less than 15 cigarettes a day; 81% were not obese (Quetelet's index >0.28); 92% did not have a diabetic glucose tolerance response; and 83% did not have hyperuricaemia (>0.5 mmol/l (8.4 mg/100 ml)).

This international study also showed that the prevalence of risk factors varies considerably between countries, and it should not be assumed that the high frequency found in survivors of myocardial infarction in Ireland applies equally in all communities.

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- 1 Dolder MA, Oliver MF. Myocardial infarction in young men. Study of risk factors in nine countries. *Br Heart J* 1975;37:493-503.

Neuroleptic malignant syndrome induced by a single injection of haloperidol

SIR,—Dr E Szabadi has reviewed the causes and treatment of the neuroleptic malignant syndrome (12 May, p 1399). We describe a case of the neuroleptic malignant syndrome following a single injection of haloperidol and a therapeutic trial with dantrolene sodium.

A 58 year old woman was admitted to our ward because of ileus. She had undergone two laparotomies 10 months and four months previously for adenocarcinoma of the endometrium and had received postoperative radiotherapy. On admission she was well orientated and cooperative, and we decided to operate on her. The night before the operation the patient received a single intramuscular injection of 5 mg haloperidol as a tranquilliser.

The following morning she was confused and developed sinus tachycardia (140/min) and hyperthermia (above 40°C) accompanied by muscle rigidity and opisthotonos. A lumbar puncture was performed and showed normal sterile cerebrospinal fluid. Serological tests, blood and urine cultures, and a tuberculin test were negative.

Distribution of 795 men who survived their first myocardial infarctions under 60 years into different risk categories

Age	No risk factors No (%)	One risk factor No (%)	Two risk factors No (%)	Three risk factors No (%)	Number of cases No (%)
Under 60	14 (1.8)	260 (32.7)	403 (50.7)	118 (14.8)	795 (100)
Under 50	5 (1.5)	101 (30.7)	174 (52.9)	49 (14.9)	329 (41.4)
Under 45	2 (1.4)	42 (28.4)	81 (54.7)	23 (15.5)	148 (18.6)
Under 40		25 (37.9)	30 (45.5)	11 (16.7)	66 (8.3)
Under 35		7 (43.8)	6 (37.5)	3 (18.8)	16 (2.0)

Correlation between age and number of positive risk factors: Tau = 0.038, n = 795, NS.