should be reduced by up to one third in elderly patients owing to a prolonged elimination half life and reduced clearance of alfentanil in this age group. As Dr Sebel and his colleagues point out, one of their patients (who received a bolus of 100 μg/kg and an infusion of 1 μg/kg/min) was aged 72 years, and a reduced clearance in this patient may have contributed to his poor respiratory performance postoperatively.

Finally, we want to draw the attention of anesthesiologists to the "precautions" section of the alfentanil data sheet, which warns of the possibility of respiratory depression persisting into or recurring in the early postoperative period and notes that other factors such as preoperative hyperventilation and the use of opioid premedication may enhance or prolong the respiratory depressive effects of alfentanil.

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Respiratory depression after alfentanil infusion

SIR—The report by Dr P S Sebel and colleagues (8 December, p 1581) on two cases of sudden and unexpected respiratory arrest advises that when alfentanil infusions are used with other opioids, respiration should be monitored very closely in the postoperative period. The authors also suggest that decreasing levels of stimulation after operation and the age of one of the patients may have been contributing factors. We write to support the authors' recommendation and to add further formal and advice on the use of his new analgesic by infusion.

Allfentanil infusion rates of more than 1 μg/kg min during maintenance of anaesthesia have been associated with prolonged recovery,1 and, in one other reported incident, with respiratory arrest 40 minutes after admission to the recovery room. Providing an adequate loading dose of alfentanil is given at induction,2 it would suggest that maintenance infusion rates of 0.1 μg/kg min are rarely needed when either major or minor (other than cardiac) surgery, and that anesthesiists using alfentanil by infusion should be aware of the above options to individual patient response. Continuous reduction of the maintenance infusion rate will reduce the possibility of overdosing, which often happens in clinical trials, when a rigid protocol does not allow for changing infusion rates. When signs of lightening of analgesia are seen additional boluses of alfentanil or use of inhalational supplementation is necessary to increasing the maintenance infusion rate.

Both the loading dose and infusion rate should be adjusted for weight, age, and intrinsic clearance. The loading dose should be increased in the elderly patient and may need to be increased in patients with dialysis access. The loading dose should be increased in patients with liver disease and in those with a history of drug addiction. The maintenance infusion rate should be increased in patients with a history of drug addiction. The maintenance infusion rate should be increased in patients with a history of drug addiction. The maintenance infusion rate should be increased in patients with a history of drug addiction.

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Morbidity and mortality of car occupants: uses of the injury severity score

SIR—In a recent paper (1 December, p 1525) Miss M S Christian described a substantial and interesting survey of the effects of the seat belt law on the severity of injury suffered by car occupants. During every month of the first year after the law came into force injuries were less severe than during the same month of the preceding year. We feel there is no reason to quarrel with these findings, as there is certain evidence that the injury severity score is open to criticism. The overall severity of injury within each group was measured by the group mean value of the injury severity score. This is an inappropriate use of the statistical technique, as the injury severity score does not provide an acceptable statistical treatment.

Although a very sophisticated one, the injury severity score is only a ranking scale, and we do not agree with the values of the injury severity score. The injury severity score is designed to be used to compare the severity of injury between different groups, like the annual intakes of over 100 mean values can give a qualitative indication of trend, but they may give very distorted impressions of smaller groups, owing to the skewness of the distribution of the scores. The skewness arises because there are usually more patients in the minor (score < 5) than in the moderate injury (5-12) and more than many with severe injury (> 12). Thus in the year after the Act only 3.4% were severely injured. These few patients, however, were enough to raise the mean score from 1.4 to 2.7. In the corresponding month intervals about 100 the number of severely injured could be estimated from 0 to about 9, and the values of the mean values would have been more strongly controlled by the chance incidence of a few minor accidents. This, of course, is only another example of the general rule that the mean value is not a useful index of a very skewed population.

For a different reason the median is also unlikely to be useful. Because minor and moderate injuries tend to have lower scores than severe injuries, the median is likely to be less for the year after the Act than for the year before, this is likely to happen in any year with a lower number of severe injuries. For example the median would be calculated to have the same as the severity of injury score for the whole year, with a 4 particularly likely value.

The injury severity score can be used to characterise both by single variables or by ranges according to the numbers in the groups to be compared. For the monthly intervals in this survey suitable cut at might have been those with scores of 1 and 2 and 3 and 4, 5-10, and > 10. It would be interesting to see how the comparisons made graphically suggest improvement before coming up to this more rigorous test.

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Admission to medical school

SIR—Your correspondents have raised several issues concerning our audit of medical school admission on which we would like to comment. Dr Robin Murray (1 December, p 1535) suggests that we do not pay enough attention to the social class of applicants and that the apparent fairness of selection is itself paraadoxical, since the group of applicants is atypical of the population at large. This is not true, as the social class origins of doctors are very different from those of patients is beyond doubt, and one of us has argued that not all of the differences can be explained by simple terms of class differences in intelligence, although this is likely to be the case. However, the logic that doctors must be as similar as possible to patients in their personal characteristics is dubious; a moment's consideration of this in relation to men in handicap, geriatrics, paediatrics, or terminal care will show the fallacy of the argument.

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Our knowledge study has shown that the attitudes, practice, or behaviour of doctors is correlated with their social origins; indeed, Dr. Jones et al., in their study on which this paper is based, found no evidence for such an effect.

While there are excellent reasons why adequately qualified applicants from all sections of society should be encouraged to apply to medical schools, there is at present no compelling case for positive discrimination in favour of applicants from certain classes.

In short, whether there was evidence in our data for racial discrimination. The UCCA application form includes nationality but does not give details of race, creed, or colour, circumstances which we do not take into account in our selection procedure and about which our questionnaire did not ask. It is difficult to phrase such questions in an acceptable way. As a result, we were not entirely satisfied with assessment based on surnames, since this can produce false negatives; in particular, those of West Indian descent often have typically British surnames. Nevertheless, in view of a recent report on the unpublished work of Collier and Burke, we examined Afro-Asian and Arab surnames among London medical graduates, one of us (JHH) had examined the surnames in our study in a similar way.

Of 1361 applicants to St Mary's, 1043 (77%) had surnames, 56 (4%) had other European surnames, 49 (3%) had Arab surnames, 41 (3%) had Arab surnames, 96 (7%) had surnames from the Indian subcontinent, 56 (4%) had names typical of the Far East, and 42 (3%) had other surnames.

Thus 81% of applicants had European surnames and 19%, had non-European surnames. Fifty per cent of those with non-European surnames did not hold British nationality, as opposed to 76% of those with European surnames (p < 0.001).

Of 348 applicants for whom photographs were available, 71% of the 31 with non-European surnames were non-white compared with 22% of those with European surnames.

Of those admitted to London medical schools 127%, had non-European surnames, a figure similar to the reported findings of Collier and Burke.

Among UK nationals who had included St Mary's in their survey, 79% of those with non-European surnames were admitted to a British medical school, compared with 31% of the 132 with non-European surnames (p = 0.025).

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