and ligaments cause the "spinal axis syndrome." Such trauma, however, would cause pain as soon as the analgesia wore off and would be confined to the lower spine. The upper spine has normal innervation with no paralysis during epidural analgesia.

Several other questions arise, such as why was tingling in the hands (outside the blocked area) more than twice as common as tingling in the feet (within the blocked area)? Is self diagnosis of migraine satisfactory for this type of analysis, and can it have the same aetiology as other headaches? Women in labour usually receive epidural analgesia because simpler methods have failed. The pain threshold, which also has a role in the complaint of backache, cannot therefore be ignored.

Epidural analgesia still remains the most effective form of analgesia in labour. Before we deprive mothers of its benefits we should be absolutely sure about the severity of side effects and their influence on normal activities.

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Osteoarthritis of the hip in farmers

EDITOR,—Peter Croft and colleagues' paper confirms what many of us who work in semirural practices have suspected for a long time—namely, that the prevalence of osteoarthritis of the hip and knee is higher in farmers than in other members of the same community. The authors do not, however, take into account a possible hereditary factor: farmland is often handed down within a family, and it may be that the tendency to the disease is inherited along with the land. This possibility is supported by the authors' observation that the prevalence of osteoarthritis was not high in those who had been farm workers for less than 10 years.

A relation between osteoarthritis of the hip and heavy manual work was suggested by Vingard *et al* in 1991 in a register based cohort study.² In a study of Swedish farmers, however, Thelin showed that osteoarthritis is significantly more common in the farming community but is unrelated to the duration or intensity of heavy work.³ We believe that a possible hereditary contribution to the increased incidence of osteoarthritis of the hip in farmers deserves further consideration.

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- 1 Croft P, Coggon D, Cruddas M, Cooper C. Osteoarthritis of the hip: an occupational disease in farmers. *BMJ* 1992;304:1269-72. (16 May.)
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Saliva as a diagnostic fluid

EDITOR,—Daniel Malamud reaffirms saliva's value as a diagnostic fluid.¹ Collecting saliva for estimation of steroid concentrations has been part of routine monitoring of children with conditions such as precocious and delayed puberty, congenital adrenal hyperplasia, Addison's disease,

amenorrhoea, and hypopituitarism in our paediatric endocrine clinic for many years.

Saliva is invaluable for repeatedly investigating steroid patterns in normal children.² Children from the age of 5 can collect saliva without difficulty, and the oral collecting devices or stimulants that Malamud mentions are unnecessary. Collecting devices that use absorbent materials similar to dental rolls give falsely low results as steroid molecules are retained in the absorbent matrix. In most instances it is not necessary to collect secretions from any one of the three salivary glands in isolation as the concentration of steroid is identical in each fluid and mixed whole saliva samples are considerably easier to obtain.³ The patient needs only to collect 2-3 ml of saliva into a 5 ml plastic blood container with no anticoagulant and send the samples through the post to the laboratory so that the results can be ready for the patient's visit to the clinic a fortnight later.

Neither the staff nor my patients have any difficulty in accepting saliva as a useful method of monitoring a condition. Although saliva may lack the charisma of other body fluids, as Malamud suggests, I am convinced that its advantages, especially in children, outweigh the drama of blood, sincerity of sweat, and awkwardness of urine; moreover, the terror of the needle and the need even to shed a tear are avoided.

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Hepatitis A vaccine for sewage workers

EDITOR,—Anthea J Tilzey and colleagues suggest that sewage workers are among those who might benefit from receiving hepatitis A vaccine.¹ There does not seem to be any published evidence in Britain that sewage workers are at high risk of developing hepatitis A, and the suggestion therefore seems premature.

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- 1 Tilzey AJ, Palmer SJ, Barrow S, Perry KR, Tyrrell H, Safary A, *et al*. Clinical trial with inactivated hepatitis A vaccine and recommendations for its use. *BMJ* 1992;304:1272-6. (16 May.)

AUTHORS' REPLY,—Those who are in close contact with faecal material may be exposed to organisms excreted via the gut. A brief communication has already drawn attention to this hazard among people who spread sewage sludge.¹ Furthermore, the number of sewage workers in Britain is relatively small, and an analysis of cases of hepatitis A confirmed by a laboratory provides some evidence of an occupational risk (J Heptonstall, personal communication). We therefore consider that our recommendation that sewage workers should be protected against hepatitis A with the recently licensed vaccine is justified.

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- 1 Timothy E, Mephram P. Outbreak of infective hepatitis amongst sewage sludge spreaders. *Communicable Disease Report* 1984;3:3.

Is duplicate publishing on the increase?

EDITOR,—Among the articles commended in a recent Editor's Choice¹ was Tony Waldron's quantitative analysis of duplicate publication in the *British Journal of Industrial Medicine*.² The corresponding editorial examined the futility of duplicate publication and clarified the rules determining whether or not an article is a duplicate.³

Waldron's article is important and is likely to be quoted extensively in future articles on similar topics, though it states simply that the increasing percentage of duplicated main articles during the years under review suggests "a substantial increase over time." With reference to this article Editor's Choice also states that duplicate publication "may be getting more common." It is surprising that an article that has undergone careful scrutiny by several editors should not apply any statistical analysis to verify such an important point when the salient figures are included in the original article.

If the figures for 1988, 1989, and 1990 are analysed with a χ^2 test for trend no significant changes are seen ($\chi^2=2.77$; $df=1$). We appreciate that this does not prove that no trend exists. There does not seem, however, to be any significant evidence of a "substantial increase" in the duplication of publication of main articles in the *British Journal of Industrial Medicine* in the years studied.

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Bibliography on cot death needed

EDITOR,—Sarah Stewart-Brown believes that there must be lessons to be learnt from the way in which advice regarding babies' sleeping position has changed dramatically.¹ One such lesson may be the need for authors to carry out extremely thorough literature searches.

In 1944 Abramson reported a series of 128 cot deaths in New York.² Eighty seven of the infants had slept prone and only 22 supine, and in consequence Abramson recommended that "the routine nursing practice of placing infants in the prone position [should] be avoided, except [when] babies are constantly attended, [and should be] entirely done away with at night." Three years later Werne and Garrow reported that, as a direct result of Abramson's recommendation, "the Committee on Public Health Relations of the New York Academy of Medicine, through widely-publicised releases in both the lay and medical press, recently outlined specific measures for mothers to follow."^{3,4}

Werne and Garrow also suggested that the American Public Health Association should establish a commission to study cot deaths comprehensively,³ and if this or some other body had chosen to do so the problem of the safest sleeping position would, presumably, have begun to be tackled then. Instead, increasingly frequently, Abramson's finding and recommendation were not cited, even when the suffocation hypothesis was mentioned in his name, with the result that a generation of people did not know which sleeping position to use.⁵

So much work has now been published on cot death that, in the light of the fate of this major strand of the work in the years before the information explosion and the time needed to document medical papers thoroughly in the midst of that explosion, I suggest that an exhaustive bibliography should be published. This should be arranged chronologically under many headings and extensively cross referenced. Such a publication would almost certainly have to be sponsored, and it would have to be updated every few years.

I thank Professor A S Douglas for helpful comment.
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Dispensing doctors

EDITOR,—David Roberts has grossly misinterpreted the statistics from the Prescription Pricing Authority in his letter on dispensing doctors.¹ Closer examination of the detail provided in the authority's annual report for 1990-1 shows that savings could be made if all dispensing was undertaken by pharmacists.

TABLE 1—Average cost (£) of prescriptions dispensed by pharmacists and appliance contractors and dispensing doctors in England, 1990-1

	Pharmacists and appliance contractors	Dispensing doctors
Ingredient cost	5.865	5.411
Discount	-0.556	-0.365
Oncost allowance	0.302	0.568
Fees	1.058	0.893
Container allowance	0.038	0.038
	6.697	6.545
Oxygen treatment	0.035	0.002
Value added tax	0.010	0.775
Average total cost	6.742	7.302

Table I compares average costs of prescriptions dispensed by pharmacists and dispensing doctors in 1990-1. I agree with Roberts that value added tax should be excluded from the comparison, but so also should oxygen as, in proportion, dispensing doctors handle very little cylinder oxygen. On the face of it prescriptions dispensed by pharmacists are 15.2p more expensive, but the cost of ingredients for pharmacists is 45.4p higher. With the exception of generic preparations that are not listed in part VIII of the drug tariff (where the pharmacist selects the product to be dispensed and hence influences the cost of the ingredient), cost is controlled by the prescriber through the selection of the product and the quantity. The difference of 45.4p is reduced by savings on discount and in remuneration—that is, oncost allowance and fees—to 15.2p.

Table II shows the effect of applying pharmacists' costs to dispensing doctors' prescriptions. The cost of the ingredients and container allowance remain the same, fees are higher, but discount and oncost are lower. The revised average cost is £6.264, which is 28.1p less than the equivalent figure for doctors.

Thus if pharmacists had dispensed the 27 014 000 prescriptions dispensed by dispensing doctors in

TABLE II—Effect of applying pharmacists' costs to dispensing doctors' prescriptions

	£
Ingredient cost	5.411
Discount	-0.522 (0.566/5.865 of ingredient year)
Oncost allowance	0.279 (roughly 5% compared with 10.5% of ingredient cost)
Fees	1.058 (higher)
Container allowance	0.038 (same)
	6.264

1990-1 £7.591m would have been saved. I leave it to Roberts to calculate the potential loss had doctors dispensed all prescriptions.

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- 1 Roberts D. Dispensing doctors. *BMJ* 1992;305:187. (18 July.)
- 2 Prescription Pricing Authority. *Annual report 1990/91*. Newcastle upon Tyne: PPA, 1991.

EDITOR,—David Roberts's riposte to Baroness Cumberlege's remarks in the House of Lords concerning dispensing doctors is unconvincing.¹ He argues that because dispensing doctors show lower average costs per prescribed item (less value added tax) than pharmacists, dispensing doctors have saved the government £33m over the six years 1985-91. He does not mention, however, how many items the dispensing doctors prescribed per patient.

The health services indicator dataset for 1989-90 shows that dispensing doctors prescribe more items than their non-dispensing colleagues (8.51 items per patient compared with 7.87). Thus the net ingredient cost per patient (excluding value added tax) for patients of dispensing doctors was £42.58, compared with £42.11 for patients of non-dispensing doctors. This small but higher amount means that, rather than saving the government £5.8m in 1989-90, dispensing doctors actually cost the government £1.41m. Furthermore, this figure ignores additional costs such as fees and container allowances. This may help to explain Baroness Cumberlege's concern.

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- 1 Roberts D. Dispensing doctors. *BMJ* 1992;305:187. (18 July.)

Victims of Creutzfeldt-Jakob disease

EDITOR,—Of course the 1900 or so families in the United Kingdom whose children received cadaveric pituitary derived human growth hormone that was contaminated with the agent of Creutzfeldt-Jakob dementia between 1959 and 1985 should have been informed seven years ago. Apart from the ethical considerations, the recipients should have been warned at the earliest opportunity never to be blood or tissue donors.

Many of the anxious families whose children were treated with human growth hormone before 1985 would have their anxieties alleviated if it were to be shown that they are constitutionally not susceptible to the agent of Creutzfeldt-Jakob dementia. As Clare Dyer stated, there is no way of knowing how many recipients will eventually develop the disease.¹ There is good evidence for believing, however, that only certain people—those of an unusual genotype—are likely to be

susceptible to the disease after infection. The government is currently monitoring all the cases of Creutzfeldt-Jakob disease that occur in the United Kingdom as part of its surveillance of the effects, if any, of the outbreak of bovine spongiform encephalopathy on the human population. It would therefore be possible to establish which genotype is susceptible to the ailment, and those recipients of the contaminated human growth hormone who are of other genotypes could then be reassured. Even the susceptible individuals are not necessarily doomed: whether they develop the disease or not would also depend on the dose of the agent which they had received. This relatively simple matter is surely the least the government should be doing in these gloomy circumstances.

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- 1 Dyer C. Families of victims of Creutzfeldt-Jakob disease sue government. *BMJ* 1992;305:73-4. (11 July.)

Emergency treatment against a patient's wishes

EDITOR,—The issue of the right to refuse life-saving treatment has been highlighted by two recent court cases: a 16 year old girl with anorexia nervosa was overruled in her decision to refuse being fed¹ and the Court of Appeal decided that blood transfusions should be given to a 20 year old victim of an accident against her wishes.^{2,3} The delivery of emergency treatment against the apparent wishes of the patient may also pose a major dilemma for a doctor treating a casualty.

In a recent personal experience I was called, as medical registrar, to the casualty department to see a middle aged man who had attempted suicide by drug overdose one to two hours before. The patient suffered from ischaemic heart disease; there was no known psychiatric history, and the circumstances that had provoked him to take the overdose were unclear. It was thought that he had taken about 100 tablets, including atenolol, isosorbide, diltiazem, and temazepam. His blood pressure was 90/50 mm Hg, he had a slight bradycardia, and he was rather confused.

We decided that further deterioration could be averted only by gastric lavage. The patient refused and indicated forcefully that he wanted to die. There were no features of psychosis, and no section in the Mental Health Act applied.⁴ Such a situation faces a doctor with the dilemma of either acquiescing in the patient's demands or treating against his or her wishes. Because of this patient's deteriorating physical condition an immediate decision was necessary. We undertook gastric lavage and removed a large proportion of the ingested tablets. The patient subsequently developed severe bradycardia and heart block and required cardiac pacing. Although he remained aggressive, no undue force was required. His mental state deteriorated, and he became semicoherent.

The treatment was not covered by the Mental Health Act, and the attending medical staff were protected only by the common law duty of care owed by a doctor to his or her patients and by the doctrine of necessity.^{5,6} Guidelines issued by the Department of Health state that "a patient has a fundamental right to grant or withhold consent prior to examination or treatment."⁶ The guidelines also, however, give examples of treatment that have raised concern and, in relation to maternity services, state that "decision may have to be taken swiftly at a time when the woman's ability to give consent is impaired, for example, as a result of medication including analgesia. If the safety of the woman or child is at stake, the obstetrician or midwife should take any reasonable action that is