higher frequency range of the hearing spectrum, and there is therefore a theoretical risk that a child with appreciable low frequency deafness (which could adversely affect speech and language development) may have a normal result with this test. Such a child could be passed as having normal hearing.

We performed a retrospective analysis of brain stem evoked audiometry carried out in Wolverhampton since 1985. We found two children in whom low frequency loss was not initially detected as the test gave a normal result. Both children had speech and language delay and required amplification, they were eventually fitted with hearing aids.

We suggest that infants who are considered at high risk for deafness should be followed up until it is established that their hearing is normal, irrespective of the result of brain stem evoked audiometry.

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Delayed detection of congenital hearing loss in high risk infants. *BMJ* 1990;301:903-4. (20 October.)

Free tobacco promotion

SIR,—Dr Martin Raw finds it odd that the Health Education Authority should propose extending the voluntary agreement between the government and the tobacco industry on sports sponsorship “when it has been shown that such agreements don’t work.”¹

The report’s purpose is to show that the present voluntary agreement is both being breached and defective. The government is, at present, committed to voluntary agreements, and thus the report recommends that action should be taken to remedy the breaches and defects in the agreement to curtail the promotion of tobacco on BBC television programmes. Our longer term aim, however, is that there should be a total ban on all advertising, promotion, and sponsorship of cigarettes, tobacco products, and products bearing their brand names. To really work, this ban must be worldwide.

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1 Raw M. Massive free BBC tobacco promotion. *BMJ* 1990;301:1061. (10 November.)

Do streptococci cause toxic shock?

SIR,—Dr Phillip Sanderson’s editorial highlights several recent reports from the United States that implicate streptococcal pyrogenic exotoxin in the pathogenesis of a toxic shock syndrome.¹ In contrast a United Kingdom based survey found that severe streptococcal infection was usually associated with group A strains that produce exotoxin B; none of the strains tested produced exotoxin A.² We suggest that strains producing exotoxin B are also capable of producing a toxic shock syndrome, which in the United Kingdom may be an important form of this condition.

Septic scarlet fever was defined by Christie and Bisno as extrafacial scarlet fever associated with septicaemia.^{3,4} We recently reported three such cases that were associated with cellulitis due to *Streptococcus pyogenes* group A (serotype M1/T1/OF—) in healthy young adults.⁵ Organ failure occurred in each case, and despite prompt treatment two of the patients died. The crucial early clinical sign in all of the cases was punctate

erythema, which spread rapidly to cover the entire body and which was most intense in the folds of the axilla, elbows, and knees; the rash was typical of scarlet fever. Desquamation of the skin over the palms of the hands and the soles of the feet as well as desquamation of the tongue also occurred but at a much later stage. Such a fine punctate erythema can easily be missed, be labelled as a toxic erythema, or be misclassified as a drug rash. As a result the appropriate serological streptococcal investigations may not be pursued.

Streptococcal pyrogenic exotoxin B was subsequently detected in the plasma from two of the three patients. No exotoxin A was detected. The minimum pyrogenic dose of exotoxin B is at least four times higher than that of either exotoxin A or exotoxin C, and exotoxin B does not enhance lethal endotoxin shock as well as exotoxins A and C.⁶ This suggests that exotoxin B is intrinsically or biologically less active than exotoxins A and C, and that it may thus produce a much wider spectrum of clinical syndromes than that associated with exotoxin A.

We followed the standard recommendation and used high dose intravenous benzylpenicillin (12 million units/day) as primary treatment. Nevertheless, in one patient *S pyogenes* group A was isolated from a blood culture taken 48 hours after starting benzylpenicillin. Although toxin production undoubtedly contributed to the epithelial changes, conjunctivitis, and multiorgan failure in our patients, the Eagle effect may also have contributed to the high mortality. Eagle showed that the efficacy of penicillin falls as the number of *S pyogenes* organisms in muscle increases, such that it can become ineffective.^{7,9} Clindamycin and to a lesser extent erythromycin are not adversely affected by the Eagle effect.

We suggest that doctors should consider changing from benzylpenicillin to clindamycin or erythromycin at an early stage of treatment with benzylpenicillin if the patient does not show a prompt improvement.

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A painful process

SIR,—Dr A Nicol recommends that necropsy should become routine practice.¹ Although most pathologists recognise the value of the necropsy,² the rate of necropsy remains low.³

In Peterborough, where the rate is 15%, a questionnaire was sent to all consultants in medicine, surgery, and geriatrics, and to their house officers, including senior house officers. The questionnaire included questions about attitudes to necropsy and to the requesting of permission

from relatives of the deceased. Fourteen consultants and 25 juniors took part.

Of the consultants (six surgeons, five physicians, three geriatricians), all said that necropsy was important; one believed that it was important in only some cases. Six said that they wanted necropsies after all deaths, most said that they would like necropsies after around half, and one said only if the diagnosis was in doubt. Eight thought that juniors experienced difficulties in asking for necropsies, five thought that juniors had received some instruction in these matters, nine said that they offered tuition or guidance, and nine thought juniors would like or needed more instruction. All thought requests for necropsy should be made by medical staff; all but two said the house officer, with or without senior staff. Only one thought a bereavement councillor should be included.

All 25 juniors recognised the value of the necropsy. Most requested two or three a month, and estimates of refusal rates ranged from none to 100% with an average of 48%. Twelve thought that necropsies should be requested by the house officer alone, seven by the house officer or senior staff, or both, four by senior staff alone, and one by a bereavement councillor alone. Many thought that, as house officers, they had the closest relationship with the patient’s relatives.

Eleven house officers experienced some difficulty in requesting necropsy. Seventeen said that they had received no help or instruction, and 18 said that they would like more guidance. Two, both Moslems, had religious objections to necropsy, and one of them actively discouraged relatives.

The main point to emerge is that although both house officers and consultants acknowledged the value of the necropsy and accepted the role of junior staff in seeking permission, a need exists for more structured guidance and support by senior staff if a higher necropsy rate is to be attained.

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Using the citation index to assess performance

SIR,—We would like to endorse the cautionary remarks regarding citation analyses made by Dr Bernard Dixon.¹ As librarians we are aware of the value of citation indices for judging the importance of a journal when faced with decisions for “deselection” because of shrinking budgets.² We are, however, alarmed at the misuse of citation analyses in making value judgments on individuals.

The main danger lies in extrapolating from the importance of a cited article or journal to the importance of the author or authors. It is the contents of a particular article that have prompted others to cite it, and the reasons for citing it are numerous.^{3,4} Citation behaviour is, on the whole, “uneven, unpredictable, and biased.”⁵ Citation analyses are a measure of past performance for a particular year. They do not necessarily reflect the present ability or future potential of all the authors who have published in that year. It may even be misleading to judge a journal’s importance or future impact by citation performance unless its performance is examined over several years.

We have found that doctors and researchers, prodded by administrators and accreditation committees, use the impact factor for the previous year as a method for choosing the journal to which they will send their articles. This approach engenders a

self perpetuating bias: the higher the impact factor of a journal, the more authors will try to publish in it, and because it has a high impact factor it will be considered more prestigious and authoritative, and will be cited more often. This bias compounds the built in bias in Science Citation Index data in which "the selection policy is deliberately slanted towards material most widely used and with highest impact."⁷ Despite known reservations to judging the importance of a journal by this method, such as self citation, "parochialism," language biases, etc.,⁸⁻¹⁰ these are lesser evils compared with the far reaching consequences of judging an author by citation performance of the journals in which he or she published.

Lately we have become aware of a greater understanding of the shortcomings of the impact factor of journals, and administrators are turning more to the citation performance of individuals. This is undeniably more personalised than the impact factor of a journal but is not free of flaws. For instance, only the first author appears in the citation index, and a search by "cited references" for a particular author will not reflect the true contribution of all the authors. We are deliberately ignoring technical errors such as misspellings, wrong initials, etc. Finally, there is a considerable time lag between the publication of an original paper, the publication of an article citing it, and its appearance in the Science Citation Index's annual bibliometric analyses.

We hope that all these factors are taken into account when using citation analyses for judging a person's performance or potential and in making decisions on academic advancement, funding, or tenure. The *Guidelines for Interpretation of ISI Citation Data* should be required reading for all those who use the data in any context whatsoever.¹¹

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Chief inspector criticises prison medical service

SIR,—If Dr J R Savage and Ms Nina Simpson, in their defence of Lincoln Prison¹ against the strictures of the chief inspector of prisons and his medical inspector,² are reporting correctly about the detection of suicidal potential on initial medical examination of entrants, they could not better substantiate these strictures.

Though regarding this detection at the examination as "most important of all" and asserting that the "prevention of suicide must be the priority," they reveal that the examining doctor, on the evening of their visit, examined 41 inmates between

1800 and "bang up" at 1930 hours—that is, in 90 minutes: an average of 2 minutes 19 seconds per interview.

As it is virtually impossible to admit, examine cursorily, and evict a new patient in less than 2½ minutes, more time could not have been offered to the potentially suicidal. How, then, could the doctor have detected the potential for anything, much less suicide, under such pressure?

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Consenting patients

SIR,—Although I fully support the conclusion of Drs J M E Fell and G W Rylance that parents of sick children, in particular, should participate most actively in decision making with regard to their child's illness,¹ I fear that they have oversimplified the matter and perhaps even over-interpreted results of their own survey. In a recent audit of our ability to communicate with the parents of children with cancer and leukaemia we found a depressingly high rate of failure to communicate information despite the best of intentions.

As happens in most oncology centres, once the diagnosis has been conveyed to parents we sit down for a long session to discuss investigations, results, diagnosis, prognosis, and subsequent treatment and attempt to answer clearly and completely all parental questions. Such interviews occur before any treatment is given. We then have a series of follow up discussions, dictated by management changes or parental requests for further information, or both. In our audit an independent interviewer talked to parents roughly three months after the initial diagnosis. The interviewer used a structured questionnaire to examine the logistics, the parental response, and ways in which the parents thought we could improve our communication.

Of the first 23 parents recruited into the study, only 12 thought that they had taken in the initial diagnostic information; eight said that they had felt far too shocked to hear anything. Although all were told more information a few days later in an interview, at which more than one member of staff was present and which was documented in the hospital records, four parents denied ever having such a discussion. Twelve said three months later that they had not learnt all that they wanted to at that interview, but most had not wanted to ask further questions, usually because they "might hear bad news." Ten parents expressed some long term lack of understanding of specific items such as the meaning of remission or prognosis. After up to 20 further talks with doctors, nurses, social workers, etc, 14 parents found some information still confusing or conflicting. We obviously could conclude that we are inept communicators. We are attempting, with phase two of the study, to try to improve our communication with the parents by taping our initial interview and letting them take it away to hear repeatedly what they and we have said. In addition we are trying to provide more simply written and understandable material about their child's illness.

I suspect that similar findings would be obtained in other centres. The real problem lies at the heart of so called "informed consent." When your child has been diagnosed as having a life threatening condition, unless you are an extremely unusual person you are not going to be able to make rational and informed decisions, even if you are a professional within the discipline with complete knowledge of the diseases. You are likely to be

so upset that you will practise total denial or acceptance of anything that is suggested. Despite documentation that our parents received information about drugs (what they were for and how they worked) the rate we found for denial of information was even higher than the 31% described by Drs Fell and Rylance, though clearly in such life threatening conditions we do not have the compliance problems that might occur in a disease managed more on an outpatient basis.

In managing a child with cancer we cannot afford parents or patients to be passive, and I think that it is wrong to assume that parental denial of knowledge means that they were not told. We have to improve our methods of communication, perhaps most importantly to give parents some information to take away to reinforce the verbal advice that they have received in the often highly charged atmosphere of the consulting room. The ability to sell a particular form of treatment or management is clearly an art that can be abused. Most doctors in paediatric oncology follow nationally approved, ethically reviewed treatment plans, but if the parents deny having heard the information or we fail to communicate it to them adequately then the whole concept of informed consent and active participation in decision making becomes a sham.

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- 1 Fell JME, Rylance GW. Consenting patients. *BMJ* 1990;301:1103. (10 November.)

Acute intestinal ischaemia

SIR,—Mr Adrian Marston wrote that no specific test is available to distinguish intestinal ischaemia from other acute abdominal conditions.¹

Though this statement is essentially correct, a Canadian group have found increased concentrations of phosphate in the serum and peritoneal fluid of patients with this condition (W Jamieson *et al*, annual tripartite meeting of Vascular Society of Great Britain and Ireland, London, 1990.) They suggest that the serum phosphate concentration together with the white blood count and arterial blood gas concentrations should be measured when the patient is initially assessed. The combination of hyperphosphataemia, leucocytosis, and metabolic acidosis should suggest a diagnosis of intestinal ischaemia and imminent infarction.

The Canadian group claim to have performed successful laparotomy and superior mesenteric embolectomy using the above criteria as a guide to surgical intervention. Further research into the presence of serum markers of early intestinal ischaemia may help to reduce the appalling mortality from this condition.

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- 1 Marston A. Acute intestinal ischaemia. *BMJ* 1990;301:1174-6. (24 November.)

HIV infection and foreign travel

SIR,—We share Dr C J Ellis's concern that insufficient attention is paid to the risks of acquiring HIV infection through heterosexual intercourse during foreign travel.¹

We performed a telephone survey of 30 travel agents in Leeds and inquired what health advice they gave to prospective travellers to Bangkok (chosen as a representative destination where the risk of HIV infection is high and where readily available sex is an attraction for many visitors). All