test. On the other hand, many who have symptomless mild or transient serous otitis media would be detected. What should be done with them? Sent to E.N.T. departments for myringotomy and insertion of grommets? Of course, most otologists would consider this as preposterous. We have difficulty at present in getting children with significant hearing losses examined and treated within a reasonably short time when we think treatment is urgent.

Impedance testing and school screen audiometry are complementary. There is some overlap between the two, but their functions are different. First of all we must consider the time taken for a screen test. It takes one minute per ear to test by screen audiometry. For the impedance test one needs five minutes per ear. A skilled audiometrician can screen out 40-60 pupils in about two hours. For the same number of children impedance testing would take 10 hours.

To criticize the screen audiometric test on the grounds that it is badly performed in some areas or that it is performed by untrained and unskilled people is not an argument against the test itself. It is to be hoped that your readers, particularly those involved with school health services, will not be influenced by this unhelpful and misleading article.—I am, etc.,

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### Contaminated β-Lactamase and Blood Cultures

SIR,—The letter from Mr. R. Lynn and Dr. Susannah Eykyn (6 July, p. 46) is of considerable interest since their finding that blood cultures have become contaminated by diagnostic additives is of obvious concern. However, we were disturbed by the final sentence of their letter, which states that the enzyme preparation is now filtered through a Millipore filter. In the light of our previous experiences with β-lactamases, especially that of *Bacillus cereus* 569/H, it occurred to us that such a procedure could lead to removal of enzymatic activity. This enzyme is notorious for the avidity with which it adsorbs to surfaces such as glass powder[1] and Celite (diatomaceous silica).[2] It seemed to us possible that the enzyme would also adsorb to the material of the Millipore filter (a mixture of cellulose acetate and nitrate).

The Whatman β-lactamase preparation is not in routine use in this laboratory, but we had been fortunate enough to receive a sample vial (batch 3) from the manufacturers. The contents were dissolved in 10 ml of M/30 Sørenson's phosphate buffer, pH 7, and half of the solution was passed through a filter of pore size 0·22 μm (Millex disposable filter unit, Millipore Ltd.), using minimum pressure. The unfiltered and filtered portions were then assayed for β-lactamase activity against benzylpenicillin (for total activity) and oxacillin (for β-lactamase II activity[3]), each substrate separately at 2 mg/ml, using hydroxylamine assay.[4] We found that passage through the filter removed all but 0·7% of the total activity. β-Lactamase II activity was less affected, 3·6% remaining after filtration; however, β-lactamase II makes up only 2·5% of the original total activity of this particular batch of Whatman β-lactamase.

Thus passage of the enzyme through the filter may have the effect of removing almost totally the active principle of this preparation. Several other commercially available β-lactamase preparations[5] are also derived from *B. cereus*, and filtration of these might also be expected to result in loss of activity. Therefore the investigator has two possibilities. Firstly, to accept that the enzyme preparation is sterile, or secondly, to question the practice of adding β-lactamases to blood cultures media *routinely*. In view of the well-known lability of the β-lactam moiety to sulphydryl groups and in reducing conditions[6] such as obtain in media used for the culture of anaerobes, β-lactamase may be unnecessary. Timing of the blood culture in relation to the last dose may enable the use of penicillinase to be avoided where the concentration of penicillin has fallen to a low level. On dilution this would become insignificant. Studies to settle this important question would be worth while.—We are, etc.,

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1 Kogut, M., Pollock, M. R., and Tridgell, E. J., *Biochemical Journal*, 1956, **62**, 391.
2 Miller, G., Bach, G., and Markus, Z., *Biotechnology and Bioengineering*, 1965, **7**, 517.
3 Kuwabara, S., and Abraham, E. P., *Biochemical Journal*, 1967, **103**, 27C.
4 Batchelor, F. R., *et al.*, *Proceedings of the Royal Society. B*, 1961, **154**, 498.
5 Newsom, S. W. B., and Walsingham, B. M., *Journal of Medical Microbiology*, 1973, **6**, 59.
6 Schwartz, M. A., and Buckwalter, F. H., *Journal of Pharmaceutical Sciences*, 1962, **51**, 1119.

### Sun, Wind, and the Skin

SIR,—Further to your timely leading article (13 July, p. 72), it would seem clear that the aggravation of sunburn by wind is largely, if not entirely, due to the desiccating action of the wind on the horny layer of the epidermis on *all* exposed surfaces. This takes place irrespective of the environmental temperature so that skiers as well as soldiers wearing the professional military garb of shirt and shorts (which is entirely unsuitable for desert wear,[1 2] unlike the excellent protection provided by the Bedouin burnous and Arab headdress against sun, wind, and sand) can be affected. These are almost perfectly adapted to hot desert conditions.[1 2] The holiday-maker similarly clad and, even more so, the girl in her picot-bikini find themselves in a climate little different from that of an arid desert when a fresh sea breeze is blowing.

Ichthyotic infants and atopic children with lichenification of the hands, elbows, knees, ankles, and/or face are particularly vulnerable in this respect and should therefore wear light jeans and long-sleeved cotton shirts or blouses to reduce the risk of windburn on the sea shore. Sea bathing itself is of course to be encouraged in these patients, who will benefit from the high salt content of sea water. This helps to combine water more effectively to the keratin of the horny layer, thereby reducing loss of water through evaporation.

There is another cause of sunburn of which many yachtsmen may not be aware. The burn occurs when a cotton shirt or other garment becomes saturated with sea spray through which the shorter wavelengths of the sunlight, excluding the ultraviolet, can penetrate and damage skin. It should be remembered that water tends to absorb the longer wavelengths of the invisible spectrum as well as the infrared and to allow the shorter waves to penetrate further. Therefore in these conditions yachtsmen should wear plastic garments impenetrable by the sun's rays.—I am, etc.,

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1 Moynahan, E. J., *Practitioner*, 1958, **180**, 135.
2 Schmidt-Nielsen, K., *Desert Animals Physiological Problems of Heat and Water*. London, Oxford University Press, 1964.

### Who is the Dental Anaesthetist of the Future?

SIR,—The remarks attributed to an operator/anaesthetist recently publicized in the national press following another patient fatality (see medicolegal report, p. 419) make one wonder when the powers that be will say, "Enough!" It is a fact that the British Dental Association[1] has cautioned the dental profession as to possible legal repercussions of using operator/anaesthetist technique—but no more. It is another fact that the Joint Sub-Committee on Dental Anaesthesia of 1967[2] deprecated the practice of dentists giving general anaesthetics alone. It is also a regrettable fact that the then Secretary of State decided not to implement the recommendations of this subcommittee because he "did not wish to interfere with the clinical freedom of dentists."[3]

Two professional people must be the bare minimum for any dental work done under general anaesthesia, a fully-trained anaesthetist ideally being one of these. "Dental anaesthetics is one of the most difficult branches of the medical specialty of anaesthesia" (Flt. Lt. D. Hogg, 18 May, p. 386). If the professional bodies will not stop this dubious and uniquely exercised prerogative of the dental profession in accepting the operator/anaesthetist, then perhaps the medical defence organizations should cease to provide cover for the operator/anaesthetist. Must we wait for litigation?—I am, etc.,

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1 B.D.A. Committee, *British Dental Journal*, 1966, **120**, 89.
2 Ministry of Health, *Dental Anaesthesia—Report of a Joint Sub-Committee*. London, H.M.S.O., 1967.
3 *Hansard, House of Commons*, 22 December 1971, Written Answers.

### Reporting Deaths to the Coroner

SIR,—Dr. Harold Price (20 July, p. 171) writes that "the doctor is obliged by common law to report all sudden and unexpected deaths . . ." etc. I feel that this statement requires an important proviso before it can be regarded as accurate. The Brodrick Report[1] states (para. 12.02 (iv)) that "there is an obligation at common law on 'any person about the deceased' to give immediate notice to the coroner of circumstances requiring the holding of an inquest" and (para. 12.02 (v) that "there is no duty on doctors to report any death to the police