provided when sensitive data are included on the form.

JANE RICHARDS

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Safety of medical containers

SIR,—Medical containers should be stable, relatively unbreakable, and easy to use as well as proof against leakage and contamination of the outside by the contents. Zuckermann and Taylor noted the risk of hepatitis attending removal of a wet plug from a blood container.¹ A new hazard that has recently crept into the laboratory is the bronchoscopy suction collector. The photograph shows one recently received in our laboratory. It was impossible to remove the snap-on

lid without producing an aerosol and contaminating the fingers. British Standard (BS 5213: 1975)—Specification for Medical Specimen Containers for Microbiology—has existed for two years but, though most laboratories now insist on containers with screw caps, containers complying with the British Standard have not yet become generally available, possibly because manufacturers anticipate that hospital administrators would not be willing to pay for them while cheaper but less safe alternatives are available.

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¹ Zuckermann, A. J., and Taylor, P. E., *British Medical Journal*, 1969, 2, 633.

Thalidomide and cranial nerve abnormalities

SIR,—Recent correspondence on thalidomide deformities (24-31 December, p 1672) prompts the suggestion that reference to an article on this subject¹ would help to solve the aetiological problems posed by facial and abducens nerve palsy in thalidomide children.

Both are motor nerves and would therefore suffer in some thalidomide cases when the neuromuscular junction failed to establish itself owing to the dampening effect of the drug on the initial impulses. Thalidomide causes deformity by preventing the initial and essential nerve impulses from reaching the neuromuscular junction in accordance with embryological laws. The failure of junction results in arrested development and resorption of the part or parts affected. Innervation of the limbs proceeds in a proximodistal direction in the fetus so that the proximal parts of the limbs are resorbed first, giving rise to the typical reduction deformities.

The brain is not affected as there are no nerve impulses in this structure during the organogenetic stage of development, but the

cranial motor nerves can be affected. Proximodistal spread would explain the electromyographic pattern described for the facial nerve and it can be said that the muscles round the eyes and mouth could not be affected in isolation. Postnatal improvement could occur in the remaining muscles, but it does not indicate nerve recovery. Nerve conduction would be in accord with the "all or none" principle.

Proprioception also fails to be established for the affected or resorbed parts and this is reflected in the proprioceptive nuclei. Consequently the affected child has no central proprioceptive record of the missing parts and so has no feeling of loss or inadequacy as would happen with a postnatal amputation. Within himself he is complete, his central proprioception corresponding exactly to his external or actual conformation. He has no use for artificial aids and is normal at forebrain level.

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Isel, Cumbria

¹ Gordon, G. C., *Developmental Medicine and Child Neurology*, 1966, 8, 761.

IUCDs—a contraindication to removal

SIR,—Histories such as that described by Dr D F E Thallon (7 January, p 51) are given by patients from time to time to the regret of the family planning practitioner, and it seems that pregnancy must result from implantation of an ovum fertilised by an intercourse before removal of the IUCD.

For this reason the teaching in family planning training clinics has always been that an IUCD should be removed either after a menstrual period or after a period of abstinence from sexual intercourse but not normally mid-cycle. This advice is contained in the Family Planning Association's Handbook of 1973.

ANN G MORGAN

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SIR,—I think Dr D F E Thallon (7 January, p 51) is too conservative in suggesting that an intrauterine contraceptive device (IUCD) should not be removed for seven days on each side of mid-cycle. A patient of mine conceived in a cycle in which her IUCD was taken out on day 26. Menstruation usually occurred every 30 days. Even if ovulation is estimated to occur 14 days before the expected period date this IUCD was not removed until 10 days later. Unlike Dr Thallon's patient, the outcome was a happy one, because in this instance the device was removed after two years' use to allow conception.

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Problems with IUCD tails

SIR,—Mr R A Sparks (19 November, p 1351) draws attention to some of the problems associated with the tail of the intrauterine contraceptive device (IUCD). Another difficulty is that, while most practitioners who fit an IUCD place emphasis on teaching the woman to check that it has not been expelled, a large number of patients are unable to detect

the IUCD tail. We recently published an analysis of 172 women bearing IUCDs with tails fitted for at least six months who were seen consecutively by one family planning doctor.¹ Of these, 17 were unable or unwilling to examine themselves, while a third of the remainder (57/155) were persistently unable to find the tail. Of the factors possibly concerned, there was a weak positive association between frequency of detection and increased parity and higher social class but no correlation with length of tail. A lower detection rate for the Copper-7 (59.3%) than for the Lippe's Loop (73.8%) may only reflect small-number variation. However, the Lippe's Loop has two tails of thicker nylon while the tail of the Copper-7 is a single thread. The numbers of other types of IUCD used were too small for any comparison to be attempted.

The motivation of the woman is probably the most important single factor in successful vaginal self-examination. If she is made anxious by vaginal manipulation a woman will either not examine herself or do so less thoroughly. In the past such patients have been recognised as being unsuitable for vaginal diaphragm or cervical cap contraception and perhaps such inhibitions should be appraised when considering fitting an IUCD. Without self-examination no IUCD wearer can be sure that she still carries an effective contraceptive method.

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¹ Chamberlain, G., *Fertility and Sterility*, 1977, 28, 1121.

Postoperative chest infections

SIR,—Though your recent leading article on postoperative chest infections (10 December, p 1500) rightly emphasises the usefulness of rational antibiotic therapy in established postoperative chest infection, we feel it gives too important a role overall to their possible use in prophylaxis. In calling for careful well-constructed trials to answer the "important unanswered questions" on the usefulness of antibiotics and physiotherapy in preventing postoperative chest infections it is clear that you have ignored several contributions, among them our own¹ on this subject.

Postoperative pulmonary collapse may vary in extent from the collapse of a group of alveoli or a small lobule to that of a segment, a lobe, or rarely a whole lung. It is clear that infection does not complicate all cases of minor pulmonary collapse and only the less fortunate patients progress from lobular collapse to the more serious complication of marked pulmonary collapse and consolidation.² Alveolar or lobular collapse is reversible by repeated sustained maximum inspiration (SMIs).³ We have shown that the number of postoperative chest complications is significantly reduced when patients are encouraged to take frequent SMIs in the early postoperative period compared with patients who have had nothing but routine pre- and postoperative physiotherapy. There was also a suggestion in our study that frequent SMIs were more effective in treating lobular collapse than was physiotherapy. In our study the pulmonary complication rate was 71% in the physiotherapy group, and 17% of these were serious complications. It is clear that physiotherapy as it is practised at the moment in the United Kingdom is not effective in preventing postoperative pul-

monary complications. In this country the physiotherapeutic regimens of the post-operative patient are largely concerned with teaching effectively controlled breathing, assisting with coughing, percussion, and positioning the chest to allow drainage in such a way as to treat established and serious pulmonary complications. There is only one study¹ in which physiotherapy has been shown significantly to reduce the rate of pulmonary complications and in that the physiotherapy was largely concerned with prophylactic deep breathing exercises. When deep breathing and SMI are emphasised as part of the regimen it is likely that alveolar and lobular collapse may be reversed and not progress to collapse consolidation. Cheap instruments exist to aid the patient to perform SMIs, and their wider use would reduce the work load on and demand for physiotherapy staff in the general surgical ward.

Undoubtedly there will always be a need for the help of physiotherapists in treating major collapse and consolidation, but we would like to see, meanwhile, an introduction into general physiotherapeutic manoeuvres of some method or other of encouraging and achieving frequent sustained maximum inspirations.

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¹ Craven, J L, *et al*, *British Journal of Surgery*, 1974, **61**, 739.

² Bartless, R H, *et al*, *Surgery, Gynecology and Obstetrics*, 1973, **137**, 925.

³ Ward, R J, *et al*, *Surgery, Gynecology and Obstetrics*, 1966, **123**, 51.

⁴ Thoren, L, *Acta Chirurgica Scandinavica*, 1954, **107**, 193.

Standardisation of bibliographical reference systems

SIR,—With reference to Miss Maeve O'Connor's article on this subject (7 January, p 31), whether the name/date or non-sequential-numeric system is adopted is immaterial to librarians. But what is important is that citations should include the title of the article (first six words only, if you like) and the total pagination of the article. These are necessary for the following reasons:

Title—(1) For identification; sometimes the citation is incorrect. (2) The greater insight into the value of the article which the provision of a short title can give.

Inclusive pagination—(1) The length of the article can be an indication of its usefulness—for example, a two-page article could not be expected to be terribly exhaustive. (2) Requests for photocopies from other librarians often require the inclusion of prepayment tokens based on the number of pages required; this information can be hard to find, particularly with journals not included in the *Index Medicus*.

I appreciate that the object of these omissions is to save space and to simplify, but I am afraid that you do so at the cost of loss of usefulness for your readers and extra work for librarians. Please have another think.

ETHEL HORNER

Medical librarian

Princess Margaret Hospital
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Alpha-fetoprotein in antenatal diagnosis of neural tube defects

SIR,—Mr R Carachi (19 November, p 1357) would like to know the false-positive rate associated with the use of amniotic fluid α -fetoprotein (AFP) measurement in the antenatal diagnosis of open spina bifida. The results of individual studies indicate that this is much less than 1% if levels equal to or exceeding 5 standard deviations above the mean are considered positive.¹⁻⁴ Provided the procedure is carried out on women with a sufficiently high risk of having a fetus with open spina bifida (say, 5% or greater) the number of normal pregnancies with raised amniotic fluid AFP levels is likely to be small in comparison with the number of affected ones with raised levels.

The UK Collaborative AFP Study Group is currently undertaking a study designed to obtain a more precise estimate of the amniotic fluid AFP false-positive rate than has so far been possible from smaller individual studies. So far results on more than 9000 singleton pregnancies without neural tube defects and more than 100 cases of open spina bifida have been collected. Information on pregnancies with conditions such as exomphalos which may cause raised amniotic fluid AFP levels in the absence of neural tube defects is also being collected.

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¹ Nevin, N C, *et al*, *Journal of Obstetrics and Gynaecology of the British Commonwealth*, 1974, **81**, 757.

² Stewart, C R, *et al*, *British Journal of Obstetrics and Gynaecology*, 1975, **82**, 257.

³ Brock, D J H, *Colloques d'INSERM*, 1976, **61**, 221.

⁴ Kimball, E M, Milunsky, A, and Alpert, E, *Obstetrics and Gynecology*, 1977, **49**, 532.

"Basic Health Education"

SIR,—We read with interest Dr J A Muir Gray's letter (14 January, p 107) and we will certainly take note of some of the points he raises in the next edition of *Basic Health Education*.

There still remain, however, points of dispute. It has been our experience that very many teachers are ignorant of the simple factual side of preventive medicine and that the extent of this ignorance is increasing with years. The word "basic" in the title of our book was perhaps a little unfortunate as it was intended to imply the basic facts about health rather than the basic facts about education.

The fact that it is possible for two people to have the same factual knowledge about a subject and yet differ in their attitudes was pointed out by Stevenson¹ as long ago as 1944. His theories were, quite rightly, criticised because he denied the importance of ethical facts. In the same way it is essential that health educationalists should not underestimate the importance of the factual aspects of their subject. Our experience in general practice and in classroom teaching has convinced us that doctors are best at influencing factual knowledge (an important factor in modifying

attitudes) and teachers are best at more directly influencing attitudes.

Finally, we echo Dr Muir Gray's sentiment that health education should be grateful to the *BMJ* for stimulating debate on this sadly neglected topic.

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¹ Stevenson, C, *Ethics and Language*. New Haven, Yale University Press, 1944.

Alcohol-induced hypoglycaemia

SIR,—I was interested to see the letter from Drs C Miquel and J Rubiés-Prat (15 October, p 1027) regarding the possibility that disturbances of hypothalamic-pituitary-adrenal function might be an important predisposing cause of ethanol-induced (fasting) hypoglycaemia. There is indeed a large body of circumstantial evidence in favour of this hypothesis, much of which has been reviewed in recent publications.¹⁻²

There is no doubt that chronic alcohol abuse can produce disordered hypothalamic-pituitary-adrenal function in both directions. Hypofunction, which appears to affect 20% or so of all chronic alcoholic subjects, seems to be commoner, though less easily identifiable, than hyperfunction.³⁻⁴ Impairment of hypothalamic-pituitary growth hormone secretion by alcohol, though less thoroughly investigated, is now well established.⁵⁻⁶ Since both adrenocortical insufficiency and growth hormone deficiency predispose to the development and continuance of hypoglycaemia, whatever its primary cause, I can only echo the suggestion by Drs Miquel and Rubiés-Prat that the integrity of both growth hormone and cortisol secretory mechanisms should be investigated in all cases of alcohol-induced (fasting) hypoglycaemia.

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¹ Marks, V, *Proceedings of the Royal Society of Medicine*, 1975, **68**, 377.

² Marks, V, and Wright, J W, *Proceedings of the Royal Society of Medicine*, 1977, **70**, 337.

³ Rees, L H, *et al*, *Lancet*, 1977, **1**, 726.

⁴ Smals, A G H, *Journal of the Royal College of Physicians*, 1977, **12**, 36.

⁵ Andreani, D, Tamburrano, G, and Javicoli, M, in *Hypoglycemia: Proceedings of the European Symposium*, ed D Andreani, P J Lefebvre, and V Marks. Stuttgart, Thieme, 1976.

⁶ Chalmers, R J, *et al*, *Psychological Medicine*, 1977, **7**, 607.

Cross-infection with *Serratia marcescens*

SIR,—In a leading article (7 May 1977, p 1177) you drew attention to the potential pathogenicity of *Serratia marcescens* in susceptible patients and predicted the arrival in the United Kingdom of strains resistant to gentamicin, as reported from France. We have recently experienced an outbreak of infection with a very resistant, non-pigmented strain of *S. marcescens*. The strain was first noticed in October 1977 and since then 10 patients have been infected, all in association with the intensive care unit. Isolations have been made from sputum or tracheal aspirate, wounds, and urine and two patients with positive blood cultures have died. Subcultures of strains