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Plastic insulin syringes

SIR,—Nine years ago Greenough *et al* pointed out how seldom diabetics became infected by injecting themselves daily with insulin using the same disposable syringe on several occasions, sometimes for several weeks, simply by covering the needle (attached to the syringe) with its cap and leaving the syringe in the refrigerator.[1] They found no evidence of infection even when the syringe was used for up to two months.

In the correspondence that followed Oli, from Nigeria, reported that his diabetics, who could often not afford glass syringes, used their plastic syringes on average for a month, but as few had refrigerators he advised them to put syringe and needles in a clean covered container or pot in a hole in the ground, and since 1974, when he started the diabetic clinic, he had seen no infections.[2] In 1985 Bloom detailed the advantages of plastic over glass syringes for insulin injections,[3] and two years later, after a long campaign by the British Diabetic Association, they became available on general practitioners' prescriptions.

Drs W D Alexander and R Tattersall have now pointed to the great and unnecessary expense of diabetics using plastic syringes once only. Having run two separate diabetic clinics in London weekly for many years in the past, I know that patients use their disposable plastic syringes over long periods without any trouble. It does seem that here, where the same diabetic person uses the same syringe daily, the advice of the Department of Health and Social Security and the National Pharmaceutical Association to use these syringes only once is unnecessary and costly to a National Health Service trying hard to economise.

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1 Greenough A, Cockroft PM, Bloom A. Disposable syringes for insulin injection. *Br Med J* 1979;i:1467-8.
2 Oli JM. Disposable syringes for insulin injection. *Br Med J* 1979;ii:273-4.
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SIR,—Drs W D Alexander and R Tattersall (26 March, p 877) claim that insulin preparations are self sterilising because they contain a preservative. That this is not universally so has been described previously[1,2] and is further illustrated by the following event.

A 43 year old diabetic was admitted to hospital with multiple large subcutaneous abscesses of the thighs and buttocks, which had developed over three weeks at the sites where she injected insulin. The abscesses were incised under general anaesthesia, and the pus thus liberated yielded a heavy growth of *Streptococcus faecalis* on culture.

The patient's insulin phials were examined bacteriologically 12 days later. Both phials in current use yielded no organisms by direct plating on solid media, but one (a mixed insulin zinc suspension containing methyl-*p*-hydroxybenzoate as preservative) yielded *S faecalis* and *Bacteroides fragilis* when injected into blood culture media.

Small numbers of organisms can thus survive for prolonged periods in some insulin preparations, and those which contain methyl-*p*-hydroxybenzoate should not be regarded as self sterilising. Good practice dictates that any multidose container of solutions for injection should be entered only with a sterile needle; otherwise skin and potentially pathogenic environmental organisms may be carried into the phial and persist or multiply to form a reservoir of infection.

Plastic insulin syringes cannot be resterilised in the home, so logically they must be used only once and then discarded if episodes of this nature are to be reliably prevented, especially when using insulin preparations preserved with methyl-*p*-hydroxybenzoate.

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1 Collins BJ, Spence BK, Richardson SG, Hunter J, Nelson JK. Safety of reusing disposable plastic insulin syringes. *Lancet* 1983;i:559-61.
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Adult epiglottitis

SIR,—We were surprised at the antibiotics chosen for the initial blind treatment of the adult with epiglottitis described by Dr Shaheen Mehtar and others (19 March, p 827) (benzylpenicillin and erythromycin), particularly as the patient's condition was severe enough to require intubation.

In childhood epiglottitis the causative organism is usually *Haemophilus influenzae* type b. The adult condition can be caused by a wider range of organisms, but haemophilus is still common (others include pneumococcus). Apart from the well known increased susceptibility to pneumococcal infection, a patient who has had a splenectomy is also at increased risk of infection by haemophilus and meningococcus.[1]

Current teaching suggests the use of ampicillin or chloramphenicol, or both, as the first line antibiotic treatment of epiglottitis while the bacterial culture results are awaited.[2] Despite its recognised complications chloramphenicol is normally advocated in life threatening situations owing to the increasing prevalence of ampicillin resistant strains of haemophilus (11·4% in the United Kingdom in 1981[3]). Cefuroxime is active against these strains and is a suitable alternative initial treatment. Although erythromycin has been considered to be active against *Haemophilus influenzae*, it has a minimum inhibitory concentration of 1·0-8·0 μg/ml, whereas chloramphenicol has a value of 0·5 μg/ml, cefuroxime 0·5 μg/ml, and ampicillin 0·25 μg/ml.[4]

In both children and adults epiglottitis is a serious condition which can be fatal. Though it is completely curable, any delay in diagnosis and treatment may result in sudden, potentially fatal respiratory obstruction.[5] As well as humidification and airway support the patients require treatment with adequate doses of intravenous antibiotics appropriate to the likely infecting organism.

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1 Weatherall DJ, Ledingham JGG, Warrell DA, eds. *Oxford textbook of medicine*. Vol 1. 2nd ed. Oxford: Oxford University Press, 1987:5.620.
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AUTHORS' REPLY,—We concur entirely with Drs Davies and John about the choice of antibiotics in acute epiglottitis. Our district antibiotic policy recommends the use of intravenous chloramphenicol as first line treatment in epiglottitis. In this case, however, the emergency action taken was based entirely on clinical assessment of a patient who had undergone splenectomy and was susceptible to pneumococcal and staphylococcal infections in the first instance (there had been no consultation with the clinical microbiologists at that time). The priority was to relieve the obstruction and stabilise the patient. Within 12 hours the patient had started to improve and change of antibiotic treatment was considered unnecessary.

The confines of a brief report did not allow lengthy discussion on antibiotic use; we concentrated on the presentation of acute adult epiglottitis, a rare condition in itself, due to a rare organism.

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Private nursing home care

SIR,—We welcome the contribution made by Professor W J MacLennan (12 March, p 732). Private sector residential and nursing home care now provides care for 4% of all those aged over 65 and 20% of those over 85 in the United Kingdom. However, this rate of institutional care is low compared with that in other Western societies—for example, in France and Switzerland more than 6% of the over 65s occupy similar accommodation and in Australia 14% of the over 75s are in this type of care—a figure twice that for the United Kingdom.[1]

By 1997 it is projected that there will be more than 1 million people over the age of 85 in the UK. Since admission to long term care correlates with age, even at current rates of provision, expansion must occur somewhere. Limited growth has already occurred since 1976, when there were 71·5 places in local authority and independent homes for every 1000 people over 75 years; by 1986 there were 80 such places.[2]

Although the total figure has risen since the 1960s, there has been a reduction in the number of long stay beds within the National Health Service. There has been a slight increase in the number of local authority places, but the most striking change has been the increase in private sector provision since 1980. In 1986 less than half of all expenditure on long term care of the elderly (and the physically handicapped) was actually supplied as well as financed by the public sector,[2] reflecting previous state underprovision. With the continuing contraction of long stay NHS facilities and little change in local authority provision the private sector currently meets the shortfall. The private sector has the advantage of rapidly responding to demand, in contrast to the NHS.

The Griffiths report, however, may allow this continuing expansion to become more ordered since if the report is implemented local authority social services departments would be the agencies through which care could be bought from any sector, the client being assessed and placed in the accommodation deemed most suitable. Nevertheless, this concept hinges primarily on the political will to devolve power and resources to the local level, which is in some doubt.

However it is organised, there will remain problems with the continuing expansion of the private sector, of which ensuring quality is the most important. There is also the problem of maintaining continuity of care as raised by Dr J K Bynoe (12 March, p 788), although this could be

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solved by sending a copy of the discharge letter (under confidential cover) with the patient to the home's medical officer, as is the practice in Cornwall.

We echo Professor MacLennan's views on the maintenance of standards and the need for proper assessment before admission, particularly when demand is made on the public purse. We should examine the anomalies produced by the private sector's rapid expansion, learning from the experience that has led to this recent growth, and positively respond to the challenge of providing long term care of the highest possible quality.

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1 Anonymous. *Laing's review of private health care*. London: Laing and Buisson, 1987.
2 Anonymous. Rising numbers of very elderly [Editorial]. *Lancet* 1988;i:603.

SIR,—Professor W J MacLennan rekindles the debate about who should be responsible for the longstay care of the disabled elderly (12 March, p 732).

One major criticism he levelled against the private sector provision of such care was that physically alert but disabled people are likely to be placed with those suffering from severe dementia. If the findings from a recent study we conducted on the degree of mental and physical disability in the longstay wards of our geriatric department are representative this is what currently obtains in the public sector. Of 50 randomly selected patients in our longstay wards, 19 were alert, three were suffering from moderate dementia, and 28 (56%) were suffering from severe dementia; all were severely physically disabled, none scoring more than 20 on Barthel's activities of daily living index. In fact the patients with dementia were more severely physically disabled than those who were alert (table). Dementia was the single commonest reason for admission to the longstay wards.

Comparison of activities of daily living scores in patients in longstay wards

	No	Score		
		Mean	SD	SEM
Demented	31	8·52	5·43	0·98
Alert	19	12·21	5·12	1·17

$t=2·42$; $p<0·02$.

Modern geriatricians are motivated to develop assessment and rehabilitation services which allow the rapid throughput of larger numbers of the ill elderly and must not neglect their responsibility for placing those who require nursing care in a longstay environment.

Standards of care in private nursing homes must be ensured,[1] but so too must those in the public sector. Quality of life may be assessed casually or systematically[2] but there have been few studies of this type in either sector. Studies in the two differing environments might be most illuminating in showing what these elderly disabled people value about good health and what aspects of their ill health and living environments cause most concern.

As a society we are entitled to the most economical way of catering for those in need of long term care, though it seems that the methods used are sometimes determined not by the needs of the patients themselves but by political doctrine. Perhaps, as Dr Tessa Richards points out (5 March, p 659), what is required in Britain is more money spent on research related to the elderly so that among other things the best care packages for the disabled (and demented) elderly requiring long term nursing care can be determined.

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1 Day P, Klein R. Quality of institutional care and the elderly: policy issues and opinions. *Br Med J* 1987;**294**:384-7.
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Controlling symptoms in advanced cancer

SIR,—Dr T D Walsh's and Dr T S West's unbalanced article needs some redressing. May I take the omissions in order.

Firstly, pain from late stage solid tumours can be helped by local radiotherapy. This can even take the form of a single session of treatment—unconscionable in early disease but most convenient in late disease. With multiple lesions half body radiotherapy may be an acceptable short cut as well.

Secondly, four hourly morphine is passé. The sustained release type is now standard issue. The 10 mg tablets are probably too small; one should start with 30 mg twice a day and work up. There is a sustained release dihydrocodeine tablet from the same stable which is also useful in moderate pain. (I once worked a one in one rota, and the concept and desirability of an undisturbed night's sleep that sustained release products afford has not escaped me.) Also, the formulation appears to be less attractive to drug abusers.

Thirdly, I usually leave psychotropic drugs to my hospice colleagues; indeed their services have become indispensible. I am careful not to abuse the service by foisting social problems on them.

Fourthly, respiratory deaths are to be avoided; they equate with death by panic. Good, planned radical radiotherapy for bronchial carcinomas render local recurrence less likely. On an outpatient basis it costs only a few hundred pounds. If a patient has lymphangiitis and has never had radiotherapy why not consider it?

Rather surprisingly, the common problem of multiple lung metastases with dyspnoea has not been addressed. In my view it is an oncological emergency. In the case of a breast primary tumour I would advocate a combination of cytotoxic drugs plus steroids with a clearly greater than 50% chance of working. Such a combination might be ifosfamide plus mesna and (say) epirubicin or mitozantrone. It is no good pussyfooting around with weekly epirubicin or three weekly mitozantrone; these schedules should be reserved for the less acute condition, in which they are finding increasingly widespread acceptance.

Finally, I agree that suicide is rare. I have known a patient seriously overplay his hand with otherwise caring relatives, but psychopaths are not immune from cancer; indeed they do very badly.

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AUTHOR'S REPLY,—Our article was under the title "New Drugs" so Dr Xavier's comments about radiation therapy are redundant, although I am surprised he considers radiation suitable therapy for lymphangiitis carcinomatosis.

At the beginning of the article we gave adequate recognition to the potential benefits of chemotherapy, although this was not the focus of our article. It is, however, noteworthy that the role of chemotherapy used specifically to relieve symptoms in advanced disease is largely unproved.

I strongly disagree that the use of morphine given four hourly is passé. It is an important component of our analgesic drug therapy and the most flexible and efficacious method of dose titration to achieve pain control.[1,2] It is also invaluable as a "rescue" analgesic for pain breakthrough between doses of the sustained release morphine tablets.[3] We did in fact describe the practical use of these tablets and comment on their convenience.

Many radiation therapists and medical oncologists are untrained and unskilled in the symptomatic care of people with advanced cancer, and Dr Xavier's enthusiasm and interest in this subject is therefore welcome.

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2 Walsh TD, Cheeter FM. Use of morphine for cancer pain. *Pharm J* 1983;**231**:525-7.
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Dietary management of gastroenteritis

SIR,—While endorsing the recommendations made by Dr B A Wharton and others (13 February, p 450) on the importance of oral rehydration, the questionable benefit of regrading, the need to continue breast feeding, and the uselessness of drugs in the management of childhood gastroenteritis, be it in Britain or the developing world, I must take issue with the assertion that home made salt and sugar solutions should not be used.

Britain has lagged behind the developing world in treatment by oral rehydration. Reliance on intravenous fluid and slow regrading remains common, leading to prolonged hospital admission and unacceptable "therapeutic starvation."

In Zimbabwe oral rehydration using a home made salt and sugar solution (consisting of 6 level teaspoonfuls of sugar and half a teaspoonful of salt in a 750 ml fruit squash bottle full of water) is one of the main components of the primary health care programme. This solution provides early and effective treatment in the home and is backed by an extensive teaching programme and a philosophy of self reliance in health care. The same solution is used in hospital to reinforce mothers' belief in its efficacy. Recent studies have shown that even illiterate mothers can recall correctly the local formula, understand its use, and make up an acceptable solution.[1]

The only published study comparing salt and sugar solution with the complete formula recommended by the World Health Organisation has shown both to be equally effective in correcting dehydration, although more vomiting occurred in the group receiving the salt and sugar solution and some of these were hypokalaemic.[2] This was not associated with adverse clinical effects or failure of treatment. The occurrence of hypokalaemia has been confirmed in a recent Zimbabwean study and potassium supplementation of salt and sugar solutions is recommended.[3] However, few children in Britain are severely dehydrated or hypokalaemic at presentation.[4]

Parents and doctors may learn from countries

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