sister and a clinical assistant who also works in the diabetic clinic. Diabetics admitted to hospital are changed to 100 units of insulin immediately, but the diabetic liaison sister visits each patient to ensure a smooth changeover, whether they are on a medical or surgical ward, before discharge.

Unfortunately, specialised small units or geriatric hospitals often do not have a diabetic liaison sister and in these problems such as Dr Whyte reported occur. In our area one patient was discharged from one such hospital with 100 unit insulin but an old 20 unit syringe. Luckily an astute district nurse spotted the mistake before harm occurred. Perhaps in these units one trained nurse should be given the task of visiting each diabetic before discharge during the changeover period.

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SIR—After reading the letter by Dr Kenneth Whyte and others (25 June, p 2059) we report a case of recurrent hypoglycaemia after 100 unit insulin had been administered through an old (B5169) syringe.

A 69 year old woman whose insulin dependent diabetes mellitus had been well controlled for more than 10 years presented to the casualty department in a drowsy and confused state. Dextrostix showed a 0 reading for glucose, and the patient recovered after receiving 25 ml of 25% dextrose intravenously. She admitted that she had missed her breakfast on the morning of admission as she felt unwell. She was discharged without further investigation.

Later that evening (2100) she returned to casualty unconscious and unresponsive to painful stimuli. Random blood glucose concentration was 2.3 mmol/l (41 mg/100 ml). She was again treated with 50 ml of 25% dextrose, a 5% dextrose infusion was started, and she was admitted for observation. A further hypoglycaemic episode developed at 0630 the next morning. She was given a further 20 ml of 50% dextrose, her infusion was changed to 10% dextrose, and by 0930 blood glucose concentration had risen to 10.9 mmol/l (196 mg/100 ml). The patient's usual insulin treatment (Neulente 24 units) was withheld, and she was treated with small doses of short acting insulin. One further hypoglycaemic attack developed at 0130 the next morning (blood sugar 2.4 mmol/l (43 mg/100 ml)), but over the next 12 days the patient's condition stabilised.

When she recovered it transpired that her general practitioner had prescribed 100 unit insulin three weeks previously, but no new syringe had been prescribed. The patient had telephoned the surgery to query the prescribed insulin and was allegedly advised by the receptionist to draw up the same number of marks on the old syringe as the number of units of 100 unit insulin. Thus the patient was now receiving five times her usual dose.

It is perhaps surprising that it took three weeks to develop appreciable hypoglycaemia. There is no difference between the absorption of 100 unit and other insulins so this cannot account for the delay in symptoms.¹ The patient may have suffered from asymptomatic nocturnal hypoglycaemia and she described general malaise, lethargy, and confusion during this period.

This case illustrates the potential hazards of the changeover to 100 unit insulin. In the Burnley district our plans to implement the changeover have been postponed as the new syringes are not available. Despite extensive distribution of information, publications, and warnings by the British Diabetic Association,

this patient was prescribed 100 unit insulin without a 100 unit syringe. Practitioners faced with patients in coma or suffering recurrent hypoglycaemic attacks should consider the possibility of inappropriate administration of 100 unit insulin in an old syringe.

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¹ Swift PGF, Kennedy SO, Gerlis LS. Change to U100 Insulin does not appear to affect Insulin absorption. *Br Med J* 1983;286:1015.

SIR—One aspect of the changeover to 100 unit insulin not yet considered in detail is the amount of unused "old" insulin and number of "old" syringes likely to be returned. An estimate of this is important so that arrangements can be made to utilise this material. In this hospital, a 450 bed teaching hospital with a catchment area of 222 000, 140 of our diabetic patients treated with insulin (about 600) had been changed to 100 unit insulin by the end of May. We have analysed the old material collected.

The patients were invited to attend special outpatient group sessions for conversion to 100 unit insulin (apart from a few who were changed when admitted to hospital). In line with the recommendations of the British Diabetic Association they were all required to hand in their old insulin and syringes. Partially used insulin bottles plus syringes in poor condition and plastic syringes not in packets were discarded. In addition, there were 27 unused but expired insulin bottles, the oldest of which had a 1968 expiry date. All unused and unexpired insulin bottles and syringes were counted and costed by reference to local retail chemists.

A total of 200 glass syringes (retail cost £1000), 1060 plastic syringes (retail cost £130), and 358 unused insulin bottles (retail cost £1760) were returned. Thus, up to the end of May 140 patients have presented about £2900 worth of potentially usable materials (about £20 per patient). Given a similar finding in other diabetic clinics across the country and assuming a figure of 173 000 (3.5 per 1000 population) diabetics treated with insulin in the United Kingdom,¹ this would amount to about £3.5m of insulin and syringes becoming available during the whole period of the changeover. This may be an underestimate, as we have concentrated initially on patients using plastic syringes (93 of 140), which are cheaper than glass syringes, and many of these patients had long since discarded the glass syringes. Moreover, although some patients had undoubtedly hoarded insulin, the average number of viable insulin bottles was only 2.5 per patient and it is difficult to envisage much safe reduction in this wastage. It is to be hoped that some good use, national or international, will be found for this valuable stock.

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¹ Hedley AJ, Jones RB, Gale EAM, Tattersall RB. Prevalence of insulin-treated diabetes mellitus. *Br Med J* 1982;285:509.

Location of parathyroid adenomas by ²⁰¹Tl and ^{99m}Tc subtraction scanning

SIR—We are sorry that Dr Corcoran and others (28 May, p 1751) have been unable to

repeat our satisfactory experience with ²⁰¹Tl and ^{99m}Tc subtraction scanning for locating parathyroid adenomas. It is unfortunate that they should intimate that other centres have had a similar lack of success.

Our published results were pooled from two centres (London and Canterbury), where different staff and apparatus have achieved equally satisfactory results. Like Dr Corcoran, some other centres in London and elsewhere have initially had difficulty with the technique, but with greater experience they are now having success. Further support for the value of the technique comes from a recent paper from Venice.¹ It gives precise details of the method and experience with 61 patients with primary hyperparathyroidism. Of the 26 patients who underwent parathyroidectomy, glands were correctly localised in 24, figures comparable with our own series (30 April, p 1384). We have to date scanned 40 patients with parathyroid adenomas who have undergone surgery and correctly localised 35 of these.

FIG 1—Upper mediastinal adenoma, not found at first parathyroidectomy. Continuous line marks the limits of the thyroid gland as imaged with technetium.

FIG 2—Adenoma situated superior to upper pole left lobe of thyroid; not found at two previous operations.

Whether subtraction scanning is a more useful technique than venous sampling can be judged only by experience. We have now scanned four patients who have required

re-exploration after failed parathyroidectomy and unsuccessful venous sampling. We correctly located the parathyroid tissue in three of the four patients. The scans from the two most recent cases (figs 1 and 2) speak for themselves.

Dr Corcoran and others should gain experience in the technique and perform a proper trial before dismissing it on the basis of preliminary results. They will need to provide data of sufficient quality to stand against the results published in two respected medical journals which use peer review before accepting scientific papers.

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¹ Ferlin G, Borsato N, Camerani M, Conte N, Zotti D. New perspectives in localising enlarged parathyroids by technetium-thallium subtraction scan. *J Nucl Med* 1983;24:438-41.

Alcohol and the fetus in the west of Scotland

SIR,—As the obstetricians concerned with the Charing Cross Hospital project on drinking in pregnancy, we welcome further case reports of fetal alcohol syndrome (2 July, p 17) but are concerned that this dysmorphic condition that is relatively rare in the United Kingdom should not achieve the status of a major risk of normal pregnancy. Fetal alcohol syndrome is associated only with heavy drinking during pregnancy—that is, at least 80 g alcohol a day, the equivalent of eight large glasses of wine. This amount of drinking is clearly pathological but it is worrying that so few of the mothers of these babies are found to be at risk before their babies are born. The varied and protean nature of the associated malformations suggest that the different abnormalities may result from acute alcohol poisoning at different times in the pregnancy and particularly in the periconceptual period. The pathogenesis of the syndrome has yet to be established. Much more work should be concentrated on what the toxic dose of alcohol is and on its timing in relation to pregnancy so that clear advice can be offered to our expectant mothers.

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The sticky eyed infant

SIR,—We should like to comment on the leading article by Mr David Taylor (4 June, p 1770) concerning the aetiology and management of the sticky eyed infant. In the United Kingdom *Chlamydia trachomatis* was responsible for 169 cases of ophthalmia neonatorum reported to the Public Health Laboratory in 1982 compared with 35 cases of gonococcal neonatal conjunctivitis (Public Health Laboratory Service, Communicable Disease Surveillance Centre, London, CDR 1982/05—unpublished data). The true incidence of chlamydial ophthalmia neonatorum is un-

known because of misdiagnosis and under-reporting of cases.

A comprehensive review of chlamydial infections in neonates and older children by Hobson *et al* described neonatal conjunctivitis, contamination of other body sites, and systemic complications including pneumonia. Problems in diagnosis are discussed. Systemic antibiotic treatment is therefore recommended with oral erythromycin suspension (40-50 mg/kg body weight/day) in divided doses for 14-21 days. Topical treatment may be withheld, but chlortetracycline 1% eye ointment can be used.

Mr Taylor has omitted one of the most important points made in the references given in his article. Pierce *et al*² and Patamasucon *et al*³ emphasise the wider nature of neonatal chlamydial infection and advocate local and systemic treatment for the infant. They also recommend examination of the parents of an infant with chlamydial conjunctivitis, who may have asymptomatic infection with *C trachomatis*, treatment being given with tetracycline or erythromycin. The successful management of the family unit is an essential part of the treatment of chlamydial ophthalmia neonatorum.⁴

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¹ Hobson D, Rees E, Viswalingam ND. Chlamydial infections in neonates and older children. *Br Med Bull* 1983;39:128-32.

² Pierce JM, Ward ME, Seal DV. Ophthalmia neonatorum in the 1980's: incidence, aetiology and treatment. *Br J Ophthalmol* 1982;66:728-31.

³ Patamasucon P, Rettig PJ, Faust KL, Kusmiesz HT, Nelson JD. Oral v topical erythromycin therapies for chlamydial conjunctivitis. *Am J Dis Child* 1982;136:817-21.

⁴ Dunlop EMC. Chlamydial genital infection and its complications. *Br J Hosp Med* 1983;29:6-11.

SIR,—After the article by Mr David Taylor (4 June, p 1770), and the subsequent letters (25 June, p 2060), you may be interested in the results of a study of neonatal eye infections I carried out in the maternity unit at Ayrshire Central Hospital in 1979 and 1980.¹ Two swabs were taken from all babies presenting with a sticky eye during this period; one swab was immediately plated on to blood and chocolate agar, and the other was placed in chlamydia transport medium for inoculation on to McCoy cell cultures. The blood and chocolate agar plate was incubated in added carbon dioxide for up to 48 hours. A Gram film was also made and examined for the presence of pus cells and organisms.

Table I shows the results. Two hundred and twenty seven babies were examined from an approximate total of 10 000 deliveries in the two year period. Only one isolate of *Chlamydia*

trachomatis was obtained, from a baby with a very purulent discharge.

One reason why there were so few isolates may be that the incubation period for chlamydia infections is more than four days, by which time most babies have been discharged home or to other hospitals. The Ayrshire figures are very similar to those reported by Prentice *et al*² from Northwick Park Hospital (table II), where every affected baby had been paired with a healthy control. Their results showed that

TABLE II—Organisms isolated from neonates with conjunctivitis (percentages)

	Ayrshire Central Hospital	Northwick Park Hospital
<i>Str viridans</i>	19	16
<i>Staph aureus</i>	9	8
<i>E coli</i>	6	54
No growth or no appreciable growth	45	54

Streptococcus viridans, *Staphylococcus aureus*, and *Escherichia coli* were isolated significantly more often from the affected babies than from the controls.

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¹ Communicable Diseases (Scotland) Unit. *Communicable Diseases Scotland Weekly Report* 1981;81:30.

² Prentice MJ, Hutchison GR, Taylor-Robinson D. (1977) *Br J Ophthalmol* 1977;61:601.

Spina bifida and anencephaly

SIR,—Dr R C Shepherd (2 July, p 59) is mistaken to conclude that maternal serum α fetoprotein screening has had only a marginal effect on the falling incidence of neural tube defects in his hospital. If he had requested the data on terminations from our screening laboratory, he would have found that the incidence at Paisley Maternity Hospital has been reduced by 75% in the years 1976-81 (see table) by prenatal diagnosis and selective abortion. This is likely to be a minimum figure as it does not take account of all cases of anencephaly detected by ultrasound screening and terminated without recourse to either maternal serum α fetoprotein screening or amniocentesis.

In his leading article on spina bifida and anencephaly (28 May, p 1679), Professor Ian Leck refers to a number of reports indicating that terminations of pregnancy in Britain and Australia have had only a small effect on the declining incidence. This has not been the experience in the west of Scotland. Our maternal serum α fetoprotein screening programme started in 1975, and in the first two

TABLE I—Details of neonatal eye infections in 227 babies studied in 1979 and 1980

Organism	Total isolated	Pus cells		
		Abundant (+++ or +)	Scanty (+ or !)	Nil (-)
No growth or no appreciable growth	102	21	44	37
<i>Streptococcus viridans</i>	50	9	19	6
<i>Staphylococcus epidermidis</i>	25	13	7	3
<i>Staph aureus</i>	23	14	7	2
<i>Escherichia coli</i>	18	10	5	3
<i>Neisseria gonorrhoeae</i>	2	1	1	
<i>Chlamydia trachomatis</i>	1	1		
Other organisms	6	4	2	
Total	227	85	91	51