been tried and failed. If surgery does succeed, then certainly both stress incontinence and urgency incontinence can be cured.

Similarly, when the detrusor is stable both stress and urgency incontinence may be present. The aetiology of the latter is uncertain. Following surgery it has been shown that where frequency is improved urgency incontinence is also improved and vice versa.² It is this imprecise nature of "clinical urgency" which demands urodynamic investigation. It is not clear from the comments of Mr Lees and Mr Singer on the cases quoted why the decision to delay surgery had been correct.

I should like to know how they gauged the effectiveness of their operation without objective evidence. The simple procedure of coming to the examination couch with an empty bladder will naturally fail to disclose stress incontinence. Do they therefore ensure that patients are examined with the same volume of fluid in the bladder at each visit? How did they diagnose that the patient with recurrent incontinence had genuine stress incontinence rather than incontinence due to detrusor instability?

Finally, while readily accepting the importance of elevation of the bladder neck and proximal urethra in the control of incontinence, I should like to know what evidence there is that the pubocervical fascia is the essential element in this manoeuvre.

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¹ Bates, C P, Loose, H, and Stanton, S L, *Surgery, Gynaecology and Obstetrics*, 1973, **136**, 17.

² Stanton, S L, and Ritchie, D, *American Journal of Obstetrics and Gynaecology*, 1977, **124**, 461.

³ Stanton, S L, Williams, J E, and Ritchie, D, *British Journal of Obstetrics and Gynaecology*, 1976, **83**, 890.

Spectacle lenses and eye injuries in children

SIR,—I would be most grateful to know if there are any doctors in general practice or in casualty departments who would be kind enough to let me know if there have been any accidents to children as a result of their wearing spectacles with glass lenses as opposed to plastic lenses while engaged in school activities such as games or physical education.

I raise this because of recent concern in the medical profession over the matter of swimming goggles which shatter because they are made from acrylate rather than polycarbonate plastic.

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Immunisation and brain damage

SIR,—Earlier this year (30 April, p 1159) you kindly published my request for proof that the pertussis component of the triple immunisation was the causative agent in such cases of brain damage that could be regarded as sequelae to the immunisation. A few weeks later (28 May, p 1411) you also published a reply from Professor W Ehrengut in Hamburg who drew attention to a paper he had published in 1974¹ proving just that, and also demonstrating a

rate of serious complications of pertussis vaccination that seems greatly in excess of the rate of such complications as reported in Britain.

From a private communication from Professor Ehrengut as well as from other German publications I also understand that in West Germany pertussis vaccination is no longer offered as a routine measure but is now restricted to children living in institutions, in very large families, or under unusually poor hygienic conditions.

Meanwhile leading articles on this problem have appeared in the *BMJ* (2 July, p 5) and in the *Lancet*² advocating continued generalised pertussis vaccination. The abandonment of such generalised pertussis vaccination in West Germany is not mentioned in either of these articles, and among the 13 and 24 references appended respectively the paper by Professor Ehrengut does not appear. Why?

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¹ Ehrengut, W, *Deutsche medizinische Wochenschrift*, 1974, **99**, 2273.

² *Lancet*, 1977, **2**, 71.

Use of ritodrine in pregnant diabetics

SIR,—To avoid any misunderstanding may I add to my letter on the use of ritodrine in pregnant diabetics (9 July, p 124)? The controlled trial referred to was that of Blouin *et al*¹ in which oral ritodrine was given for up to 10 weeks to non-diabetic women who were pregnant.

In common with other β -mimetic drugs (Dr D J B Thomas and others, 13 August, p 438) intravenous ritodrine may cause a rise in blood glucose levels for up to 48 h. Despite continuing ritodrine infusion the glucose and insulin profiles return to normal within this time and remain normal during further treatment.² In a report of ritodrine treatment in two diabetic patients Dr Judith M Steel and Mr J Parboosingh (2 April, p 880) concluded that the drug has a place in the management of pregnant diabetics provided that the strong hyperglycaemic effect of the drug on intravenous injection is anticipated and countered by appropriate monitoring and adjustment of the insulin dose. On oral treatment no variations of glucose levels have been reported.

T C G SMITH

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Duphar Laboratories Ltd

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¹ Blouin, D, Murray, M A F, and Beard, R W, *British Journal of Obstetrics and Gynaecology*, 1976, **83**, 711.

² Bergstein, N A M, *et al*. Report on file, Duphar Laboratories.

Domiciliary oxygen

SIR,—I should like to make a few comments on your leading article on this subject (9 July, p 77).

The Portogen, referred to in your fifth paragraph, could be modified to run at 2 l/min, when it would last 50 min. Last year we offered to introduce a 230-l capacity cylinder with a refill back-up service if the Department of Health and Social Security would include it in the Drug Tariff. This was unacceptable to the Department because existing arrangements for supplying portable oxygen equipment through

the hospital and specialist services were considered adequate. Additionally, economic considerations apart, it was considered inappropriate to make any major change in domiciliary oxygen policy in advance of the conclusions of the current Medical Research Council trials on long-term oxygen therapy.

In your eighth paragraph you state that only the standard-size cylinders (1360 l) are prescribable on FP10 and that the cost of supplying 10-12 of these weekly is about £2500 per annum. Some hospitals obtain size G (3400 l) cylinders for domiciliary patients. For four of these per week we would only charge the hospital at the annual rate of about £270 at current prices.

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British Oxygen Co Ltd

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Acute suppurative thyroiditis caused by *Pseudomonas aeruginosa*

SIR,—In their report (27 August, p 580) of a thyroid abscess caused by *Pseudomonas aeruginosa*, Dr M Weissel and his colleagues describe the patient's rapid recovery following surgical drainage and "appropriate antibiotic therapy with penicillin."

Ps aeruginosa is naturally resistant to penicillin, which is therefore quite inappropriate for treatment. I suggest that the good recovery was due to surgical drainage and that no antibiotic was required. For infections with *Ps aeruginosa* that do warrant systemic antimicrobial therapy drugs such as carbenicillin and gentamicin are indicated, and, time permitting, the choice is best based on the results of sensitivity testing of the organism.

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Late infection after hip replacement

SIR,—Your leading article on this subject (23 July, p 213) contains several points which we think are worthy of comment.

Most of the confusion regarding the factors which are important in the prevention of infections of hip joint replacements could perhaps be dispelled by a thorough comparative study of the bacteria present in all of the possible source sites (for example, surgeon, air, patient) and those which subsequently are found to be implicated in deep infection of the arthroplasty. Faced with a similar problem in the case of shunting devices for hydrocephalus we were able to show by such methods that the source of the organisms was the patient's own skin.¹ Such a study should be carried out preferably *before* any conclusions are drawn as to the solution of the problem, otherwise a great deal of time and money is likely to be wasted.

In all of the publications to date dealing with a reduction in sepsis rate many differences in methods and conditions exist, and comparison is difficult. Indeed, it is true that similar results can be obtained with and without the use of "clean air"²⁻⁵ and the problem is probably multifactorial. The contributions of changes in technique and the use of prophylactic antibiotics, for example, cannot be ignored.

Also it should be borne in mind that, particularly in the larger series, a decrease in infection rate will be due in part to the fact that the problem is being investigated (the "Hawthorn effect"), resulting inevitably in greater awareness and therefore greater care among all grades of staff involved.

In our work with shunting devices for hydrocephalus we have found that "late" infections are invariably missed "early" infections.⁶ This was confirmed only because the patients were seen frequently after operation and serum antibody titres and C-reactive protein levels were estimated routinely, even when they were clinically fit.

Obviously true late infections may occur after total hip replacement and there is good evidence to support the view that such a diagnosis may be quite valid.⁷⁻¹¹ However, we would suggest that frequent follow-up coupled with routine serological testing would clarify whether these are true late infections or missed early infections.

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- ¹ Bayston, R, and Lari, J, *Developmental Medicine and Child Neurology*, 1974, suppl 32, p 16.
- ² Charnley, J, and Eftekhari, N, *British Journal of Surgery*, 1969, **56**, 641.
- ³ Collis, D K, and Steinhaus, K, *Journal of Bone and Joint Surgery*, 1976, **58A**, 446.
- ⁴ Ring, P A, *Journal of Bone and Joint Surgery*, 1974, **56B**, 44.
- ⁵ Turner, R S, *Journal of Bone and Joint Surgery*, 1974, **56A**, 430.
- ⁶ Bayston, R, *Developmental Medicine and Child Neurology*, 1975, suppl 35, p 104.
- ⁷ Burton, D S, and Schurman, D J, *Journal of Bone and Joint Surgery*, 1975, **57A**, 1004.
- ⁸ Creuss, R L, Bickel, W S, and von Kessler, K L C, *Clinical Orthopaedics and Related Research*, 1975, **106**, 99.
- ⁹ D'Ambrosia, R D, Hiromu, S, and Heater, R D, *Journal of Bone and Joint Surgery*, 1976, **58A**, 450.
- ¹⁰ Downes, E M, *Journal of Bone and Joint Surgery*, 1977, **59B**, 42.
- ¹¹ Hall, A J, *Journal of Bone and Joint Surgery*, 1974, **56B**, 144.

Malignancy in relatives of "non-responders" to Rh antigen

SIR,—It is well recognised now that about 20% on average, of Rh-negative male blood transfusion volunteers cannot be immunised to the Rh antigen despite repeated or varying doses of Rh-positive blood or both.¹⁻³ These "non-responders" are possibly immunologically incompetent to some extent despite their good health. In order to obtain further information on this point, we interviewed 25 such "non-responder" and 21 "responder"

donors concerning their detailed medical and family histories, with particular reference to malignancies and infections. We have not investigated the "responder" status of the relatives.

The accompanying table shows that in 267 relatives in the "non-responder" group there were 17 cases of malignancy (13 confirmed or both), while eight cases of malignancy (six confirmed) were found in the 297 relatives in the "responder" group. No evidence of an increase in infections was found.

For the findings to have any significance we would need at least 100 men in each group investigated similarly and hence a combined survey involving other transfusion centres is required. We would be willing to supply specific details of our questionnaire and data to those interested.

We are indebted to Sir Cyril Clarke and Professor R D Weir for their help and interest in this survey and to the Highland Health Board for a research grant.

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- ¹ Archer, G T, et al, *Revue Française de Transfusion*, 1969, **12**, 341.
- ² Cook, I A, *British Journal of Haematology*, 1971, **20**, 369.
- ³ Gunson, H H, Stratton, F, and Phillips, P K, *British Journal of Haematology*, 1976, **3**, 317.

Urinary incontinence in children

SIR,—Dr Roy Meadow has provided a great deal of useful information in his paper (27 August, p 567) and the *BMJ* is to be congratulated on continuing to highlight the problem of urinary incontinence, now apparently in the main stream after many years in the backwaters of medical interest. Whereas your leading article on stress incontinence (2 July, p 3) has been criticised by some correspondents on the grounds that it advocates over-investigation, I think Dr Meadow rather underemphasises investigation. Reading between the lines, it seems likely that he investigates the incontinent child's urinary tract by excretion urography, micturition cystography, cystometry, and endoscopy when simple measures fail. However, the lack of emphasis on investigation leading to accurate diagnosis of the bladder and urethral problem may mislead readers into thinking that there is no real point in investigating the incontinent child. This impression may be reinforced by

the paucity of treatment offered—namely, bladder expression, incontinence pads and appliances, catheters, and diversion. True, "urethral dilatation or other minor urological surgery" is mentioned in passing.

The overactive bladder causing incontinence may be treated successfully with anticholinergic drugs. Hydrodistension has also been used. Of course, bladder irritability may be due to infection, and this must first be excluded. Dr Meadow refers to the problem of dribbling around the catheter. This may result from bladder hyperactivity and may respond to anticholinergic drugs. Catheters blocked by debris or kinking may also cause bypassing. Intermittent drainage of urine is usually to be preferred, particularly in the older patient, since freedom from a bag makes the problem less obvious and also reduces the risk of ulceration of the bladder by the tip of the catheter, another cause of bladder irritability leading to bypassing. The smallest size catheter and the smallest volume in the balloon consistent with adequate drainage and security should be used. Large catheters and balloons are more likely to provoke bypassing. Intermittent catheterisation once or even twice daily in the female together with expression and training probably offers the easiest non-operative procedure when incontinence results from an atonic bladder. The mother can be trained to do this initially, and later the girl herself may be capable and willing to perform this simple procedure.

Dr Meadow mentions bladder training. This is important, and bowel training should also be considered, especially in the "neuropathic" group. The defecation reflex is often poor and a lower bowel loaded with faeces may interfere with bladder emptying, presumably by pressure on the bladder neck. Physiotherapy and electrical stimulation should also be considered, including the use of patient-operated miniaturised stimulators.

A great deal of work has been done in recent years to improve the diagnosis and subsequent treatment of the various types of urinary incontinence. The extent of this continuing work can best be seen in the Proceedings of the International Continence Society, which are published regularly in *Urologia Internationalis*.

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Effect of wholemeal and white bread on iron absorption

SIR,—The contribution by Drs R J Dobbs and I MacLean Baird (25 June, p 1641) has provided short-term evidence which, combined with that reported by other workers, indicates that consumption of bran or brown bread, because of the phytic acid contribution, can reduce the absorption of iron, calcium, and zinc. To carry conviction, however, it is necessary to demonstrate that, in a Western dietary context, habitually high consumers of phytic acid are unequivocally stigmatised in mineral status compared with low consumers.

The evidence incriminating phytic acid, based on relatively brief studies on humans and animals, is often at variance with epidemiological evidence, the principal exception being the experience in Iran.¹ In South Africa Blacks in rural areas are accustomed to a relatively high intake of phytic acid. Yet our

Malignancies in relatives of non-responder and responder donors

Relatives	Non-responder donors (n = 25)				Responder donors (n = 21)			
	Total No	Malignancies		Deceased	Total No	Malignancies		Deceased
		C*	Uc*			C*	Uc*	
Children { M	30				31			
F	32				18			
Brothers	34	1†			40			
Sisters	27				32	1		
Fathers	24	4	1		21			
Mothers	25	4	3		21			
Paternal aunts	21	1			28			
Paternal uncles	29	2			28		1	
Maternal aunts	23				44	1	1	
Maternal uncles	22	1			31	4		
Total	267	13	4	58	294	6	2	94
		(17)				(8)		

*C = confirmed, Uc = unconfirmed.
†Hodgkin's disease.