This is often improved if the patient can be persuaded to exercise the sphincters and pelvic muscles persistently and repeatedly.

I have no claim to specialised knowledge in this field. But I have been consulted informally by embarrassed women and in many countries—and often with apparently good results—so that I feel the reference to the possibility of exercise should not be neglected.

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SIR,—In your leading article on this subject (2 July, p 2) you rightly point out that urge incontinence may wrongly be interpreted as stress incontinence, with poor results from surgery. In this connection I would like to draw attention to the role of oestrogens in the control of urinary disorders in postmenopausal women and their beneficial effect in the treatment and prevention of these disorders.

The distal part of the urethra is of the same embryological origin as the vagina, is lined with a similar epithelium, and is under the same hormone control. Oestrogen deficiency during the menopause leads to atrophic changes in both organs; there is a decrease in elastic tissues and muscular tone. Oestrogen replacement, especially in the form of implants, improves menopausal symptoms, including urinary disorders.¹

Among 300 menopausal women specially studied, 160 complained of urinary troubles, chiefly of dysuria and incontinence. Of these, 90 underwent various repair operations with a 20% failure rate, and the majority of these women had been previously treated with antibiotics for recurrent attacks of cystitis. Oestrogen replacement alone, or with dilatation of the sphincter, achieved a definite improvement in urinary disorders in 70% of the patients.

The remaining 30% had to have surgical repair of the vaginal prolapse with elevation and support of the urethrovesical angle. The relatively high failure rate (20-30%) of repair operations is partly due to the fact that no distinction was made postoperatively between urge and stress incontinence. Oestrogen implants may also be helpful if given before the operation. They improve the condition of the vagina, make dissection easier, and promote healing.

Similar observations have been made by other workers in this field.²⁻⁴

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¹ Schleyer-Saunders, E, *Journal of the American Geriatric Society*, 1976, **24**, 337.

² Smith, P, *British Medical Journal*, 1976, **2**, 941.

³ Greenblatt, R B, *Geriatrics*, 1955, **10**, 165.

⁴ Greenhill, J P, *Clinical Obstetrics and Gynecology*, 1972, **15**, 1083.

Dysarthria with tricyclic antidepressants

SIR,—I was interested to read the report by Dr S E Quader relating to dysarthria as an unusual side effect of tricyclic antidepressants, (9 July, p 97).

Although it is unusual for dysarthria to develop on the small doses of antidepressants described in his two case reports, this side effect is not uncommon in patients on much larger doses and I have seen it associated with most of the tricyclic antidepressants, including

imipramine, desipramine, and clomipramine. The doses I refer to are in the range of 300-450 mg a day, and although this may be higher than the therapeutic range of some psychiatrists, such doses are justified in unresponsive patients with endogenous depression.

I agree that the nature of the dysarthria described is very similar to a stutter, but I do not think it has the characteristic pattern of a cerebellar dysarthria and would personally regard it as an involuntary movement which interrupts the normal process of speech and is most likely of basal ganglion origin. Indeed, I would most liken it to a very localised form of chorea.

In conclusion, I think it would be incorrect to say that this was a hitherto undescribed side effect, although it has certainly not been my experience to see it associated with the small doses used by Dr Quader.

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SIR,—I read with interest the case reports from Dr S E Quader (9 July, p 97) of dysarthria in two patients taking therapeutic doses of tertiary amine tricyclics. At the Regional Poisoning Treatment Centre, Edinburgh, in 1967, during clinical studies of tricyclic poisoning, scanning speech was noted in a high proportion of patients after consciousness was regained following moderate or severe poisoning. The pace and rhythm of syntax were altered so that speech came in bursts or "runs." This persisted for up to 48 hours. Speech changes following tricyclic overdose were commented on by Lewis and Oswald in 1968.¹

The overdosed patients had high plasma levels of tricyclics and derivatives but more recent work has shown that plasma levels of these drugs may differ widely among individuals following a fixed dose.² The tricyclics resemble chlorpromazine in chemical structure and share some pharmacological properties. High plasma levels of phenothiazines have been associated with adverse reactions, including speech disturbance ranging from aphonia to mutism.³

It is suggested that dysarthria associated with tricyclics is related to high plasma levels and it would be of interest to measure these in future patients showing this unwanted effect.

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¹ Lewis, S A, and Oswald, I, *British Journal of Psychiatry*, 1969, **115**, 1403.

² Kragh-Sørensen, P, Asberg, M, and Eggert-Hansen, C, *Lancet*, 1973, **1**, 113.

³ *British Medical Journal*, 1973, **1**, 755.

SIR,—Dr S E Quader's brief report (9 July, p 97) of two cases of dysarthria in patients receiving tricyclic antidepressants is interesting, but has he produced enough evidence to describe this as a "hitherto unrecognised side effect"?

It is almost invariable for patients receiving these drugs to complain of a dry mouth and throat and most psychiatrists have seen cases in which salivary secretion is so impaired as to make speech almost impossible. We should

be wary of attributing such symptoms to central action in the absence of more definite evidence of cerebellar involvement.

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Safety and danger of piped gases

SIR,—Piped oxygen in large hospitals is sensible for economical and practical reasons. The safety of patients cannot be decreased but (because oxygen cylinders can empty) is increased.

The argument that because oxygen is piped it is sensible to pipe nitrous oxide as well needs further thought. The saving in cost with nitrous oxide is much less than with oxygen and is relatively unimportant. The danger of piping any lethal gas is not, however, unimportant. Tragedies have occurred and will occur again; it does not matter what new "safety" measures are applied, the possibility will continue to exist that somebody, sometime, somehow will be given a gas mixture to breathe that contains no oxygen.

May I make a plea that no more piped nitrous oxide systems are installed? Careful thought should also be given to the safety of existing systems. The use of cylinders in operating suites may be inconvenient, but surely this inconvenience ought to be accepted in the interest of safety. The existing piping should either fall into disuse or be used for non-lethal gases. Examples might include compressed air, 28% oxygen enriched air, Entonox nitrous oxide/oxygen mixture, or extra suction as part of an active gas scavenging system. Anything but 100% nitrous oxide.

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Paget's disease of bone

SIR,—The report by Dr D J P Barker and others (7 May, p 1181) shows both the high overall incidence of Paget's disease and its regional variation in the 14 British towns which they investigated. By comparison the great rarity of Paget's disease in all Black people of the Bantu tribes throughout southern Africa is as curious, and possibly as significant, as Holmes's dog that failed to bark.

In the several years since we reported in the *South African Medical Journal* the first radiologically and histologically proved case in a Bantu man the great rarity of osteitis deformans in that race has remained very obvious. Nor is that due to failure to look for it or to identify it properly; because of language communication problems x-rays are over- rather than under-used in the major hospitals which provide specialist services for non-White patients.

While the disease is encountered occasionally in persons of mixed race (Coloured, Asiatic, Malaysian, etc), it is exceptional in the Bantu people. As a random example, Livingstone Hospital serves well over one million Bantu from several different tribes in eastern Cape Province and encounters no more than one or two suspect cases per year. Personal experience, supported by several colleagues, indicates that the usual finding in the Bantu is a localised and limited lesion, while the advanced, crippling,