ceptives, usually condoms and spermicides, are provided with these free of charge. If we could avoid the need to use two forms of contraception at the same time this would result in a considerable saving of money to the NHS, but above all it would relieve couples from the nuisance and inconvenience of having to use mechanical contraceptives, which so many of them dislike.

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Geriatrics in isolation

SIR,—It is difficult to share Dr W B Wright's view (30 July, p 315) that the confinement of doctors exclusively to an older group of patients would not provide the incentive for recruitment. Clearly there is no lack of incentive for recruitment of doctors to provide care exclusively to children (paediatrics). Some regions have already tried to make combined appointments, with some sessions in general medicine and most sessions devoted to geriatric medicine; this does not seem to have improved the situation significantly. It does not appear that Dr W E Bagnall and his colleagues (9 July, p 102) were advocating that the department of geriatric medicine should work "in isolation." It seems that they are able to provide a comprehensive service which is not in isolation. This can be done with the facilities, including the siting of most geriatric beds in three general hospitals where all the work in "acute" specialties are carried out, and adequate staffing, including 13 full-time doctors for 433 beds, which are available to them. In addition they seem to have good understanding and close co-operation from other clinical colleagues and administrators working in the same hospitals. There are also other units up and down the country which are providing efficient geriatric services and which have very similar facilities and staffing. With the redistribution of existing resources in the district, as recommended in the consultative document in 1976,¹ the difficulties in recruitment could be overcome and consequently it should be possible to provide an efficient geriatric service in all districts.

Many clinicians view geriatric medicine as an "unattractive" specialty mainly because of lack of knowledge of the "content" of geriatric medicine and very often junior doctors are dissuaded from taking up geriatrics by their seniors. On the other hand most geriatricians find the job to be busy, interesting, challenging, and rewarding. The other main factors causing difficulties in recruitment are lack of beds in general hospitals and the fact that in some districts there are still 200 or more beds allocated to one consultant geriatrician, while the level of junior medical staff available to him may be unacceptably low. In 1948 there were four consultant geriatricians and by 1973 more than 300.² In 1975 about 10% of geriatric consultant posts in England and Wales were unfilled, but this partly reflects expansion of the specialty. Although recruitment has improved within the past few years, speedy expansion itself has contributed to a significant number of unfilled posts. In comparison with 25-30 years ago much has already been achieved and the system of geriatric care which has been developed in Great Britain is acknowledged as among the best in the world. The number of people over 75 is expected to rise by half a million over 10 years. It is obvious that the care of the elderly and recruitment to the specialty have to be improved. It will be unfortunate if we have to throw away what has been achieved within the last quarter of a century.

Elderly people have a special need. This can be met satisfactorily by the medical and paramedical staff who have developed expertise by working in departments of geriatric medicine over many years. This cannot be abandoned simply because some would like to think of this as being an "unattractive" specialty despite the fact that the number of doctors, juniors and seniors, working in this specialty has increased considerably over the past few years.

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¹ Department of Health and Social Security, *Priorities for Health and Personal Social Services in England*. London, HMSO, 1976.

² Working Party of the Royal College of Physicians, *Lancet*, 1977, **1**, 1092.

Erythromycin in renal failure

SIR,—I was very interested in Dr Paul Sharpstone's paper "Prescribing for patients with renal failure" (2 July, p 36), but was surprised at the omission of any mention of erythromycin. May I be permitted to supply the missing information?

There is no need to alter dosage regimens of erythromycin in any degree of impairment of renal function.¹ Erythromycin is mainly excreted in the liver,³ with some enterohepatic circulation⁴ and elimination in the faeces.⁵ Only 2-5% of orally administered erythromycin appears in the urine, or up to 15% after intravenous administration.^{1,6} Neither peritoneal dialysis nor haemodialysis makes any significant alteration in serum levels of the drug.¹

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¹ *The Pharmacological Basis of Therapeutics*, ed L S Goodman and A Gilman, 5th edn, p 1225. New York, Macmillan, 1970.

² Bennett, W M, et al, *Journal of the American Medical Association*, 1974, **230**, 1554.

³ *The Pharmacological Basis of Therapeutics*, ed L S Goodman and A Gilman, 5th edn, p 1108. New York, Macmillan, 1970.

⁴ Hammond, J B, and Griffith, R S, *Clinical Pharmacology and Therapeutics*, 1961, **2**, 308.

⁵ Heilman, F R, et al, *Proceedings of the Mayo Clinic*, 1952, **27**, 285.

⁶ Martindale: *The Extra Pharmacopoeia*, ed A Wade, 27th edn, p 1131. London, Pharmaceutical Press, 1977.

Prevention and health

SIR,—Professor I M Richardson (9 July, p 128) calls for "a more clearly identifiable preventive responsibility." In many valuable contributions that he has made as a member of the Council for the Education and Training of Health Visitors he has been fully supported when he has raised the issue of renewed emphasis in the field of prevention—in this instance in relation to the development of health visiting. Recently this statutory body, which of course has responsibility for health visitor education and training, has been encouraged by the many reports in which the role of the health visitor has been acknowledged and the request made for more health visitors, a service running at the moment possibly at about half strength. At the same time the council is gravely concerned that recruitment to health visitor courses fell in the United Kingdom as a whole by 5.8% in 1976,

and preliminary returns suggest that it may fall again by upwards of 10% in 1977.

The Government has suggested a move towards resources for the preventive and community services.¹ Professor Thomas McKeown has pointed out to doctors that their role must be to educate, inform, advise, stimulate, and direct patients towards the basic rules of good health.² The CETHV for its part is ready and willing to continue to develop health visitor courses. When, how, and by whom will the shift of emphasis to the preventive service be begun?

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¹ Department of Health and Social Security, *Prevention and Health: Everybody's Business*. London, HMSO, 1976.

² McKeown, T, *The Role of Medicine: Dream, Mirage or Nemesis?* Rock Carling lecture 1976. London, Nuffield Provincial Hospitals Trust, 1976.

Maintenance digoxin after an episode of heart failure

SIR,—Concerning the comments of Drs S J Warrington and N A J Hamer (23 July, p 265) on our paper (19 March, p 749), our subsequent letter (21 May, p 1350) re-emphasises that all 13 patients with atrial fibrillation had impaired atrioventricular conduction ("slow fibrillators") and gives the numbers of these among those who deteriorated clinically on placebo (4/16) and those who did not (9/30). There was no significant difference in composition between the two groups in this respect ($P=0.26$, Fisher's exact test).

"Rapid fibrillators" were deliberately excluded from the study to avoid the confounding influence of controlling rate.¹ Historically, none of the 13 fibrillators had a ventricular rate exceeding 120/min and on placebo in only one of these did it exceed 100/min (110/min). It is dangerous to assume that only "slow fibrillators" are at risk of bradycardia on digoxin. Slowing of ventricular rate in atrial fibrillation is dependent on change in serum digoxin concentration, whether the untreated rate was "rapid" or "slow."² Since by definition this rate is lower in the "slow fibrillators" we recommend a lower dose for such patients, in whom the only indication for digoxin is heart failure, than that required in "rapid fibrillators" for control of ventricular rate.

Contrary to the implications of Drs Warrington and Hamer, had fewer patients with cor pulmonale presented during the study period the chest x-ray taken during the placebo phase might have shown frank pulmonary oedema in more cases. Similarly, the inclusion of patients with severe lung disease, whose respiratory function tests are more likely to exhibit irreversible changes, would militate against finding a significant difference in the within-patient comparison of spirometric values on digoxin and placebo. They state that the spirometric values were especially low in those who deteriorated clinically on placebo, but in fact there was no significant difference between the measurements on digoxin in this group and those who did not deteriorate clinically (FEV_1 , $P>0.1$; FVC , $P>0.2$; FEV_1/FVC , $P>0.1$; unpaired t -test).

Measurements of systolic time intervals were made under standard conditions. They were recorded at 10 am, after the patient's

normal breakfast, before his daily digoxin dose, and after at least 15 minutes' rest. Patients had become familiar with the technique during the period on digoxin prior to this study. Had we measured systolic time intervals in patients whose failure worsened clinically on placebo the influence of changes in ventricular volume, pre-load, after-load, etc, would have been predominant. Although Weissler and Schoenfeld³ found that the effect of a single intravenous dose of deslanoside in patients with severe heart failure was better reflected by the pre-ejection period (PEP) than the left ventricular ejection time (LVET), the indices (PEPI and LVETI) showed equally significant correlations with conventional haemodynamic measurements. Hoeschen and Cuddy,⁴ in patients on maintenance digoxin, found that doubling the dose had no effect on the PEPI but significantly shortened the LVETI.

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- ¹ Rogen, A S, *British Medical Journal*, 1943, 1, 694.
² Dobbs, S M, et al, *British Journal of Clinical Pharmacology*, 1977, 4, 327.
³ Weissler, A M, and Schoenfeld, C D, *American Journal of Medical Sciences*, 1970, 259, 4.
⁴ Hoeschen, R J, and Cuddy, T E, *American Journal of Cardiology*, 1975, 35, 469.

Sterilisation reversal requests

SIR,—It was with some interest that I read Mr R M L Winston's article (30 July, p 305). I was fortunate enough in the early 1970s to be able to take the Family Planning Association's training in vasectomy counselling, and up to fairly recently was regularly carrying out this work both for the FPA and on behalf of what was then a local authority. Even though a couple attended a counselling session with a view to the male partner being sterilised, my approach was always that the couple were attending for general sterilisation counselling which covered both male and female sterilisation. A specific method of sterilisation was advised on in detail only after all methods of contraception including sterilisation had been discussed. In my opinion, only by giving a minimum of 40 minutes to each couple and taking this general approach can one even start to attempt to ascertain that sterilisation is the appropriate choice of fertility control at that time and for which partner.

Mr Winston was, I am sure, expressing his concern, among other things, about what appeared with hindsight to be a large number of inappropriate female sterilisations. He admits that his sample was biased, for he gives no idea from what total population of sterilised women his patients were drawn. I would, though, have liked to see him recommend in his final paragraph certain measures which should routinely be adopted, such as I have mentioned in my first paragraph, thus aiming to prevent this particular method of fertility control becoming a target for unjustifiable criticism. I am aware that not everyone will share my view as I have on more than one occasion discussed with members of my profession their belief that sterilisation should be

granted to anyone who requests it, without in-depth counselling.

Even though the technique of sterilisation is a simple procedure, every couple should have the benefit of sufficient time being allocated to them to ensure adequate counselling for what should be one of their most important decisions. This time must be included somewhere in the referral process, be it in general practice, community clinic, or hospital out-patient department. Time spent on counselling is cost-effective when it aims to prevent for a minority a sterilisation which is regretted, but more important when it contributes to the well-being of the majority of patients sterilised.

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Genital yeast infections

SIR,—I was sceptical when I read of the attempts by Dr R N Thin and others (9 July, p 93) to associate genital yeast infection in women statistically with other sexually transmitted diseases. My colleagues and I¹ found vaginal yeast infections among 18.3% of married and unmarried pregnant women in a study primarily concerned with *Neisseria gonorrhoeae*. In studying the significance of these yeasts during pregnancy the influence of multiple factors was soon apparent. Firstly, the incidence of yeasts is underestimated if cervical rather than vaginal swabs are taken. Secondly, the incidence varies with the stage of gestation, the presence of glycosuria, and the prior use of broad-spectrum antibiotics. The other potent factor, not considered in our pregnancy study but obvious in other work and very relevant to the study of Dr Thin and his colleagues, is the effect of oral contraceptives on vaginal yeast colonisation. It seems more probable that the association of yeast infection with sexually transmitted diseases, though perhaps proved statistically, exists only because sexually active women using oral contraceptives are more likely to have both yeasts and sexually transmitted diseases. Equally so, in sexually active women, the absence of vaginal yeasts does not exclude sexually transmitted disease.

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- ¹ Maclean, A B, Paltridge, S, and Platts, W M, *New Zealand Medical Journal*, 1977, 85, 136.

Poisoning with antidepressants

SIR,—The correspondence which has followed the paper by Drs J Park and A T Proudfoot about maprotiline poisoning serves to underline the fact that the most commonly prescribed antidepressant drugs are rather toxic substances. The 323 deaths attributed to tricyclic drugs in 1974 by Dr P Crome and Miss Belinda Newman (23 July, p 260) presumably include cases in which a tricyclic was only one of several potentially lethal drugs ingested. My own method of calculating tricyclic drug deaths gives a lower figure,¹ and I think a fairer one, but it is still disturbing.

Since there is plenty of evidence that antidepressants are too often inappropriately pre-

scribed, it is surely important that the less toxic ones should be preferred. There are two non-tricyclic compounds—mianserin (Bolvidon; Norval) and flupenthixol (Fluanxol)—which appear to have caused no deaths when taken alone in overdosage. Both drugs compare with amitriptyline in their therapeutic effect and mianserin has fewer side effects.^{2,3}

In my view one or other of these drugs ought now to be the antidepressant of first choice in general practice, and even failure to respond ought perhaps to be an occasion for reviewing the diagnosis or seeking specialist advice rather than changing to a tricyclic drug. It is currently regarded as malpractice to use chloramphenicol except for specific indications because safer and equally effective drugs exist. I suggest that the same is becoming true of tricyclics and similar compounds, which cause far more deaths than chloramphenicol ever did.

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- ¹ Brewer, C, *British Medical Journal*, 1976, 2, 110.
² Coppen, A, et al, *British Journal of Psychiatry*, 1976, 129, 342.
³ Young, J, et al, *British Medical Journal*, 1976, 1, 1116.

How effective is measles immunisation?

SIR,—Drs M D Coulter and B M Jones (21 May, p 1347) reported their interesting experience of the measles epidemic which affected their practice at Sandy this spring. Six weeks later the same epidemic reached us 80 miles away at Bungay, on the Norfolk-Suffolk border.

In our practice 137 children caught measles. The disease was classically severe, prostrating many children for a few days. Numerous children developed purulent conjunctivitis, otitis media, or bronchitis. In addition two children developed pneumonia, another had a febrile convulsion, and another was markedly ill for several days with purpura. All children were cared for at home. There were five babies under 1 year and a further nine toddlers under 2 years old. The large majority, 114, were aged from 2 to 8 years. After the ninth birthday there was a sharp fall in incidence, with only nine children affected and no school-leavers or adults.

This was the largest measles epidemic in Bungay since we started using the live attenuated vaccine in 1968. For the past 20 years there have been the same four doctors in Bungay: two of us have advocated and performed measles inoculation and the other two have neither advised nor performed it. So I am in an ideal position to answer the question "How effective is measles immunisation?"

I studied the records of the 137 children in the present epidemic. Two had been previously inoculated against measles, the other 135 (98.5%) had not. Of these children, two had suffered a previous recorded attack of measles when they were younger. I also studied the records of 280 consecutive children whom my partner and I had personally inoculated against measles in the past nine years and who had remained in the practice. I found two children (as above) who had developed measles in this epidemic and a third child who had contracted measles in the 1975 outbreak. The other 277 children (99%) have so far escaped the disease. A number of these have suffered several attacks of otitis media or