demonstrate any benefit from urethral dilatation or urethrotomy; both have gained a place in the treatment regimen of the frequency-dysuria syndrome, but it is unwise to lose sight of the fact that no logical basis for such treatment exists.

To suggest that urethral surgery is effective a controlled trial of the results of surgery as opposed to other forms of treatment must be forthcoming and a lengthy follow-up undertaken. The comparison of post-mortem histological specimens with those removed at operation will be interesting. Until then fibroelastosis remains a hypothesis as nebulous as "reversible muscle spasm" because of a "local irritative urethral or bladder lesion."

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SIR,—You point out in your leading article (3 September, p 593) that rational treatment of urinary tract inflammation depends on differentiating between those who have relapsing or recurrent bacteriuria and those who do not. It would be so had it been demonstrated that these two categories of patient had any other regularly distinguishing feature apart from bacteriuria. As it is the majority of patients described as suffering from urethral syndrome are clinically indistinguishable from the others and are equally ill. Their treatment is more difficult only because, in the absence of bacteriological guidance, the practitioner perforce prescribes urinary antibacterials on a trial-and-error basis.

It is still possible to believe that there is one common inflammatory disease of the urinary tract in which significant bacteriuria is an inconstant feature—comparable with "open" and "closed" cases of pulmonary tuberculosis. Those who tell us that bacteriological examination of the urine allows us to separate "true infection" from "urethral syndrome" do not seem to me to have made their case.

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Prolonged malaria prophylaxis

SIR,—I would like to comment on the discussion (12 November, p 1287) about the ocular safety of chloroquine when used for malaria prophylaxis. It has been stated that at the dosage required there are no ocular effects.¹ The manufacturers of the various drugs advise ophthalmic examination after three years of continuous use. However, there is no test that will reliably predict the likelihood of retinopathy, and blinding retinopathy may develop after chloroquine has been discontinued. Recently reports have appeared of chloroquine retinopathy developing during its use for malaria prophylaxis.^{2,3}

During the past three years five patients from West Africa have been referred to the electrodiagnostic clinic of Moorfields Eye Hospital for investigation of loss of vision. All had been taking chloroquine for malaria prophylaxis over several years. Four of them had electrical retinal responses typically found in chloroquine retinopathy. One had normal retinal responses, but he was also on treatment with ethambutol. Fundus photographs avail-

able of two of the patients were also typical of chloroquine maculopathy.

A feature of the four patients with retinopathy was the difficulty in obtaining a history of chloroquine use. This was not volunteered and even on direct questioning about malaria prophylaxis one patient denied taking any drug until chloroquine itself was named. It seems to be regarded as an article of diet rather than medication. It was also difficult to estimate the total dose, three of the patients taking a few tablets each week and a few more when they had a fever. One patient had been taking Flavoquine (a French product) two tablets weekly for five years.

There seems little doubt that chloroquine used in malaria prophylaxis can cause retinopathy, although it must be admitted that excessive self-overdosage may be a contributory factor. I would agree with your expert that a safer drug may be needed for long-term malaria prophylaxis.

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- ¹ Appleton, B, *et al*, *Military Medicine*, 1973, **138**, 225.
² Trojan, H J, personal communication.
³ Schmidt, B, ISCERG Symposium, Ghent. In press.

Role of the hospital in primary paediatric care

SIR,—There are interesting figures in the letter from Dr M J Robinson and his colleagues (5 November, p 1215) which encourage a sense of proportion in the discussion concerning the role of hospitals in primary care.

During one week 212 children from a population of approximately 40 000 children attended the accident and emergency department at St Thomas's Hospital without referral from a general practitioner. Although figures from different practices vary, the second national morbidity survey¹ showed an average consultation rate of 3.01 consultations per patient per year. Moreover, the figures for the 0-14 age group showed a higher consultation rate than any other age group.

So it would be a conservative estimate to suggest that a population of 40 000 children would expect to see a primary care doctor (whether in general practice or hospital) 120 000 times in a year. This in turn suggests that during the week that the survey was carried out at St Thomas's there were 2308 consultations involving children in the district served by the hospital. In other words, while 212 children were seen at St Thomas's it is probable that in the same period 2092 consultations took place in general practice in the same district.

Food for thought.

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¹ Office of Population Censuses and Surveys, *Morbidity Statistics from General Practice: Second National Study 1970-71*. London, HMSO, 1974.

SIR,—While we would not dispute that "home-based schemes involving increased health visitor and nursing supervision of 'problem' families can make a real impression on mortality and morbidity" (Dr T Waterston, 15 October, p 1021) there are other factors operating in Sheffield which may well have contributed to the reduction in infant mortality rates. One of the most important of these factors is the existence in Sheffield of

a paediatric casualty department which has a 24-hour "open door" policy.

In a recent study of 831 children under the age of 2 years attending this department 32.5% attended with acute or subacute medical conditions. Over half of these children with medical conditions came to the department because of their parents' inability to contact the family doctor or because of dissatisfaction with his care. Ten children came because their parents did not have a family doctor.

The department in Sheffield has two main roles in the treatment of medical conditions in young children, both of which are encouraged. Firstly, parents who cannot find medical care elsewhere can seek alternative care, and, secondly, family doctors may refer children about whom they are concerned, knowing that there is quick and easy access to specialist paediatric care.

We agree that the medical care in such a department may not be optimal, because parents may encounter relatively junior doctors who are strangers or because follow-up may be limited, but these factors can be minimised by the addition of more senior paediatrically trained personnel to the staff and by establishing links with social workers, health visitors, and general practitioners in the community.

Although the responsibility for primary care must in the main rest with the family doctor, paediatric casualty departments can have a valuable supporting role which is particularly acceptable to "young problem families" who may not be registered with, or may be reluctant to consult, family doctors.

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SI units and acidity

SIR,—It is difficult to support the suggestion by Dr P J Tomlin (24 September, p 833) that the use of the Systeme International (SI) has led to problems in the interpretation of acid-base data, although it is apparent that people are still confused by the logarithmic pH notation. Thus Dr Tomlin makes an arithmetic average from the sum of logarithms (pH) and then not surprisingly arrives at a different result when he averages the sum of the corresponding antilogarithms. Equally if one wishes to determine a "normal range" for plasma pH one must first antilog the pH values individually and plot out the numbers as a histogram to see whether the distribution is of a simple Gaussian type, in which case a standard deviation may be calculated; if the scatter is skewed or bimodal a more complex approach is needed.

It should be borne in mind that there are four different ways of expressing acidity within the SI. The most familiar is pH itself, which has the drawback of being a dimensionless negative logarithm as well as being anomalous in some other less important ways.¹ The second way, which is well known to clinical biochemists but which Dr Tomlin seems to disapprove of, is to express H ion as a concentration in nmol/l from (antilog 9-pH). This is an approximation frowned on by some physical chemists; its use is justified by our great familiarity with concentration measurements in clinical biochemistry and by its value in aiding our understanding the treatment of severe metabolic acidosis with sodium