

difficulties in ascertaining which department members of the public should be passed on to, or elsewhere.

We suggest that health authorities should routinely monitor the response times of major hospital switchboards, and that these should be expected to reach similar standards of performance to those in industry and commerce.

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Primary care management of urinary tract infection in children

Sir,

Recently, a research unit from the Royal College of Physicians published guidelines for the management of urinary tract infection in children.¹ The lack of universal policies was recognized and recommendations were made for management, research and audit.

Prior to this publication, in July and August 1990, I surveyed 173 general practitioners in Cheshire to assess their management of children with suspected urinary tract infection. An anonymous questionnaire was distributed to practices within Crewe health authority. Replies were encouraged by a reminder one month later. Questions concerned urine collection, criteria for diagnosis, acute and prophylactic treatment, and timing and type of further investigations.

A total of 82 (47%) general practitioners responded to the questionnaire. The doctors estimated that they saw a mean of 6.3 children with symptoms of urinary tract infection each year. They were asked about method(s) used to collect samples; clean-voided urine samples were collected by 82% of doctors; sterile bag samples by 17% of doctors; clean pot-pot specimens by 13% of doctors; and one doctor considered urethral catheterization. Different techniques were used to diagnose infection, some doctors using more than one method. Twenty two per cent of practitioners made the diagnosis

on symptoms alone without culturing a sample; 73% relied on a single positive culture; 35% used microscopic findings of leucocyturia to assist them; and three doctors required two positive urine cultures.

For acute treatment, the most popular antibiotic prescribed by doctors was amoxicillin (35%). Thirty two per cent of doctors chose trimethoprim and 29% chose cotrimoxazole. Trimethoprim and cotrimoxazole were the two antibiotics most likely to be used for prophylaxis (chosen by 46% and 26% of doctors respectively). Thirty nine per cent of general practitioners investigated all children with symptoms of urinary tract infection; 20% of doctors investigated only if there was a recurrence of symptoms; and 34% investigated all boys following their first suspected urinary tract infection, and girls only after further infection.

These results raise a number of important points. A 47% response rate is low: replies thus do not reflect practices of all doctors in the area. However, within the group that did reply there was a wide variety of practices. One suspects an even greater diversity exists within the non-responders. A total of 22% of general practitioners diagnosed urinary tract infection without collecting a urine sample. It may have been that children without infection were being treated with antibiotics and subsequently investigated; while those children with urinary tract infection without symptoms obviously attributable to the urinary tract were being missed. The Royal College of Physicians' guidelines emphasize pyrexia, vomiting, failure to thrive, prolonged neonatal jaundice and suspected sexual abuse as indicators for the need to culture urine.

Despite the recommendations of the Royal College of Physicians over half of the doctors in this survey (54%) were not investigating all young children following their first suspected urinary tract infection. In particular, girls were only investigated following further infection. Thirty five per cent of the doctors used amoxicillin as their first-line antibiotic to treat acute urinary tract infection. There is increasing organism resistance to this agent.² Trimethoprim, cotrimoxazole, nitrofurantoin or an oral cephalosporin are suggested antimicrobials of choice.¹ Knowledge of current urinary tract bacteriology is obviously important.

The importance of diagnosing urinary tract infection in childhood is to relieve symptoms, to detect underlying treatable anomalies and, if possible, to prevent renal damage. Although my survey has many inadequacies, it suggests that symptomatic children may not be receiving appropriate

investigations. Children with chronic renal parenchymal damage represent a large proportion of those on renal replacement programmes.³ It is hoped that the new guidelines will clarify a previously confused area, raise the general level of awareness of doctors and provide the impetus for practical research.⁴ The impact of the guidelines on medical practice needs to be assessed by further studies.

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Computer assisted learning for general practice

Sir,

I was surprised to read in the article by Stanley and Stephens (April *Journal*, p.155) that a literature search had shown very few examples of computer assisted learning from general practice, and in a later part of the paper they comment that at present, computer assisted learning for general practice is in its infancy.

This teaching innovation in general practice was developed at the University of Glasgow in 1975, and the technique was published widely at the time.¹⁻⁶ It has been used for both undergraduate and postgraduate teaching in general practice. It is encouraging that after 16 years a similar system is being developed in other medical schools.

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