Four times as many baby boys have covert bacteriuria as girls,³ and infections, whether causing symptoms or not, should be thoroughly investigated because of the high proportion of associated urological abnormalities, such as reflux, stones, and obstruction.⁴ Investigations include ultrasonography, followed in selective cases by urography and cystography. Treatment of any infection will depend on the urinary pathogen and any underlying structural abnormality. *Proteus* species and other less common Gram negative bacilli may be found more often in boys (especially in those who are uncircumcised)⁵ and management will require close co-operation between laboratory and doctor.

Urinary symptoms in men aged between 15 and 55 should prompt a thorough search for their cause. Cystitis due to Gram negative or Gram positive organisms is uncommon and possibly related to the low rate of covert bacteriuria (0.5%),⁶ but dysuria and frequency with or without urethral discharge may be caused by urethritis due to *Neisseria gonorrhoea*, *Chlamydia trachomatis*, and possibly *Mycoplasma hominis* or *Ureaplasma urealyticum*. Such patients should be managed in a genitourinary clinic. Reports from the United States that urinary infections are more common in homosexual than in heterosexual men^{7,8} have not been confirmed in Britain.⁹ The prevalence and incidence of urinary infections among patients with AIDS are unknown.

Genitourinary tract infections apart, there remains a group of patients with prostatitis with or without epididymitis whose condition is difficult to define, diagnose, and manage.¹⁰ The prevalence of prostatitis is unknown, and diagnosis by the four glass method¹¹ is not widely practised. Culture of prostatic secretions or semen may yield a positive diagnosis. Most clinicians, however, rely for diagnosis on a combination of symptoms (backache, fever, frequency, and dysuria), prostatic tenderness, and positive results on culture of urine (attempts to culture chlamydia should be made). Treatment is aimed at achieving adequate antibacterial concentrations of agents such as erythromycin, cotrimoxazole, or tetracycline (rather than β lactam antibiotics). Treatment should continue for at least two and probably four weeks. Patients who have frequent relapses or in whom infection is difficult to clear may be suffering from "chronic prostatitis" and will require longer courses of antibiotics or, as a last resort, surgery.

Men with urinary tract infections due to conventional pathogens should always be investigated as urological abnormalities are likely to be present.¹² Recurrent infections, unusual organisms, and early relapse also suggest structural abnormalities of the urinary tract. Single doses or short courses of antimicrobial drugs are probably wrong, and treatment for two weeks is recommended. Patients with sterile pyuria or haematuria also merit investigations to exclude tuberculosis, malignancy, stones, and, when appropriate, schistosomiasis.

The prevalence of covert bacteriuria increases with age, approaching one in four men over the age of 70¹³ and is even higher in institutionalised elderly patients.¹⁴ Predisposing factors include instrumentation of the urinary tract, prostatic hypertrophy, the presence of urethral catheters, dementia, and concurrent infections such as pneumonia. The presence of infection has prompted studies of long term antimicrobial prophylaxis,¹⁴ which have concluded that routine treatment, short term or long term, is not justified in patients with asymptomatic bacteriuria. Treatment should be reserved for patients with symptoms, including those with bacteraemia, or before operations on the urinary tract.

P EGOWER

Department of Medicine,
Charing Cross Hospital,
London W6 8RF

- 1 Lipsky BA, Ireton FC, Fihn SD, Hackett R, Berger RE. Diagnosis of bacteriuria in men: specimen collection and culture interpretation. *J Infect Dis* 1987;155:847-54.
- 2 Lipsky BA. Urinary tract infections in men. Epidemiology, pathophysiology, diagnosis and treatment. *Ann Intern Med* 1989;110:138-50.
- 3 Bergstrom T, Larsen K, Lincoln K, Winberg J. Studies of urinary tract infections in infants and childhood. *J Pediatr* 1972;80:858-66.
- 4 Kiely B, Rees JP. Sex differences in urinary tract infections in children. *Ir Med J* 1984;77:384-7.
- 5 Wiswell TE, Smith FR. Decreased incidence of urinary tract infections in circumcised male infants. *Pediatrics* 1985;75:901-3.
- 6 Freedman LR, Phair JP, Seki M, Hamilton HB, Nefzger MD, Hirata M. The epidemiology of urinary tract infections in Hiroshima. *Yale J Biol Med* 1965;37:262-82.
- 7 Barnes RC, Diafuku P, Roddy RE, Stamm WE. Urinary tract infections in sexually active homosexual men. *Lancet* 1986;i:171-3.
- 8 Berger RE, Kessler D, Holmes KK. Etiology and manifestations of epididymitis in young men: correlation with sexual orientation. *J Infect Dis* 1987;155:1341-3.
- 9 Wilson AP, Tovey SJ, Adler MW, Gruneberg RN. Prevalence of urinary tract infections in homosexual and heterosexual men. *Genitourin Med* 1986;62:189-90.
- 10 Blacklock NJ. Prostatitis: modern trends in concept and management. In: Francois B, Perrin P, eds. *Urinary infections*. London: Butterworth, 1983:85-99.
- 11 Stamey TA. *Pathogenesis and treatment of urinary tract infections*. Baltimore: Williams and Williams, 1980.
- 12 Pead L, Maskell R. Urinary tract infections in adult men. *J Infect* 1981;3:71-8.
- 13 Nicolle LE, Henderson E, Bjorson J, McIntyre RN, Harding GKM, MacDonnell JA. The association of bacteriuria with resident characteristics and survival in elderly institutionalised men. *Ann Intern Med* 1987;106:682-6.
- 14 Nicolle LE, Bjorson J, Harding GKM, MacDonnell JA. Bacteriuria in elderly institutionalised men. *N Engl J Med* 1983;309:1420-5.

Desmopressin for enuresis

Useful in the short term

The main disappointment with all drugs for enuresis is that many children do not benefit from them and those who do¹ achieve only temporary dryness. Drugs thus take second place to the more laborious treatments for enuresis, such as enuresis alarms¹ and dry bed training,² which are of proved efficacy and commonly produce a long term cure. But for short term treatment to prove to patients that they can be dry or to allow them to visit a friend or go on holiday with confidence desmopressin is worth considering.

Only a few drugs have been shown by controlled clinical trials to be effective in enuresis.³ These include the tricyclic antidepressants—for example, imipramine and amitriptyline—and the antidiuretic desmopressin. The availability of desmopressin in a convenient metered dose aerosol (for intranasal application) calls for a reappraisal of its use in treating bed wetting.

There are at least 24 published trials of desmopressin for enuresis, and half of these were double blind and randomised in design. They show that desmopressin is superior to placebo in reducing the number of wet nights.^{4,7} When improvement occurs it is within a few days after starting treatment. Only a few patients (12-40%) become completely dry with treatment,^{4,6} although more (up to 80%) derive substantial benefit.^{4,8} Desmopressin seems to remain effective when used for several months or even years,^{5,9} but immediate relapse on stopping treatment is usual.^{5,6,8} Intranasal desmopressin is effective in dosages of 10-40 μ g a night, a higher dose sometimes proving effective when lower doses have failed.^{5,6} The drug has been used in children as young as 5 years and in adults. The best response rates seem to occur in children over 9 years.⁵ Desmopressin has an efficacy similar to that of imipramine¹⁰ but less than that of the enuresis alarm⁸—because of the relapse rate.

How desmopressin helps those with enuresis is uncertain. There is no doubt that it has an antidiuretic activity, but if that is its only mode of action it is curious that fluid restriction alone is rarely beneficial. Interesting work from Denmark showed that a small group of adolescents and young adults with nocturnal enuresis had considerably lower nocturnal vasopressin concentrations than normal controls.¹¹ But the suggestion that all children who wet their beds have low nocturnal vasopressin concentrations does not fit in with

earlier work that showed that such children did not have an increased nocturnal urine output compared with that in controls.^{12 13}

To date few adverse effects with desmopressin have been reported. Because minor side effects are common with the tricyclic antidepressants and because they are dangerous drugs to have in households (because of accidental overdose) desmopressin may be a safer drug to use. At present its use in Britain is limited to four weeks because of a lack of data on its long term use. Many other countries have licensed desmopressin without restrictions on its length of use, and as more studies are completed it may well be that longer use will be allowed and indicated in Britain. If long term use or repeated courses of desmopressin are considered then comparative costs will become increasingly important. At present one week's treatment with imipramine may cost 10 pence whereas one week's treatment with desmopressin will cost between £5 and £10, depending on the dose used.

S R MEADOW
Professor of Paediatrics
J HCEVANS
Lecturer in Paediatrics

Department of Paediatrics and Child Health,
St James's University Hospital,
Leeds LS9 7TF

- 1 Meadow SR. How to use buzzer alarms to cure bed wetting. *Br Med J* 1977;iii:1073-5.
- 2 Azrin NH, Sneed TJ, Foxx RM. Dry-bed training. *Behav Res Ther* 1974;12:147-56.
- 3 Blackwell B, Currah J. The psychopharmacology of nocturnal enuresis. In: Kolvin I, MacKeith RC, Meadow SR, eds. *Bladder control and enuresis*. London: Heinemann, 1973:231-57.
- 4 Aladjem M, Wohl R, Boichis H, Orda S, Lotan D, Freedman S. Desmopressin in nocturnal enuresis. *Arch Dis Child* 1982;57:137-40.
- 5 Post EM, Richman RA, Blackett PR, Duncan KP, Miller K. Desmopressin response of enuretic children. Effects of age and frequency of enuresis. *Am J Dis Child* 1983;137:962-3.
- 6 Kjoller SS, Hejl M, Pedersen PS. Enuresis treated with minirin (DDAVP). A controlled clinical study. *Ugeskr Laeger* 1984;146:3281-2.
- 7 Dimson SB. DDAVP and urine osmolality in refractory enuresis. *Arch Dis Child* 1986;61:1104-7.
- 8 Wille S. Comparison of desmopressin and enuresis alarm for nocturnal enuresis. *Arch Dis Child* 1986;61:30-3.
- 9 Delaere KP, Strijbos WE. Antidiuretic approach with DDAVP for nocturnal enuresis. *Acta Urol Belg* 1986;54:464-70.
- 10 Holt J, Borresen B. Enuresis nocturnal in school children in Bodø. A therapeutic trial with a vasopressin analog: desmopressin and imipramine. *Tidsskrift for Den Norske Lægeforening* 1986;106:651-4.
- 11 Norgaard JP, Pedersen EB, Djurhuus JC. Diurnal antidiuretic levels in enuretics. *J Urol* 1985;134:1029-31.
- 12 Vulliamy D. The day and night output of urine in enuresis. *Arch Dis Child* 1956;31:439-43.
- 13 Troup CW, Hodgson NB. Nocturnal functional bladder capacity in enuretic children. *J Urol* 1971;105:129-32.

Monitoring resuscitation

How to start and monitor, and when to stop

Difficulties arise in deciding whether to start resuscitation, when to stop, and whether the resuscitation attempt is proceeding satisfactorily. Research has been hampered by the lack of standardised formats for reporting incidents and of standardised treatments, but both are now available, which should improve collection of data.

For inpatients a decision should have been made beforehand about whether to resuscitate; the cardiac arrest teams should not have to make decisions in seconds, with little or no knowledge of patients and their illnesses. Four suggested potential reasons for limiting treatment are that the patient's health declines, the treatment is futile, the costs are too great, or the quality of life would be unacceptable.¹ To decide whether to start resuscitation is most difficult when the patient is brought into an accident and emergency department having had a cardiac arrest outside hospital or when the arrest occurs within minutes of arrival, and such emergency decisions must be made in favour of a resuscitation attempt.² Often basic facts such as the cause of the arrest, the patient's

age, the length of cardiopulmonary standstill, and the history are not available, although a rapid history should be sought from the ambulance crew while a doctor seeks vital information from an accompanying relative. Clearly, resuscitation must not be delayed, but enthusiasm for a prolonged attempt should be tempered in the light of adverse features in the history.

Monitoring the effectiveness of efforts at resuscitation is important. If the patient survives without cerebral damage we might congratulate ourselves, and if the patient does not survive then we may console ourselves by assuming that survival was impossible. Without taking into account all the variables outcome can, however, be only a crude measure of the effectiveness of the various techniques. Comparison of outcome among various centres, or indeed within a single hospital, is meaningless unless a standardised reporting system is used. Zideman recognised this problem and recommended a standardised reporting format.³ The United Kingdom multicentre study of in hospital cardiopulmonary resuscitation initiated by the Resuscitation Council (United Kingdom), which uses a standardised reporting format, should be published shortly and will provide valuable data.

A finger on the carotid or femoral pulse is the usual method to monitor circulation, but is a palpable pulse a measure of circulation or merely a shock wave? Kouwenhoven *et al* may have been optimistic in suggesting that a systolic pressure of 60-100 mm Hg was achieved during external cardiac massage, and they did not measure blood flow.⁴ Most studies investigating blood flow during external cardiac massage have used animal preparations, and a comparative study of five techniques of external massage on dogs concluded that high impulse manual compression generated better haemodynamics than other methods.⁵ Chamberlain *et al* questioned the applicability of the animal model to resuscitation in humans,⁶ but the work of Maier *et al*⁷ and Newton *et al*⁸ was instrumental in the recent decision by the American Heart Association to recommend an increase in the rate of manual compression to 80-100 times per minute. Newton *et al* have recommended a clinical trial in humans to evaluate the effect of this change.⁵

The Resuscitation Council (United Kingdom) has suggested firm guidelines for managing the rhythms of ventricular fibrillation, asystole, and electromechanical dissociation⁹ that are commonly found in patients who have had a cardiac arrest,⁹ and the American Heart Association has issued detailed guidelines for drug use during cardiac arrest.⁹⁻¹³

The cause of the arrest, the response to treatment, and the age of the patient are all important factors to consider when deciding whether to abandon a resuscitation attempt. Bedell *et al* found no survivors among 294 hospital patients who had had cardiac arrest if the attempt continued for longer than 30 minutes.¹⁴

Standardised treatment protocols currently being revised by the Resuscitation Council (United Kingdom), together with data collected at resuscitation attempts, should define effective forms of treatment and patients most likely to benefit from resuscitation.

DAVID V SKINNER

Consultant in Accident and Emergency Medicine,
St Bartholomew's Hospital,
London EC1A 7BE

- 1 Lo B, Jonsen AR. Clinical decisions to limit treatment. *Ann Intern Med* 1980;93:764-8.
- 2 Fox M, Lipton HL. The decision to perform cardiopulmonary resuscitation. *N Engl J Med* 1983;309:607-8.
- 3 Zideman DA. Cardiopulmonary resuscitation—the need for national surveys. *Journal of the World Association of Emergency and Disaster Medicine* 1985;1:291-3.
- 4 Kouwenhoven WB, Ing, Jude JR, Knickerbocker GG. Closed-chest cardiac massage. *JAMA* 1960;173:1064-7.
- 5 Newton JR, Glower DD, Wolfe JA, *et al*. A physiologic comparison of external cardiac massage techniques. *J Thorac Cardiovasc Surg* 1988;95:892-901.
- 6 Chamberlain DA, Gattiker R, Hart HN, *et al*. Recent achievements and present controversies in cardiopulmonary resuscitation. *Eur Heart J* 1987;8:438-43.