

# Nephrology in practice: a new series

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Delicate durability describes the human body, and nowhere is this more apparent than in the urinary tract. If the liver is all bulk and thunder, the heart fist and thrust and piston, and the brain a foamy paste of insubstantial electricity, the parts of the urinary tract — namely the kidneys, ureters, and bladder — are a tracery of tubules and ducts of such a fineness as would lay mad a master plumber, more, a Venetian glassblower.  
— Richard Selzer<sup>1</sup>

The kidneys and their complex microvasculature receive about one-fifth of the blood pumped from the heart every minute and continuously sift and discriminate between what is to be retained and what is to be expelled by the body. This humble excretory function — beginning long before birth when fetuses generate and replenish their own amniotic fluid — is perhaps the only significant task that the kidneys are perpetually ascribed in the minds of most of the general public. With less glamour in myth and the media than other viscera, critical renal homeostatic roles involving blood pressure, electrolytes, acid base, hematopoiesis and mineral metabolism are often overlooked. Further, relying on renal robustness, it is easy to forget that the delicate complexity of the kidneys makes them sensitive to a range of acute and chronic insults, from hypotension and hypertension to diabetes and drugs, inflammation and infections, and various vasculitides. Renal problems may reveal themselves dramatically with acute pain, hematuria or fever. However, it is not uncommon for subtle renal deterioration, the result of surreptitious and often irreversible wear and tear, to divulge itself only through blood or urine tests ordered for other purposes.

The burden of renal disease is large. The number of people with end-stage renal disease (ESRD) requiring renal replacement therapy continues to rise in Canada and throughout the world. The development of ESRD and the requirement for dialysis imposes significant burdens on the individual, the family and on society as a whole. Data from the Canadian Organ Replacement Registry<sup>2</sup> indicate that as of Dec. 31, 1999, 21 835 patients were receiving some form of renal replacement therapy. This included 8323 patients with kidney transplants and 13 512 patients on dialysis. The rate of increase in the number of patients receiving dialysis is of the order of 7% per year (with considerable variation by province and by age group).

Dialysis treatment is expensive. In 1993, Goeree and colleagues estimated that the costs of dialysis were \$54 929 for hospital hemodialysis, \$43 313 for self-care hemodialysis, \$31 918 for continuous ambulatory peritoneal dialysis and \$26 048 for home hemodialysis (all costs are expressed in 1993 Canadian dollars).<sup>3</sup> It is not surprising that much

effort in the nephrology community is directed at reducing the rate of progression of renal disease, or its outright prevention where possible.

The purpose of this new series is to familiarize readers with advances in areas of nephrology that have an impact on the investigation, prevention and treatment of renal diseases. The spectrum of renal disease covered in the series is broad, encompassing topics chosen with the help of a questionnaire sent to several members of the Canadian Society of Nephrology. The subjects of the papers in this short series include recurrent kidney stone disease, asymptomatic hematuria and proteinuria, safe drug prescribing for patients with renal failure and the optimization of several aspects of the medical care of patients with chronic renal failure. The series complements other articles already published in *CMAJ*, including guidelines for the referral of patients with elevated serum creatinine levels.<sup>4</sup> Reflecting their clinical relevance, the articles will be featured in the new “Practice” section of *CMAJ*. In addition, some are presented in a new *CMAJ* format, “At the Bedside,” which uses cases to launch short, practical descriptions of how to manage focused clinical problems.

The care of renal patients can be complex; individual authors were chosen because they are practising clinicians with diverse backgrounds in renal disease but also have specific expertise in the topics at hand. It is hoped that this short series will enable busy clinicians to do more to prevent, recognize and treat the factors that can lead to ESRD, thus stemming the epidemic. Comments about the contents of the series and suggestions for future series elements are welcome.

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Competing interests: None declared.

Contributors: Both authors contributed equally to volume, if not eloquence.

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