



Pediatric Clinic  
PATIENT EDUCATION HANDOUTS

## Complications in Children with Urinary Tract Infections

Urinary tract infections are a major cause of hospitalization in children. Untreated, they can be very serious, particularly in children under four years old. Fortunately, with prompt treatment childhood cases of upper urinary tract infections rarely cause any serious consequences.

**Spread of Infection.** Widespread infection is a major complication of a primary infection. It should be noted that laboratory tests in some infants with UTI may suggest the presence of meningitis (inflammation of the spinal column). This is ordinarily a serious condition, but, according to one study, in most of these UTI cases the outcome is good with treatment and there do not appear to be any neurological symptoms afterward.

**Kidney Scarring.** Kidney scarring is the major concern in children who develop serious or recurrent UTIs. Scarring in young growing kidneys is much more serious than in the mature kidney. Over the years, it increases the risk for hypertension and kidney failure. In one study, evidence of scarring developed in 6% of children who had been hospitalized for a urinary tract infection. Children most at risk for this complication include the following:

- Children with vesicoureteral reflux (VUR). (Carefully managed vesicoureteral reflux without scarring is not associated with serious complications.)
- Abnormally structured urinary tracts.
- Recurrent kidney infections.
- A delay in treating an acute UTI.

One encouraging 2000 study followed children with evidence of kidney scarring for 16 to 26 years. On average, their total kidney function was well preserved, although the scarred kidney had signs of lower function and patients with scarring in both kidneys were at higher risk for future problems. Earlier studies have shown poorer results, which, evidence suggests, are now improving with early detection and better follow-up.

*Review Date:* 10/1/2003

*Reviewed By:* Harvey Simon, MD, Editor-in-Chief, Associate Professor of Medicine, Harvard Medical School; Physician, Massachusetts General Hospital

The information provided herein should not be used during any medical emergency or for the diagnosis or treatment of any medical condition. A licensed physician should be consulted for diagnosis and treatment of any and all medical conditions. Call 911 for all medical emergencies. Links to other sites are provided for information only -- they do not constitute endorsements of those other sites. Copyright 2003 A.D.A.M., Inc. Any duplication or distribution of the information contained herein is strictly prohibited.