

Pediatric UROLOGY

Although most people don't associate urinary problems with babies, about 1 percent of newborns have defects that interfere with this essential function.

If expert urological care isn't provided, some of these children eventually may experience kidney failure that requires dialysis or a kidney transplant.

One of the most common urinary conditions seen in newborns is hydronephrosis, or fluid-filled enlargement of the kidney. Detectable in fetal ultrasounds, "hydronephrosis isn't a disease in itself," says **Dr. Antoine Khoury**, a pediatric urologist with University of California, Irvine Healthcare. "Rather, it's an indication that an obstruction or other problem may be interfering with the normal flow of urine from the kidneys and ureters to the bladder and urethra." Recently named chief of pediatric urology, Khoury is internationally known for his expertise in the medical and surgical management of complex pediatric urology conditions, including kidney transplantation. Among these disorders are incontinence, genital anomalies, urological cancer and the causes of hydronephrosis, including:

• Ureteropelvic junction (UPJ)

obstruction. Normally, urine flows from the kidney to the bladder through a tube called the ureter. The most common site of a urinary blockage causing hydronephrosis in newborns is the point where the kidney and ureter connect. "UPJ can cause urine to back up, sometimes leading to permanent kidney damage," says Khoury. Affecting about one in 200 newborns, the condition often improves on its own. However, children must be tested periodically to verify that their kidneys are functioning normally. "In more severe cases, surgery is necessary," says Khoury. Called a pyeloplasty, the operation involves removing the obstructed segment of the ureter and reattaching the remaining healthy section to the kidney.

• **Vesicoureteral reflux (VUR).** "A one-way valve at the junction of the ureter and bladder

normally prevents urine from backing up into the ureter and kidney," says Khoury. "VUR is a condition caused by a defect in this valve." Three out of four children who have VUR outgrow it. But they must take low-dose antibiotics for several years to prevent kidney infections that can develop when infected urine flows backward from the bladder into the kidney. For severe cases of VUR, or when children taking antibiotics experience breakthrough infections, surgery is necessary. The procedure involves reconstructing the valve mechanism to prevent the backflow of urine. This is done as open surgery for children with severe VUR and as a minimally invasive procedure in milder cases.

• Posterior urethral valve (PUV)

obstruction. PUV is the most common cause of severe urinary blockage in male newborns. The condition occurs when flaps of extra tissue in the urethra—the tube leading from the bladder to the outside of the body—partially block the normal flow of urine. "This can cause the organs along the urinary tract to become distended, resulting in the destruction of cells and tissue," says Khoury. Doctors can remove the excess tissue during a minimally invasive procedure called valve ablation. Reconstructive surgery may be necessary in some cases. Ongoing follow-up care—sometimes well into adulthood—is necessary even for children who don't require surgery.

But overall, the outlook for newborns with hydronephrosis is excellent. "In a majority of cases, the condition disappears on its own by the child's first birthday," says Khoury. "For children requiring surgery, the success rate approaches 99 percent." Khoury also treats a wide spectrum of other pediatric urological problems ranging from neurogenic



bladder—a condition in which the absence of coordinated nerve signals results in the loss of bladder control—to cases where infants are born without a bladder or kidneys.

For referral to a pediatric urologist, call 714.456.7005.

URINARY TRACT FACTS

KIDNEYS	Organs that form urine and filter wastes from the blood
URETERS	Tubes leading from the kidneys to the bladder
BLADDER	Sac that holds urine
URETHRA	Tube that drains urine out of the body from the bladder