

		torsion	
Plain film of the abdomen	Flat plate radiograph of abdomen and pelvis for KUB	Can identify certain types of stones that are calcium containing as well as calculi or opaque foreign bodies in bladder (diagnostic test of choice for nephrolithiasis is noncontrast helical CT) Assess stool burden	Prepare as for routine x-ray film
Voiding cystourethrography	Contrast medium injected into bladder through urethral catheter until bladder is full; films taken before, during, and after voiding	Visualizes bladder outline and urethra, reveals reflux of urine into ureters Provides information on bladder emptying and is also used to diagnosis PUV	Prepare child for catheterization Should not be done at time of active UTI
Radionuclide (nuclear) cystogram	Radionuclide-containing fluid injected through urethral catheter until bladder is full; images generated before, during, and after voiding	Alternative to voiding cystourethrography to evaluate reflux, although visualization of anatomic details is relatively poor Used in some institutions for follow up if initial VCUG due to less radiation	Prepare child for catheterization
Radioisotope imaging studies (renal scans)	Contrast medium injected intravenously; computer analysis to measure uptake or washout (excretion) for analysis of organ function	DMSA radioisotope used to visualize renal scars and differential renal function; does not visualize ureters and bladder MAG3 radioisotope assesses obstruction and differential function between the two kidneys DTPA is an alternative to MAG3 but imaging is limited because it is only filtered at the glomerulus	Insert or assist with insertion of IV infusion Monitor IV infusion Urethral catheterization may accompany MAG3 scan; prepare child for catheterization when indicated
MRI	Uses strong magnetic fields and radio waves to form images	MRI of kidneys used to evaluate renal mass Magnetic resonance angiography used to evaluate renovascular hypertension and has reduced need for	MRI often requires sedation in infants and children due to need to stay still, typically in an enclosed space; follow NPO guidelines depending on timing of study