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## NEUROGENIC BLADDER FOLLOW UP PLAN

### FREQUENCY OF MONITORING

Although there is no official recommendation on what type of tests and how often they should be done, Spinal Cord Injury (SCI) patients should have the bladder and kidneys checked every year. The American Paraplegic Society 1999 guidelines for urological care of SCI patients recommend yearly follow-up for the first 5 to 10 years after injury, including upper and lower urinary tract evaluation.<sup>1</sup>

The kidneys and kidney tubes (ureters) can be evaluated with either functional (renal scan, computed tomography) or anatomical studies (renal ultrasound).<sup>2</sup>

The bladder evaluation may include post void residual bladder scan, pressure study (urodynamics), bladder x-ray (voiding cystourethrogram (VCUG) and look inside the bladder (cystoscopy).<sup>3</sup>

Urodynamics are recommended at the same intervals as upper and lower urinary tract evaluation or more frequently if urinary symptoms, medication or management changes.<sup>1</sup>

**After injury:** Regular visits and urodynamic testing is required until the bladder pressure is safe and there is no urinary leakage.<sup>4</sup>

**First 5 to 10 years:** Urodynamic study and upper tract study (kidney/bladder ultrasound, Lasix renal scan or CT) every year.<sup>1,4</sup>

**After 8 years:** Cystoscopy is recommended every year in SCI patients with indwelling catheters and intermittent catheterization due to the 5% risk of bladder cancer (squamous cell carcinoma).<sup>1,2</sup>

Cystoscopy should also be done for blood in the urine, recurrent urinary tract infection, catheter blockage and autonomic dysreflexia (sudden elevated blood pressure, low heart rate, pounding headache, flushing, sweating, goose bumps and anxiety with spinal cord injury at T6 or higher).<sup>5</sup>

**After 10 years:** If the bladder pressure is safe and kidneys are healthy, patients are followed every other year with alternating urodynamic study and upper tract study.<sup>6</sup>

All spinal cord injured patients require **lifelong** monitoring of the upper and lower urinary tracts.<sup>1</sup>

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