

GENERAL PATIENT GUIDE TO URINARY DIVERSION

There are 3 basic categories of modern urinary diversions: (1) incontinent bowel conduit (e.g. **ileal conduit**) (2) continent orthotopic urinary diversion (**ileal neobladder, aka Studer Pouch**) (3) continent cutaneous stomal reservoir (**Indiana pouch**).

(1) Ileal Conduit:

An ileal conduit is the simplest, most time-tested urinary diversion that requires the least operative time and arguably is associated with the fewest complications. A short piece of ileum is united with the ureters and brought onto the skin. A life-long urostomy appliance to collect urine is required. Although time-tested, short-term and long-term issues with ileal conduit diversions are not uncommon. The best available data reveal that issues with ileal conduits include the following: ureteral stricture/obstruction (i.e. narrowing of where the ureter enters the conduit) (~15%), recurrent kidney infections (~ 25%), urinary stones (this complication often occurs beyond 5 to 10 years after surgery, ~10%), impaired kidney function due to obstruction or ureteral reflux (~27%), and stomal complications (~25%) such as parastomal hernia, stenosis, and bleeding/skin irritation. Furthermore up to 25% of patients may have bowel complications, such as small bowel obstruction, fistula formation, and diarrhea. The vast majority of issues that arise can be handled non-operatively, but some do require re-operation.

(2) Ileal Neobladder:

Ileal neobladder is constructed from detubularized bowel, which is then sewn into a spherical reservoir for urine storage. The neobladder is united with the ureters and with the urethra, to mimic functions of the native bladder. The goal is for the patient to void spontaneously using the Valsalva maneuver (i.e. abdominal straining). Choice of proceeding with the neobladder vs. ileal conduit must be balanced against additional issues and risks. Along with risks listed for ileal conduit diversion (above), potential

problems can arise with the ileal neobladder. These issues include urinary leaks from suture lines (in general these can be managed non-operatively), and a life-long risk of pouch perforation. Most importantly, one must be aware of the risks of incontinence (urine leakage) and hypercontinence (inability to empty neobladder and life-long need for catheterization). The risks of day-time incontinence are on the order of 10%, while the risk of nighttime incontinence are approximately 20%. With regard to hypercontinence and poor pouch emptying, approximately 5% of male patients will require life-long intermittent catheterization. Such risks can reach 30% in female patients with neobladders. Furthermore, neobladder-vaginal fistula formation is a great concern when a neobladder is constructed in women (~5%). Continent urinary diversions are contraindicated in patients with poor kidney and liver function, but unusual metabolic disturbances are possible even in patients with intact renal/liver function.

(3) Indiana Pouch:

Indiana pouch is constructed from detubularized right colon. The pouch is catheterized through the native ileocecal valve via a segment of the ileum that is brought onto the skin. All risks that pertain to ileal conduits and neobladders generally apply to patients who undergo a cutaneous continent diversion such as an Indiana pouch. These include risks of stomal stenosis, pouch stomal formation, incontinence, and metabolic disturbances. Furthermore, because the ileocecal valve is resected, some post-operative diarrhea can be expected. Such symptoms usually can be controlled with over-the-counter medications. Life-long catheterization and irrigation regimen is required with this diversion. A small percentage of patients may leak from the stoma site, necessitating permanent use of an ostomy appliance.

Indiana Pouch Urinary Diversion – patient catheterizes a cutaneous stoma

(4) Other Important Issues:

Patients who chose to undergo continent diversions such as neobladder or Indiana pouch, need to be prepared to commit to the following in the post-operative period:

- Keep drains as long as needed (for neobladder for example, the catheter and suprapubic tube stay on the order of 2-3 weeks, but possibly longer)
- Return for appointments as often as needed.
- Empty neobladder/Indiana pouch every 2 hours for 1 month
- Empty neobladder/Indiana pouch every 3 hours for 1 month
- Empty neobladder/Indiana pouch every 4 hour for life

Risks of sexual dysfunction: In males rates of erectile dysfunction are substantial, since removal of the prostate – an integral part of radical cystectomy – results in compromise of the neurovascular bundles that innervate the penile corpora. Fox Chase Urologic Oncologists perform nerve-sparing cystoprostatectomy whenever possible; however, these surgical techniques have significant limitations. For female patients, because the anterior vaginal wall is resected, vaginal capacity is often compromised despite reconstructive efforts.

For more information on bladder cancer, please visit the National Cancer Institute webpage: <https://www.cancer.gov/types/bladder>

Also visit: foxchase.org/bladdercancerwebinar

<p>Please do not hesitate to call our office with any questions that may arise prior to the next visit.</p>
