

Bladder Augmentation (Enterocystoplasty)

Why do I need this surgery?

A bladder augmentation is a surgical procedure that is performed so that the bladder can safely store larger amounts of urine without causing high pressures or urinary leakage. It is performed for people who have otherwise untreatable urinary incontinence (leakage) or dangerous bladder conditions that may damage kidney function. The goals of these procedures are to improve a person's long term health and quality of life.

What is done during the surgery?

A bladder augment surgery is performed in the operating room under general anesthesia. The procedure can take 3 to 5 hours, depending on the complexity.

During this procedure, the bladder is made bigger. Your surgeon isolates 30 to 45 cm of intestine from the GI tract. The GI tract is then reconnected so that normal bowel function is restored. Your surgeon then sews the isolated segment into a "patch" and connects the "patch" to an opening in the bladder. In other words, think of this as building an addition (augmented patch) onto a house (bladder) to create a larger space for urine storage.

During the surgery, an additional catheter called a suprapubic tube (SP tube) is placed through the top of the bladder. This tube will come out next to your incision and will also drain urine. This tube provides extra protection by decompressing the bladder.

Generally, these procedures are performed as an open procedure, through an incision. However, some patients may be candidates for a robotic assisted

procedure in which the surgery is performed by inserting a camera and instruments into the abdomen through 5 separate small “keyhole” incisions. Your surgeon performs the same procedure, except without the incision in the abdomen.

Will I be able to urinate after the surgery?

No. You will need to drain your augmented bladder through clean intermittent catheterization by inserting a catheter into your urethra (where urine normally exists) or into a continent stoma on your abdomen.

What is a continent stoma?

In some cases, a continent stoma is created during the bladder augmentation so that you can drain your augmented bladder more easily. A continent stoma is a small tube made out of appendix, bladder, or intestine that connects a small opening on your abdomen to the bladder. You can insert a catheter into this opening, access your bladder, and drain the urine. The continent stoma has a biologic valve in it to prevent urine from leaking. You may meet with an enterostomal therapy nurse prior to surgery to find to optimal location for the stoma on your abdomen.

What happens during the hospital stay?

Your hospital stay usually lasts 3 - 7 days. You will wake up from the surgery with a tube in your nose (NG tube) that decompresses your stomach and keeps you from vomiting. We remove the tube at the bedside when your intestines wake up and resume function, usually 3 - 5 days after the surgery. We begin to advance your diet during this time, starting with clear liquids. Until your bowels start functioning, we give you fluids through and IV in your veins. If your bowels take longer than 7 days to awaken (called an ileus), your nutrition will be additionally supplemented through your IV. You may also have

additional drains placed during surgery that will likely be removed before you are discharged from the hospital.

You may have some post-operative pain after the procedure. While in the hospital, this is treated with a Patient Controlled Analgesic device (PCA). With this device, you can immediately receive a safe dose of pain medications, up to a certain dose, every few minutes. Nurses may also give additional pain medications as needed.

During the hospital stay, you will meet many people who are involved in your care. University of Michigan is a teaching hospital, meaning that the Department of Urology is dedicated to training resident physicians. Residents are MD's at various stages in their training. Residents round on patients, address immediate needs, and carry out the plan on the attending physician (your surgeon). At U of M, we believe strongly in a team approach to medicine and the nurses, residents, and other medical professionals all work together to carry out the attending physician's plan and insure safe, quality post-operative care.

What happens when I go home?

Generally you will be discharged to home when your vital signs are stable, your pain is controlled, and you can feed yourself. Usually you are discharged with at least one catheter to manage. At home you should be active - sitting in chairs, moving around, - but try to avoid any prolonged activity that involves strongly tensing your abdominal muscles. This includes exercise, lifting heavy objects greater than 10 pounds, playing sports such as golf. You may drive when you no longer need pain medication and your activities are not limited by pain. You may shower but do not sit in the bathtub. It is safe to get the incision, stoma, or catheter wet, as long as you pat it dry afterwards.

You will have your staples in the incision removed either in the hospital prior to discharge, at home by a visiting nurse, or at a return visit to your surgeon's clinic.

What do I do about the mucus in my urine?

Urine will initially cause the augmented bladder to secrete more mucus. This is a normal condition and may last for several weeks after the procedure. While at home, you will irrigate your bladder at least once a day with 30cc of sterile water. This is done by attaching a filled syringe to the suprapubic tube and slowly injecting the 30cc into the bladder. The syringe is then detached and the irrigation is allowed to drain through the catheter by gravity. Some people require irrigation twice a day. You should irrigate your bladder if no urine has come through the suprapubic catheter in the last 2 hours.

There will always be a small amount of mucus in the urine after this procedure. However, if there is a large volume of bothersome mucus persists in the urine after 6 weeks, taking a baby aspirin (81mg) will frequently decrease the volume of mucus produced.

What are the risks of this procedure?

All surgery carries some risk and it is not possible to fully define the risk for each patient prior to surgery. We work with your internist and neurologist to optimize your health and minimize your risk prior to surgery. If you have any underlying heart or lung problems that are currently being treated please inform your surgeon and request that your primary physician is involved in the pre-operative planning

General anesthesia rarely can cause pneumonia, heart problems, damage to the mouth and airways. Your anesthesiologist will talk with you prior to the surgery to go over this risk in detail.

Complications that can occur during bladder augmentation include but are not limited to wound infections, bleeding, injury to the bowels/bladder, large blood vessels, or other organs. Bowel obstruction can also occur after abdominal surgery. This may require extended bowel rest with an NG tube or surgery to correct the obstruction. Blood clots in your legs, in your lungs, or in your brain can also rarely occur either during the surgery or afterwards. Occasionally, a progressive neurologic disease such as MS can worsen after a complicated urinary diversion surgery. Nerve injuries also rarely occur during surgery.

Over time, the stoma may also develop some scarring which keeps you from comfortably inserting a catheter into the opening. If this occurs, more surgery is needed to correct this. If you gain or lose weight, your stoma may also require revision.

Recent investigations suggest that attaching a piece of intestine to the bladder is associated with a very small increased risk of developing bladder cancer in the future. We monitor patients with augmented bladders by regularly checking the urine for cancer cells and by examining the bladder with a cystoscope on a yearly basis.

How am I followed over time?

You will return for a post-operative visit 3 to 4 weeks after surgery. The next visit is 3 months after surgery at which we will obtain a renal ultrasound and urodynamics, if needed. Afterwards, we follow on a 6 month schedule for 1 year then yearly afterwards. You will also need a yearly examination of your bladder with a cystoscope.

Contact Information

If you have any questions, please contact the University Of Michigan, Department Of Urology at 734-936-7030 during working hours (8:00 am - 5:00 pm). If there are any concerns that need to be addressed after business hours or on weekends, please call 734-936-6267 and ask to speak with the Urology Resident on Call. If you need to be evaluated by a physician on an emergent basis, please go to the nearest ER and have the ER physician contact the University of Michigan urology resident on call for assistance.

Disclaimer: This document is for informational purposes only and is not intended to take the place of the care and attention of your personal physician or other professional medical services. Talk with your doctor if you have Questions about individual health concerns or specific treatment options.

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Last Revised February 2012