



Life after Bladder Removal – Selecting your best urinary diversion

A candid conversation with Alexander Kutikov MD

Tuesday, January 24, 2017

Part III: Neobladder

Presented by



Dr. Alexander Kutikov is the Associate Professor of Surgical Oncology at the Fox Chase Cancer Center in Pennsylvania. He's a board-certified academic urologic surgical oncologist. They treat urologic tumors using minimally invasive, robotic, laparoscopic, and traditional surgical techniques. He's published chapters in leading textbooks, including the Definitive Chapter on Adrenal Disorders in Campbell-Walsh Urology, and has held leadership positions in both the American College of Surgeons and the American Urological Association. Dr. Kutikov has significant interest in harnessing web and mobile technology to improve patient engagement and quality of care. He's the co-founder of several ventures, and currently serves as Associate Editor of Digital Media for European Urology.

Let's talk about a neobladder. A neobladder is a urinary diversion that uses a longer portion of that distal ileum, that small bowel that I showed you, and basically takes that long tube and resews it into a sphere. What the goal here is, the fancy term is detubularize, which is basically reconnect that bowel in such a way that you make the sphere co-reservoir, which is this spherical shaped neobladder that can store urine instead of one's native bladder.

The neobladder is not a new diversion. It's been around for decades. It works, when it works, incredibly well. What I'm showing you is a Studer neobladder or Studer described this arrangement, and it has this, what's called an efferent limb. It has this portion of bowel that the ureters are sewn into. This bowel here pushes urine into the pouch itself. Basically, this portion of the bowel squeezes the urine in. The bowel doesn't know that it's now storing urine. It just

Life after Bladder Removal – Selecting your best urinary diversion

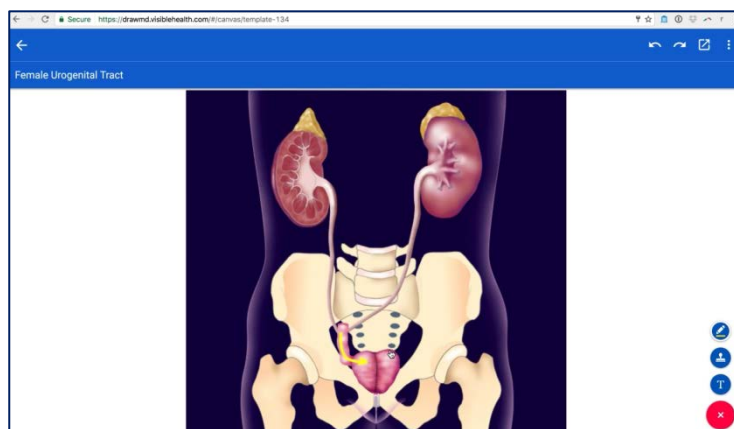
Part III:

Neobladder



keeps doing what it was doing before it was cut away from its original purpose. As urine enters this area, it gets pushed into the reservoir here. The neobladder is sewn to the urethra, and sewn into the ureters.

Here, I'm showing on a female patient, some surgeons try to avoid neobladders in female patients for a couple of reasons. One, there is a suture line on the vagina that often is present when the vagina is closed, and there's suture line on this bowel, and there is a little risk, there's about a 5% risk for forming what's called neobladder vaginal fistula. This is, basically, a connection between the vagina and the neobladder that's very, very hard to repair. A lot of surgeons who do neobladders in women try to do a vaginal sparing approach where there's no suture line on the vagina, but if the uterus needs to be taken, then that's a necessary suture line. It's important to discuss that risk with your surgeon when one is choosing a urinary diversion.



Now, the biggest challenge in our women patients with neobladders is they become hypercontinent, which is they can't empty their neobladders. That's just related to the geometry or the anatomy here in the neobladder. What we think happens is it can soften the outlet and it's very hard for women to empty their neobladders. The estimate is about 30% of cases. Women have to self-catheterize. Sometimes,

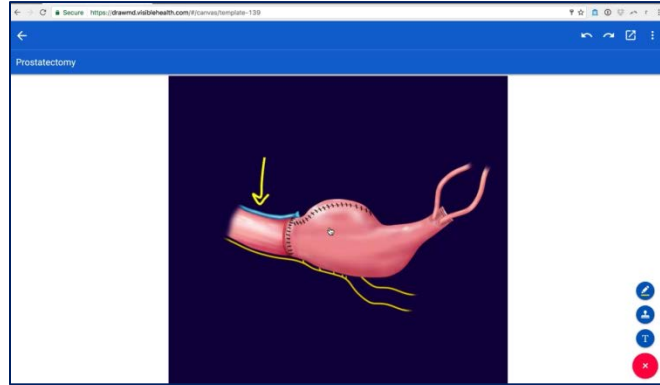
especially for elderly women, as their dexterity deteriorates, it's very difficult for them to do. That's one of the considerations, one of the things that needs to be considered when a neobladder is being considered in a woman is whether this risk of hypercontinence cannot be managed.

I would tell you why a lot of surgeons are more enthusiastic about a different type of continent diversion in women, and that's called an Indiana pouch. I will go through that in a minute, but in men, these neobladders work quite well. There's still a risk of hypercontinence, and that risk is much less, but it still certainly happens.

Men have to understand when they choose this diversion that there is a risk of needing lifelong self-catheterization if this diversion is chosen. I certainly have my patients who just say, "I just don't want to take that risk. I don't want to have to self-catheterize at something. That's just not palatable to me." I walk patients through a self-catheterization in the office to really show them that it's generally very, very manageable. Once people try it, I think, they generally say, "Oh, it's not as bad as I thought it would be," but some people certainly are very confident that's not something that they want to risk.

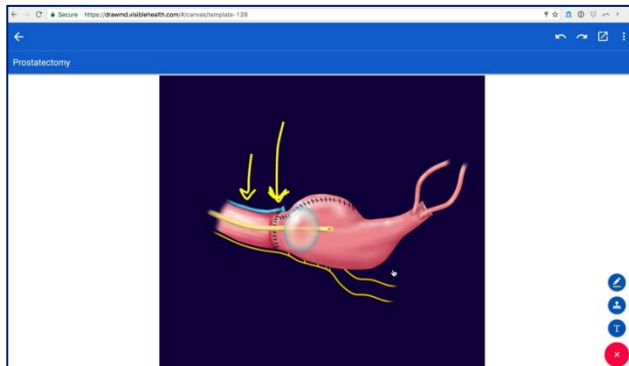
Now, the more common issue with neobladders in men and in women is incontinence. It's chances of leaking urine after surgery. Let me show you a picture here to understand this better. I'll go back to this image here. This is, again, the anatomy where this is the urethra. This is the tube that the urine goes out like this. It goes through the prostate as it meets the bladder. Here is the bladder and the prostate are

removed, and the neobladder is sewn here. Not the prettiest picture of a neobladder, but this shows us the neobladder with the ureter sewn in.



The challenge here is that this sphincter and this muscle that keeps men continent doesn't wake up or doesn't recover full function after surgery, probably, less 10% of patients, but I tell folks to consider 10% as the risk that they're integrating into their decision. There's a 10% risk that when they cough, when they sneeze, when they pick up something heavy that they have what's called stress urinary incontinence. It leaks some urine despite every effort to preserve this sphincter.

Now, 90% of folks don't, but there is this small portion that do. There are ways to fix it, but, obviously, it's another challenge that people have to overcome. It's important to understand that almost everybody is wet in the beginning. When these neobladders are constructed, there's a catheter that gets



put in into the urethra, and the neobladder is kept empty in order for all of the suture lines to heal. At about three weeks after surgery, we instill some contrast in here, and take some pictures to make sure that everything is healed, and the catheter is then removed.

Now, once the catheter is removed, this sphincter here doesn't recover right away. Most men or almost everybody, it takes weeks, and sometimes months for this sphincter to regain

function, and men have to root about recovery, and it certainly is a challenge. They have to do Kegel exercises, which are these muscle-strengthening exercises to get their sphincter back in order. Still, I would say approximately 10% of men have some leakage after the surgery, and that's during the day.

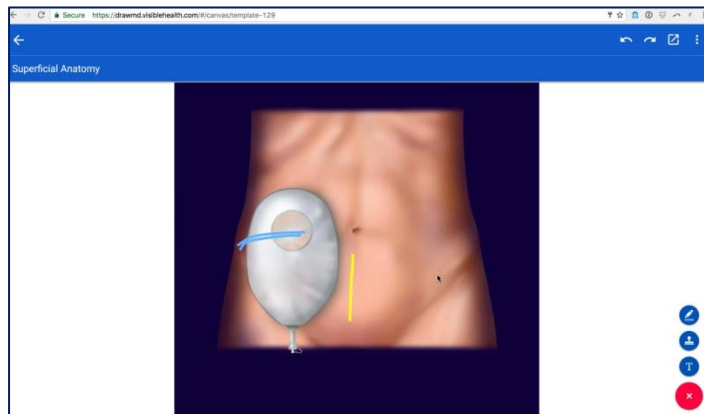
Now, what happens in people when they sleep is that there is a reflex that when a native bladder, when one's bladder is full, and it stretches, there's a spinal reflex that goes to the spinal cord, and then the spinal cord sends a reflex to the sphincter to tighten up. As the bladder fills, this sphincter tightens. That's a spinal reflex that we all have.

When the bladder is removed, and even though we put in a neobladder, that spinal reflex is not there. What happens is after a neobladder, we're at the mercy of what this sphincter is doing on its own without a spinal reflex. In about 20% of men, when this neobladder fills, and they're sleeping, they leak. Although they may be perfectly dry during the day, their sphincter is just too relaxed when they're sleeping. It's very important to understand that challenge that there is a risk of what's called nighttime

incontinence in men who choose neobladder. Again, an additional challenge to consider when you're picking this urinary diversion.

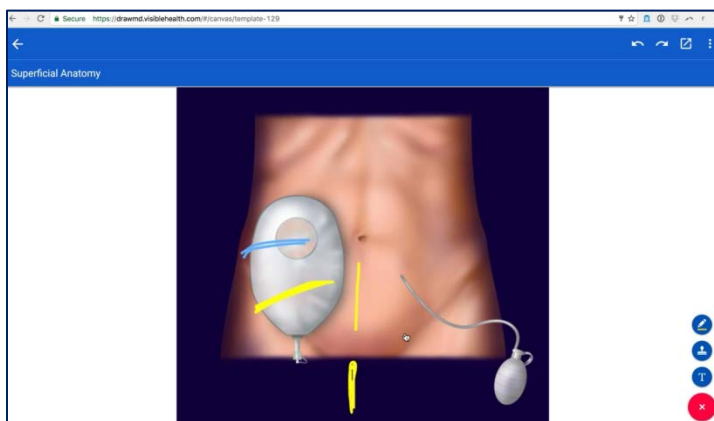
Now, this, obviously, I mentioned it, but just to mention it again, this urinary diversion requires longer surgery. It requires more suture lines. It requires more drains following surgery. Let me walk you through that a little bit. Let me walk you through the drains because I think those are important to understand. Let's go back to this picture here. I am just going to show you how a neobladder patient looks in my practice.

I do surgery both the traditional open way and robotics, although to be honest to you, there's been a randomized trial showing that robotics doesn't have the advantage that we thought it had in the bladder space. Although I do just about everything else robotically, in the last year and a half, I've been doing all my surgeries in an open fashion. I just think they're faster. That's a personal preference. I walk my patients through it. Some patients still say they want it robotically, and I do them robotically, but in general, I do it in an open fashion. Just, I think, it's honestly a little bit easier on the patient as they're just quicker surgeries.



Let me just show you what the drains look like in patients when they wake up with a neobladder. Those stents, those diversions stents that I showed you, they're still here. I bring them out over on the side here. Actually, when patient wake up, they're still have an ostomy bag. They have an ostomy bag that helps drain these stents. Now, these stents, about two weeks out, they're removed. This ostomy, it comes back two weeks out.

Now, there is also a catheter that I showed you in the other picture. It's obviously a catheter that comes out over here. Now, it little bit depends but generally, I leave a suprapubic tube, which is a tube that comes out usually on this side right under the bag that also drains the neobladder just to make sure that



if the catheter clogs, this is a little bit of a pop-off valve. Then, there is the drain, which is the JP drain.

People wake up after a neobladder with quite a few drains. What I take out first is I take out the JP drain first. Then, I generally take out the stents. Then, about three weeks later, I take out the catheter. When the catheter is out, I clamp the suprapubic tube, and I let people get used

to voiding with their neobladders, and keep this for a week. It's a safety net. Then, this comes out. As you can see, it takes approximately a month to get all of your drains out after a neobladder, which this process is much quicker after an ileal conduit.

Again, important to understand these trade-offs. Definitely a much complex perioperative recovery even in the easiest case scenario after a neobladder than after an ileal conduit. Honestly, for my elderly frail patients, I really discourage them from going through this operation. This is sometimes just a bit too intense for patients that are too frail to have this amount of surgery.

Let me go back over here, and walk you through the third type of urinary diversion, which is an Indiana pouch. Now, before I go to that, I want to just talk about a couple of scenarios where when somebody chooses a neobladder urinary diversion, I tell folks that there's three reasons why they may wake up and they may have a different urinary diversion. We need to decide which urinary diversion that would be if they can't get a neobladder.

Why can't somebody get a neobladder? One of the reasons somebody can't get a neobladder, if there's cancer at the urethral edge, at the urethral margin where the prostate meets the urethra, if there is cancer, patients will need a urethrectomy, a removal of their urethra, or at least a removal of a part of their urethra that's involved right there. They can't have a neobladder then.

I, personally, and again, this is a little bit of a surgical preference, and some people debate this, I personally generally try to avoid a neobladder if patients have a lot of disease. If I get in, and there's really just a lot of disease where I think patients, they're going to need systemic therapy very quickly after the surgery where I worry that we're really battling some big oncologic issues here where there's some very bulky lymph nodes or some other disease, and it is unresectable, then on my personal opinion is a neobladder prolongs one's recovery, and locks one out potentially of some systemic therapy. Now, again, surgeons differ on this, but this is where I tell my patients that in that scenario, I generally won't do a neobladder.

The third scenario where a neobladder won't be done is if the anesthesiologist, this is rare, but if the anesthesiologists are worried about that something is happening like a heart attack, or lungs are fillings with fluid, or something where we need to just get the surgery done as quickly as possible, then patients who have a neobladder may wake up with a different urinary diversion. I think it's important to discuss.

Now, I generally tell folks who have a passive urethral margin that they need to decide beforehand that either they're going to go back to the old ileal conduit or they can have another urinary diversion called an Indiana pouch. We decide that beforehand, and I document their decision so in the rare cases when this comes up, I know exactly what to do, and what their wishes are.

