

Part 1. Removal of the bladder and lymph nodes

Revealing the Surgical Journey: Understanding the Anatomy of a Cystectomy

Presenter: Dr. Matthew Mossanen



Stephanie Chisolm:

Welcome to today's program, Revealing the Surgical Journey, Understanding the Anatomy of a Cystectomy.

For many with bladder cancer diagnosis, the standard of care or best practice recommendations involve the intricate world of bladder removal surgery known as a radical cystectomy. This is a surgical procedure that's designed to address high-grade, non-muscle invasive or muscle invasive bladder cancer. In today's program, we're going to learn more about who might be offered bladder removal surgery and the difference between open and robotic cystectomy as well as what's involved in this life-saving yet life-altering procedure.

We're delighted to welcome urologist and scientist, Dr. Matthew Mossanen from Brigham and Women's Hospital in Massachusetts. Dr. Mossanen is a urologist at Brigham and Women's and an assistant professor of surgery at Harvard Medical School. He's a graduate of the University of California Los Angeles, UCLA, and received his medical degree from the David Geffen School of Medicine at UCLA. In 2020, Dr. Mossanen received one of BCAN's patient-centered young investigator Awards to support his research.

Dr. Matthew Mossanen:

Anatomy of a cystectomy



- Step 1 Removal of the bladder (and nearby organs)
 - Organ sparing
 - Open or robotic
- Step 2 Removal of lymph nodes
- Step 3 Reconstruction
 - Using intestine and multiple options
- Major surgery

Well thank you very much for that wonderful introduction and thank you to BCAN.

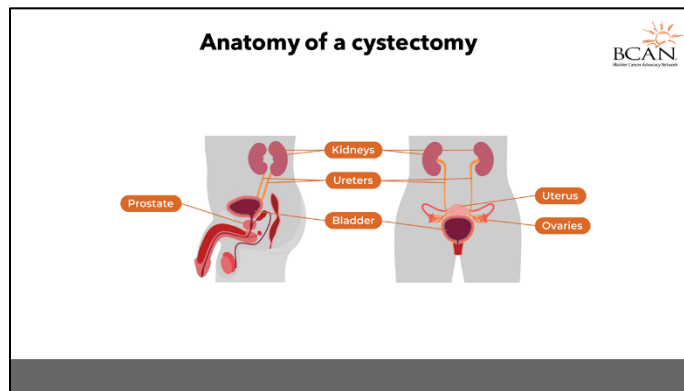
This is a brief outline of what we'll talk about. Of course, if there are questions, we're happy to go over those at the end. This talk could probably take three days to do it justice, but I decided to put it into four sections. So step one, we'll talk about the actual cystectomy, the operation, what it entails in terms of removal, so of the

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bladder and the nearby organs. We will divide it into male and female. We'll talk briefly about organ sparing and when you can consider that, and the difference between open and robotic cystectomy.

The second part will be to talk about removal of lymph nodes, which is included in the cystectomy. And in step three we'll talk about the reconstruction, which happens after the bladder and the lymph nodes are removed. We'll go over some of the options that are commonly used. And then in the last part of the talk we'll try to emphasize why this is such a life-saving yet life-altering operation that has a major recovery and requires careful consideration. So let's go to the next slide.

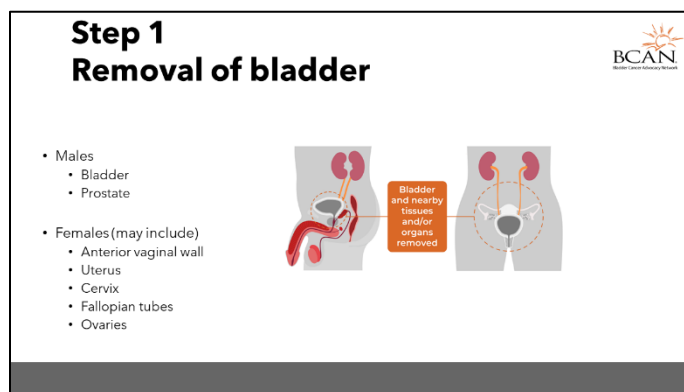
Dr. Matthew Mossanen:



So this is a key photo. This is the anatomy that's involved. When doing a cystectomy, we'll focus first on the picture on the right. So patients have kidneys connected to ureters. These are tubes that take all of the urine from the kidney and bring them down to the bladder. For female patients, the uterus and the ovaries are also near the bladder and can be removed during the surgery. Part of the vaginal wall known as an anterior vaginectomy can also be done.

Shifting gears for a second and looking at the male version on the left, you can see that in addition to kidneys, ureters and a bladder, the difference here is that there's a prostate and seminal vesicles, and so the prostate and seminal vesicles are the parts that are removed during the male cystectomy. This is a picture that I often will draw in clinic just to help give patients some idea of what sort of anatomy is involved in and what we as surgeons look at when we're reviewing scan. We can go to the next picture.

Dr. Matthew Mossanen:




So this is a nice summary slide because I know there was a lot of discussion of anatomy and so the key thing to remember about a cystectomy is that it involves removal of the bladder, but also the nearby tissue and the organs that are removed as well. So to summarize, for men, this is the bladder and the prostate. For females, this can include the anterior vaginal wall, the uterus, the cervix, the fallopian tubes, and the ovaries.

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Dr. Matthew Mossanen:

Organ sparing



- #1 goal is cancer control
- Preservation of sexual function
- Consideration depends on the case and each case is unique
 - Males - Nerve sparing
 - Females - Vaginal sparing and preservation of ovaries

Requires careful counseling and patient selection

1. Tumor details
2. Patient goals
3. Surgeon judgement


If we go to the next slide, I think it's important to just discuss the concept of organ sparing. So remember, the goal of a cystectomy, that the most important goal is cancer control. Patients with bladder cancer have dangerous tumors that need to be removed. But quality of life is also an important consideration and preservation of sexual function can also be an important priority. So considering each patient's unique case is the best way to bring up

organ sparing. So if you're talking to your surgeon, she or he will decide if that's something that's relevant and if it's something that's safe above all.

Oftentimes, the surgeon will consider nerve sparing in a male patient or in a female patient, you can talk about vaginal sparing options or preservation of the ovaries. It's important to highlight that the details of the tumor, the patient's goals of care and surgeon judgment are all factors that go into the decision if you're eligible for an organ sparing cystectomy, but as the patient, it's important to know that this is something you can discuss with your surgeon. Go to the next slide.

Dr. Matthew Mossanen:


There are 2 approaches



- Open cystectomy
- Robotic cystectomy

Cancer control and complications

Surgeon volume and experience



So this is a slide that lets you know there are two approaches to cystectomy. There's an open cystectomy, which is done through a traditional incision, which usually goes from the belly button down to the pubic bone or a robotic cystectomy. In terms of cancer control and complications, these are about equal. There are some things that vary across the two approaches, but one of the most important things to know when it comes to a cystectomy is that the surgeon's volume and experience often play an

important role in their outcomes. So in other words, if the surgeon does most of their cystectomies robotically, then they're most likely to have the best outcomes if it's done robotically.

If a surgeon has been doing open cystectomies and they're more comfortable and have more experience with that approach, then the best option is for them to do it with an open approach because that's how they're most likely to have the best outcomes. You can talk to your surgeon more about which approach is best for you because there are also other factors at play which might help impact if a patient should have an open or robotic surgery such as prior surgery or prior radiation.

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