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### **Stephanie Chisolm:**

Welcome to Choosing Your Best Urinary Diversion, a Program for Men featuring Dr. Michael Poch from the Moffitt Cancer Center. I'm going to talk a little bit and then I'm going to turn it over and let Dr. Poch show his slides. I think it's really important and impactful to go through this process and understand what your options are when your doctor is telling you that bladder removal surgery is going to be in your best interest as far as a treatment. Radical cystectomy is generally considered the standard of care with high grade, non-muscle invasive disease that doesn't respond to intravesical therapy or muscle invasive disease to remove the cancer and reduce the risk of disease, recurrence or progression.

Urinary diversions help your body to eliminate the urine and it's often a combination surgery, a very significant surgery, and that choice of urinary diversion is somewhat up to you and based on your lifestyle. So Dr. Poch, would you like to talk a little bit about that in just a minute? Dr. Poch is coming to us from the warm and sunny beaches of Tampa, Florida where he is a urologist at Moffitt Cancer Center. He's very interested in the health-related quality of life, so I'm sure he will learn something from your questions as well, and what's important to you, he's going to be talking about ileal conduits, the neobladder and the Indiana pouch, all of which he's very well experienced in performing, so he does this surgery on a regular basis. As a urologist, Dr. Poch really knows how to fit the best diversion to the right patient.

I think most patients, and especially the ones that we have on this call tonight, are very happy with the diversions that they have had based on their conversations with their doctors and their lifestyle. I'm also delighted to say that we have three patients on this call. Thomas is on the call, Denver is on the call, and we'll be introducing Jonathan as well a little bit later on. Dr. Poch, do you want to show your slides and I'm going to turn this over to you?

### **Dr. Poch:**

Sure. Thank you very much, Stephanie and BCAN Group for letting me participate in this very important discussion. Let me see if I can share. As Stephanie already mentioned, the first question when we talk

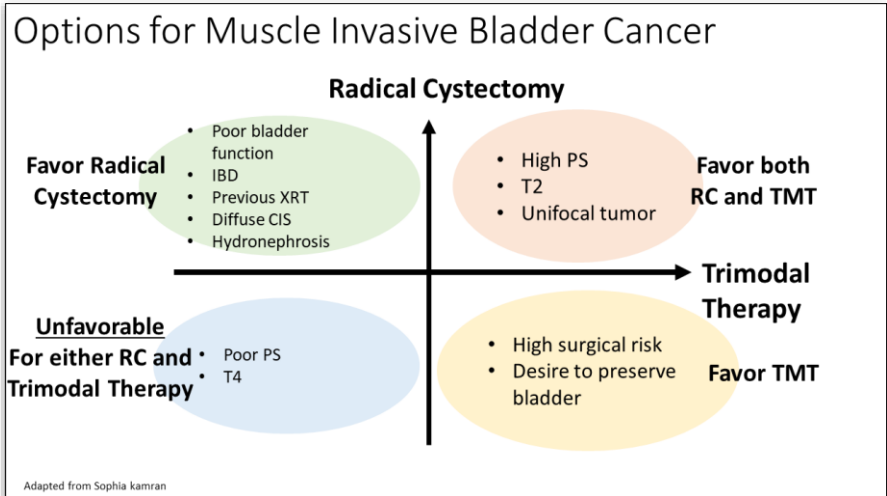
about urinary diversion is really radical cystectomy and who should be getting a radical cystectomy. As Stephanie mentioned, those patients with muscle invasive bladder cancer are typically what we considered to be the standard of care patients who are going to end up having radical cystectomies. Those patients often, if they've got reasonable kidney function, should get chemotherapy upfront. There are some alternatives which I'll talk about on the following slide in terms of chemoradiation. The other group is those patients with non-muscle invasive bladder cancer but high risk bladder cancer that fail in bladder treatments. We talk about failing either BCG or chemotherapy and there's some novel medications that are coming to market that also may be available.

### Who should get a cystectomy?

- Muscle invasive bladder cancer\*
- Non-muscle invasive bladder cancer HG/High Risk bladder cancer "failure" of intravesical therapy
- Any bladder cancer with significant urinary symptoms

But if you fail intravesical therapy still with stage one disease, then most of the guidelines recommend proceeding to radical cystectomy. And we have a significant number of patients that we see down in Florida who have significant urinary symptoms, whether it's overactive bladder, their bladders are really small, they can't tolerate intravesical therapy, frequency, urgency, previous pelvic radiation causing overactive bladder, and those patients with bladder cancer and significant urinary symptoms should also consider getting radical cystectomy with urinary diversion.

I had mentioned that there are some other options for muscle invasive bladder cancer. I sort of put this together from a panel that I was on previously. You can see we have on the top group here radical cystectomy and on the right-hand side you see trimodal therapy. I don't know if my screen is blocking that. Then you can see here for those patients that have poor bladder function, irritable bowel disease, previous radiation, diffuse carcinoma in situ, or hydronephrosis that's seen on CT scan...



Hydronephrosis is basically when the kidneys are blocked by tumor. Those patients should undergo radical cystectomy.

There are patients who are candidates for what we call trimodal therapy. Trimodal therapy is aggressive endoscopic resection, so TURBT, followed by chemo and radiation together. Those patients that are very good candidates for trimodal therapy are those patients that are a high surgical risk or those patients that really strongly desire to keep their bladders. Patients that are good candidates for both options are patients with good performance status, T2 disease, which is just muscle invasive and not higher stage locally, and small unifocal tumors, meaning just an isolated tumor located in the bladder.

**Stephanie Chisolm:**

Dr. Poch, can I just interrupt you for a quick question? What do you mean by what you said, high performance status? What are you looking at when you're judging somebody for their performance status?

**Dr. Poch:**

That's a good question. I think we typically use a couple different sort of checklists when we go through what patient's performance status is. Some of it is there are other medical problems, so do they have significant heart disease that's going to make them bad surgical candidates? Are they functional in terms of their hand eye coordination, in terms of getting urinary diversions? Are they wheelchair bound? Are they significant smokers and using oxygen? It really depends on some of the other medical factors that are going on that help determine how aggressive one can be about treating their cancer.

**Stephanie Chisolm:**

Thank you. I think that really helps people understand because those are all factors you use in helping make recommendations then for the patients.

**Dr. Poch:**

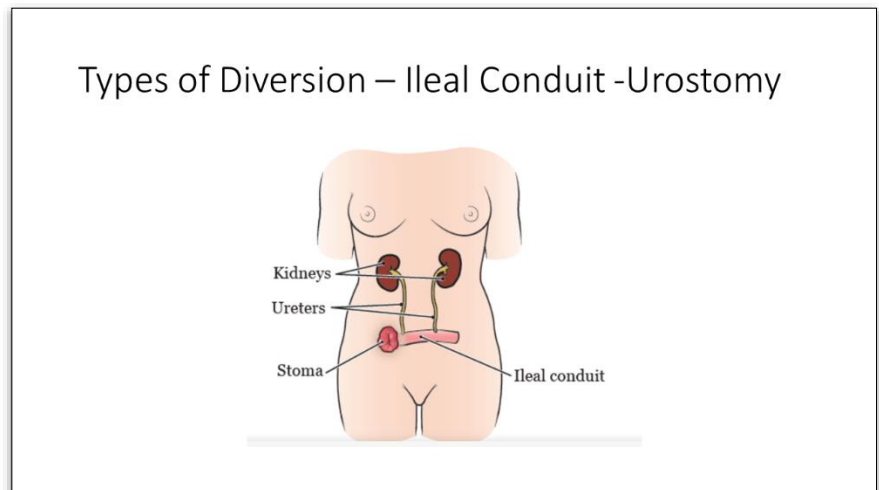
Correct.

**Stephanie Chisolm:**

Great.

**Dr. Poch:**

There's three different urinary diversion types, and I'll start with what's probably the most common done nationally in the US, and that is the ileal conduit. The ileal conduit is what we consider to be a non-continent urinary diversion, meaning the urine just continuously drains out of the body. That operation is typically done by, again, removing the bladder and then we take the ureters, which are the tubes that connect the kidney to the bladder and hook them up to a small section of intestine. That section of intestine is then brought out to the abdominal wall and an ostomy appliance is then put on top of that stoma, and then urine just basically continuously drains. Depending upon the size of the stoma and the size of the bag, that bag can hold anywhere between 400 and 500 milliliters of fluid, which is a frequent question that we get.

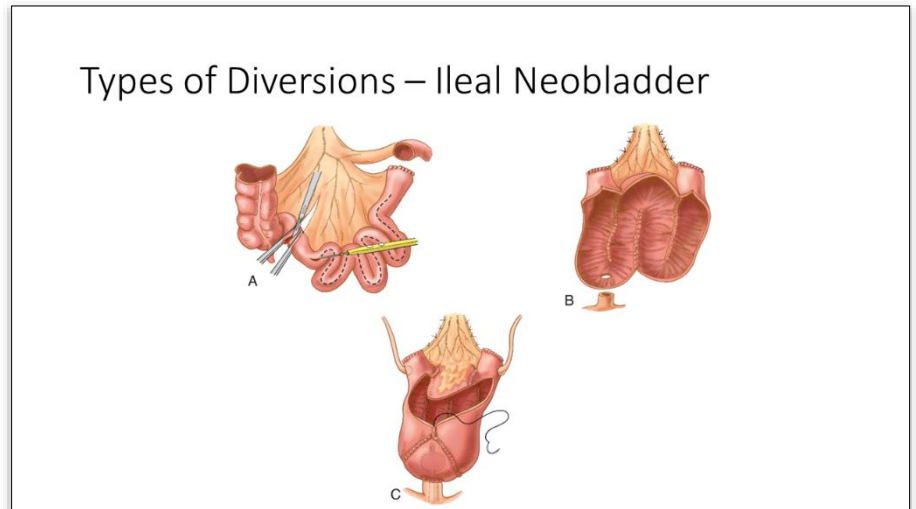


That operation is relatively straightforward, has been done for a number of years. The benefits of doing this, and we'll talk about this a little bit on a further slide, are that it requires management, but typically that stomal clients gets changed every five to six days and there's a spigot at the end of the urinary diversion bag, so that that can be emptied into the toilet fairly easily. This also uses the smallest amount

or shortest segment of intestine, so for patients that have had prior intestinal operations or other contraindications for large amount of intestinal use, this is an appropriate use.

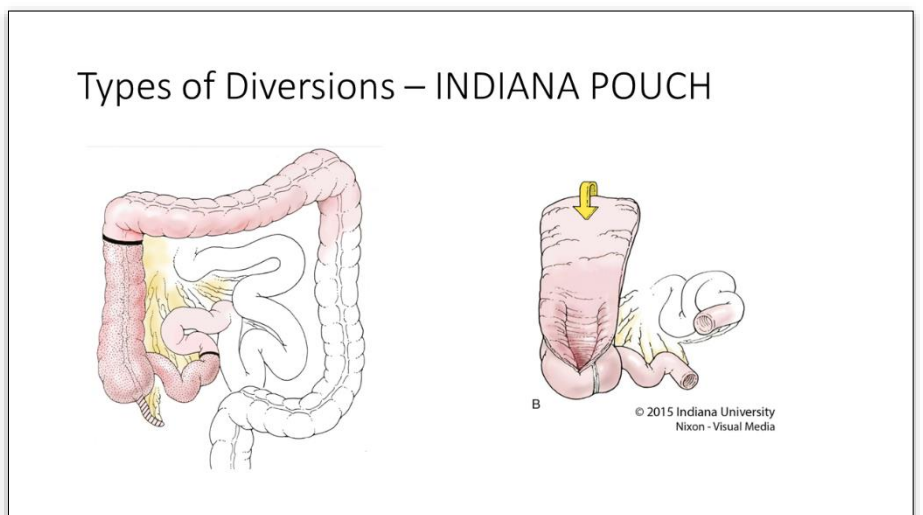
### Dr. Poch:

The second urinary version that we talk about is an ileal neobladder. Again, this is a picture here you can see, I'll orient you with my mouse. This is the right colon here. Typically, the way the GI system works is that you swallow food down the esophagus, it goes into the stomach, then it goes into the small intestine, which you can see here, and then it goes into the large intestine/colon all the way around in sort of a question mark down to the rectum and anus. When we do an ileal neobladder, what we're doing is we're harvesting about 65 centimeters of the small intestine and we're reconfiguring that into a reservoir for the urine.



We're hooking the urine ureter tubes up to that reservoir and then hooking that to the urethra here, and this is done in both males and females. This allows for a continent urinary diversion and what that means is that the patients are not continuously leaking urine or there's not a continuous exit of urine from the abdomen. This operation does take a little bit longer to do and some people argue that this requires some extra postoperative visits and a little bit of extra care on the initial postoperative setting, which sort of becomes standard in terms of sort of post-op care around three to six months.

The other option for urinary diversion is something called an Indiana pouch. Here in Florida there's also something called the Florida pouch, or if you're in Miami it's called Miami Pouch, so there's some subtle variations on the theme. But again, here's the picture of the intestinal tract and you can see the small intestine is here and the Indiana pouch is actually using a portion of the small intestine here that connects to the colon and then a portion of the right colon. This gets folded



into a reservoir and rather than being hooked into the urethra, this is brought out to the abdominal wall as a channel. The difference between this and a neobladder is that this is also a continent urinary diversion, so it doesn't leak, but patients need to catheterize this channel every four to six hours depending upon how much they're

drinking and how much it fills up and empty out via the pouch. So this is a continent diversion, but it's continent through channel, through the abdominal wall.

**Dr. Poch:**

Unlike an ileal conduit where patients have continuous drainage of urine, there shouldn't be continuous drainage of urine from an Indiana pouch. Most patients will put a bandaid or a small gauze on top of the opening in the abdominal wall just to cover it if they're wearing clothes, et cetera. But I always tell patients for this they definitely need to be carrying around supplies to catheterize if they're going on a train or plane or just even a day trip. They want to make sure that they've got appropriate supplies in order to catheterize their pouch to empty it well. That's in contradistinction to an ileal conduit where you put on the ostomy appliance every five to six days.

I tried to put together what I thought was a relatively easy sort of graph looking at the different types of diversions and the pros and cons here. You can see starting with the ileal conduit, the pros are that most urologists know how to do that and it's relatively a straightforward operation and most people are familiar with it. The downside is that you

Types of Diversion	Ileal Conduit	Neobladder	Indiana Pouch
Pros	<ul style="list-style-type: none"> <li>• Straightforward</li> </ul>	<ul style="list-style-type: none"> <li>• Body Image</li> <li>• Void through urethra</li> </ul>	<ul style="list-style-type: none"> <li>• Body Image</li> <li>• No need for urethra access</li> </ul>
Cons	<ul style="list-style-type: none"> <li>• Stoma – leakage</li> <li>• Body Image</li> </ul>	<ul style="list-style-type: none"> <li>• Incontinence/</li> <li>• Hypercontinence/Retention</li> <li>• Catheterization</li> <li>• Longer Recovery</li> </ul>	<ul style="list-style-type: none"> <li>• Stones</li> <li>• Channel stenosis</li> <li>• Pouchitis</li> <li>• Longer Recovery</li> </ul>
Contraindications	<ul style="list-style-type: none"> <li>• Minimal</li> <li>• *thick abdominal wall</li> </ul>	<ul style="list-style-type: none"> <li>• Kidney Failure</li> <li>• Need for urethrectomy</li> <li>• Poor eye/hand coordination</li> <li>• *Pelvic radiation</li> </ul>	<ul style="list-style-type: none"> <li>• Kidney Failure</li> <li>• Poor eye/hand coordination</li> <li>• Inflammatory Bowel</li> <li>• Malabsorption/Chronic Diarrhea</li> </ul>

can have some problems with the stoma appliance depending upon the shape of the abdomen and the abdominal wall. If the stoma is not sort of protruding out of the skin, some of them will leak and have some issues. The other thing that sometimes comes up is an issue with body image. Obviously you've got an external appliance attached to your body, so whether you can see that through a shirt or whether you feel comfortable taking your shirt off if you want to go swimming, we do a lot of swimming down in Florida, so there can be some body image issues.

There are some contraindications to an ileal conduit, but there are very few, which is why it's the most common urinary version that's done. Really, patients with a very, very thick abdominal wall can end up having some problems with their stoma and their ostomies because if you imagine, that intestine has to travel through a really large abdominal wall and so you can end up having some kinking or some other stenosis of that conduit with really thick abdominal walls. But other than that, there are very few contraindications to doing an ileal conduit. The neobladder, on the other hand, has the pros of having good body image and most people are able to void through their urethra, so you're sort of peeing "naturally." The cons are that there is a risk of having some incontinence with it, and there's also a risk of having hypercontinence or what we call as retention, so maybe the neobladder doesn't empty all the way.

The neobladder also in the initial postoperative periods, we do ask patients to catheterize through the urethra to make sure that it's functioning and emptying. Usually that is sort of tapered off after patients go through the months of recovery, and people argue that it's a little bit of a longer recovery, although people are making different technique moves and follow-up care plans that are pretty similar to ileal conduits these days, so I think that that's a little bit arguable. The contraindications to get an neobladder, there's a couple. One is that if you have a history of kidney failure or your creatinine, which is a blood test that we use to measure kidney function, is above 2.0, we usually don't recommend doing continent urinary version, so the reservoir of urine can sort of affect bone health and some other things long term. If you have bad kidney function to start out with, we usually don't recommend doing either a neobladder or an Indiana pouch.

### **Dr. Poch:**

Some cancers will involve the urethra and if you need to remove the urethra, you obviously can't use a neobladder or you have nothing for the neobladder to hook up to, so if you need to remove the urethra at the time of your bladder removal, then giving a neobladder is not a great idea. In the middle of the operation, also, we often will check margins of the urethra to make sure that there's no cancer there. So frequently I'll tell my patients beforehand if we're planning to do a neobladder, I say there's a couple reasons why in the operating room that we wouldn't be able to do a neobladder. One is that if there's cancer while we're checking it and we see cancer at that junction of the prostate or the bladder to the urethra, we're not going to want to sew a neobladder to cancer.

The other thing is that if patients have poor eye-hand coordination, let's say they've got arthritis, rheumatoid arthritis, and they can't really have the function to coordinate to catheterize themselves, that can be a challenge and patients aren't really good candidates for neobladders in those situations. There's also an argument for patients who've had pelvic radiation that they shouldn't necessarily get neobladders or continent diversions down the pelvis. It really depends on the level of radiation and what the tissues look like. Frequently I'll tell patients at the time, it's sort of a game time decision in the operating room, whether we think the pelvic floor is healthy enough to sew a neobladder to, because long term we worry about both incontinence in radiated patients, meaning that the pelvic floor has been radiated and doesn't have the normal contractions that your pelvic floor would do, and also that the tissues just don't react well to being sutured. So pelvic radiation I think is a relative contraindication to doing a neobladder.

On the other hand, if you look at Indiana pouch's benefits again, or you don't have to wear an ostomy appliance on the outside, so there may be improvements in body image. You don't have to access the urethra, so some people say, "I don't want to put a catheter either through my penis," or "I can't reach down there" or "I can't see. I can't manage the urethra, and therefore it's easier to evaluate from the abdominal wall." Indiana patches come with a little bit of their own sort of complications because it's more unusual way for the urine to be stored. Indiana patches can develop stones. They can also get stenosis or narrowing of the channel because the channel's much narrower than your conduit channel, so they can get some narrowing of the channel. They can also get infections in the pouch.

Again, there's this argument about longer recovery. Typically, in my hands when we're doing neobladders, patients may go home with a catheter, usually they don't go home with a drain for pouches. Typically, patients will go home with one or two sort of extra abdominal drains, which then get removed sequentially, so it does take a couple more postoperative visits. As I said before, the kidney failure's a contraindication to any kind of continent diversion. Again, this idea of poor eye-hand coordination, if you can't put a catheter in, then it's hard to do a continent diversion. Then if you've got a history of inflammatory bowel disease or colon cancer or other malabsorption or chronic diarrheas,

typically we don't want to do Indiana pouches in those scenarios because we worry about chronic diarrhea and long-term malabsorption problems.

That's sort of the general gist of how I approach this. I typically tell patients though, when we're doing an evaluation about what kind of urinary diversion somebody should have, it's usually in a shared decision-making model, which is assessing the patient and what the patient wants and what their needs are and how functional they are and what their really priorities are. Some people have priorities that they want the easiest thing to do, and when I tell them, "Well, what does that mean?" Some people say, well, "It's peeing like I had a bladder," in which case a neobladder is easier. Some people would say, "I never want to catheterize myself ever again," in which case a neobladder's not a great option. So it's really an assessment of what the patient's priorities are in combination with "What are the other medical problems?" And in combination of "What is their cancer sort of leading us to as well?"

One of the things that often comes up when we're discussing neobladders, because that's probably the most common type of continent diversion that we do, is people worry about putting catheters in. I always tell men in particular that if standard... your catheter can be uncomfortable, and most of that discomfort actually comes from the prostate. Usually when we do this operation, we remove the bladder with the prostate. Normally the urethra sort of makes a little hook as it passes through the pelvic floor into the prostate, into the bladder. When the prostate and the bladder have been removed, it's actually that catheterization is much more of a straight shot. Catheterization is actually much easier, at least anecdotally, from what our patients tell us without their prostate in and therefore it's less scary for them or more comfortable to do sort of routine catheterizations for neobladders. I'll pause there and see if folks have questions.

### **Stephanie Chisolm:**

We do have a question, actually. "Does pelvic radiation due to year old prostate brachytherapy have an impact generally?"

### **Dr. Poch:**

It does. Brachytherapy tends to be my least favorite form as a surgeon doing operations on bladders because there tends to be a lot of reaction in the pelvis. My favorite analogy, which I think is probably the most appropriate analogy I can come up with, is that standard operations are like sticking your hand in between a Ziploc bag and separating the sides of the Ziploc bag. When patients have been radiated, it's like somebody takes a hairdryer to the Ziploc bag and sort of melts the two sides together and now you're trying to separate the sides of the Ziploc bag, so it's much more challenging. That being said, every patient's different and everybody reacts differently to radiation. I usually tell patients that feel really strongly about having a neobladder that we'll do the operation and we'll see what the pelvic floor looks like, and if the tissues aren't healthy enough to get a neobladder, then we always have another diversion choice in our back pocket so that nobody's disappointed and we sort of appropriately plan both mentally and surgically for another option.

### **Stephanie Chisolm:**

Great. How often does that happen, when you think that you're going to go in and plan to do one diversion, but you find something else and then the patient wakes up in the recovery room with a completely different diversion than the one they were hoping to have? Does it happen often?

### **Dr. Poch:**



No, it doesn't happen that often. I mean, I would say over the course of my career, having done probably one to two cystectomies per week, maybe less than a dozen over 12 years of doing this now, 11 to 12 years of doing this. I think that some of those are, as I said, for cancer, so there's a couple cases where we weren't expecting to see cancer, even though the patients were appropriately sort of evaluated beforehand. There's been two instances where we actually couldn't get the neobladder to go down into the pelvis. There's sometimes the blood supply that supplies the small intestine starts actually up at your breastplate, and so for patients that have really long torsos and have a little bit of extra fat on them, sometimes that blood supply is actually really short.

No matter how you sort of reconfigure the intestines and try to wiggle it down there, sometimes it just won't go and you don't want to leave a really large gap because they end up scar tissue and the neobladder doesn't heal. That's happened to me twice, again, over the span of about 12 years, so not frequently, if appropriate sort of measures are taken.

### **Stephanie Chisolm:**

Well, that's really good to know. I know that you do it and you're very much in tune with what your patients want and what they need. Do you think most urologists that are doing cystectomies really engage in that whole shared decision-making process where they're really evaluating? Because I hear from some patients sometimes that, "Well, my doctor said this is what they were going to do," and that they don't question. Is that something that's normal that all doctors do, or you think it's more of a subpopulation of excellent doctors that really involve their patients in that decision?

### **Dr. Poch:**

I mean, one in hope that the patients are getting at least counseled on the options for what their urinary diversions are. It's hard for me to speak exactly what goes on in the community. I think that thoughtful approach to this, the idea of shared decision-making actually came from a lot of our prostate cancer literature where we've got lots of different options to treat prostate cancer. So it's important to have that discussion with the patient, involve them in those decision-makings because there's lots of different choices. Some surgeons out there may not be comfortable doing more complex urinary diversions, the continent urinary diversions, and so the backup plan or what they're familiar with is to do an ileal conduit rather than a continent urinary diversion.

I always tell people that if you're seeing somebody, you want to make sure that that they're comfortable doing the operation. You don't want to put a surgeon in a position where they're doing something they're not comfortable with and therefore they may not be offering those types of things. I think it's always important to seek out a second opinion. If you're going to go through a major operation, I think it's always probably wise to seek out a second opinion regardless, just so that you're comfortable with the decisions that you're making. I think that answered your question, Stephanie, but...

### **Stephanie Chisolm:**

Yeah, it did. It really did. Again, you're one of the really nice, wonderful doctors that stopped to ask that patient what's really impactful for them, and you did a great job of explaining. Before we switch over, and we do have more questions that I'm going to save for the end, so keep dropping your questions in the Q&A box. I kind of wanted to do a little recap and I wanted to show a little animation that BCAN has put together to just kind of summarize, and it might trigger some more questions that you might want to ask the doctor. I'm going to turn this video on. Hang one second. I think I need to stop sharing for one second and make sure you can hear the sound. There we go. All right. Should be able to hear this.



To watch the video, please visit: <https://www.youtube.com/watch?v=S2QKwhW8pds>

