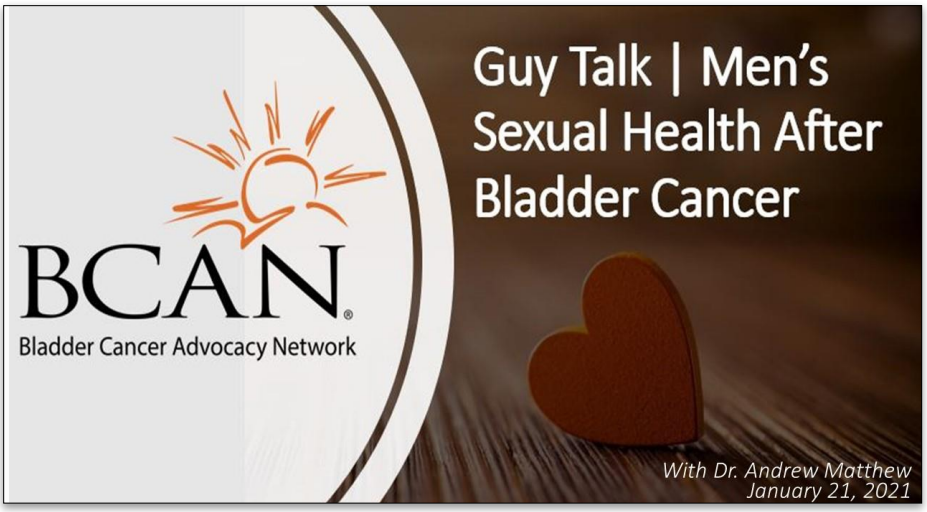
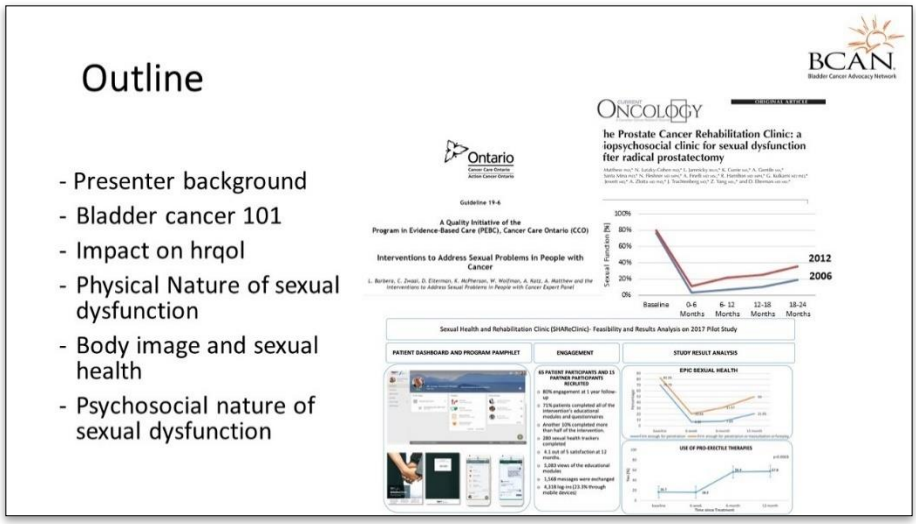


Meet Our Presenters:

Dr. Andrew Matthew: Dr. Matthew is a Senior Staff Psychologist at Princess Margaret Cancer Center in Canada. Dr. Matthew is a Clinician-Investigator in the Department of Surgery, Division of Urology and Co-Lead of the Genito-Urinary Survivorship Program.

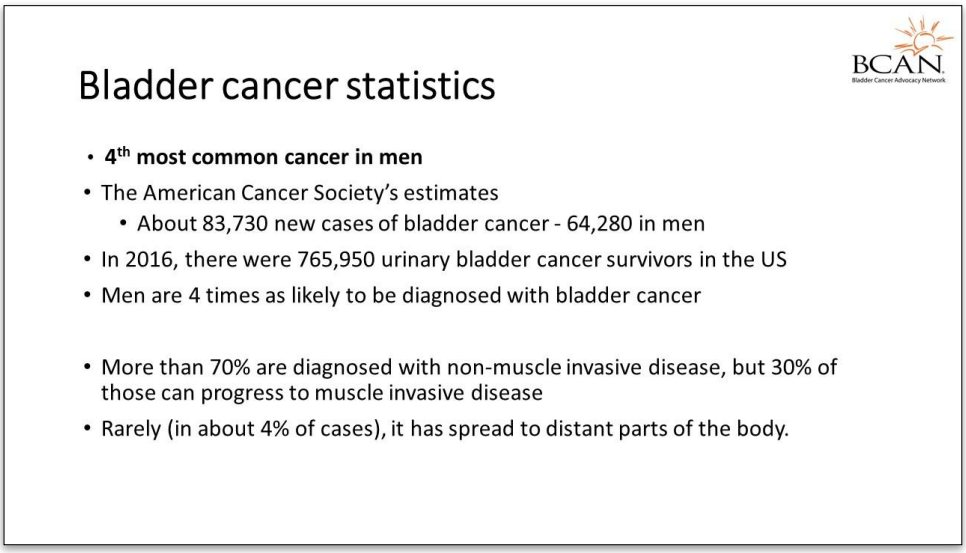
After bladder cancer diagnosis the conversation about how to live your life fully following treatment, often doesn't always occur. Sexual dysfunction is a common phenomena after many bladder cancer treatments, and yet sexual health is often overlooked by patients or their doctors. There may not be a lot of discussion that really addresses the impact of various sexual changes that happen as a result of bladder cancer treatments, things that might impact your sexual desire or libido, your sexual function, your body image, or even intimacy between partners.

Dr. Matthew: I'm a psychologist, I've been at Princess Margaret Hospital in the Department of Genito-urinary cancer. So my responsibility to psychosocial wellbeing of cancer has been diagnosed with prostate, bladder, kidney, and testicular cancer. And I've done that for about 25 years.

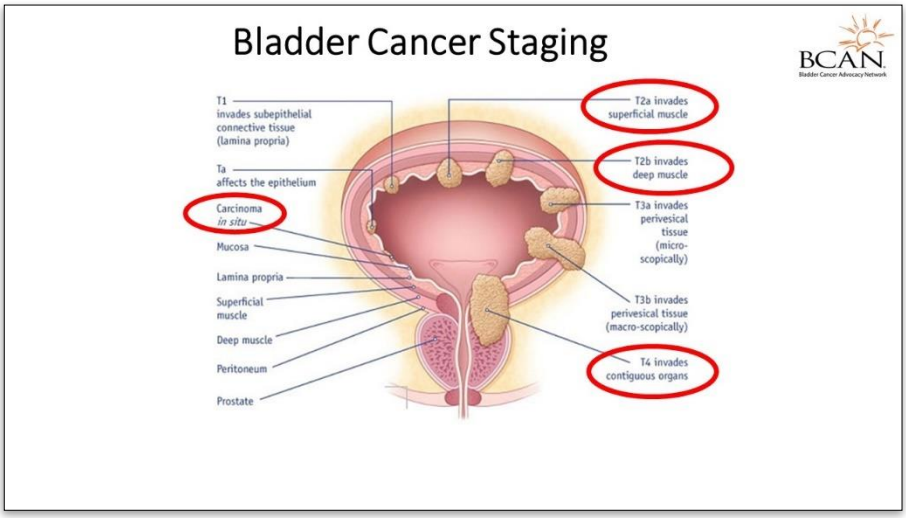


And in doing so, I really did recognize that there was a gap in care where many of these cancer sites and patients and partners suffering these cancers, the diagnosis and treatment of these cancers were experiencing sexual

dysfunction. And there was very little care offered, I then developed a face-to-face clinic in the hospital. This was specific for prostate cancer at that time, and then it's now expanded to bladder cancer. And then Movember got in touch with me to create a sexual health and rehabilitation clinic for prostate cancer online, and then I developed a share clinic. I've now just requested to get some funding to see if I can now make a similar program for bladder cancer. So fingers crossed on that.

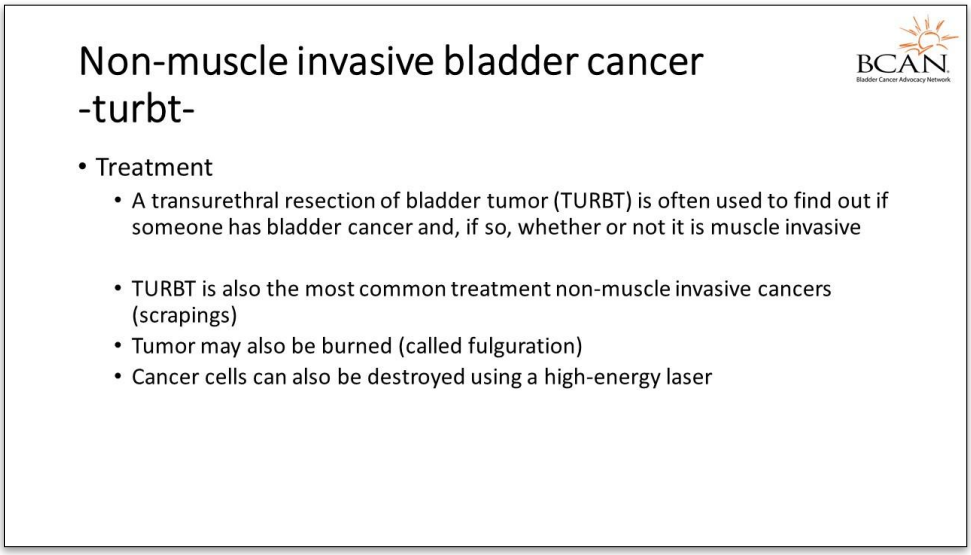


Dr. Matthew: So bladder cancer, I think most of you are very much aware of this, is the fourth most common cancer in men. The American Cancer Society estimates about 83,000 new cases, 64,000 which are men. In 2016, it's estimated about almost 800,000 urinary bladder survivors in the US. So you can imagine both the US, Canada and worldwide, there's a huge population that are surviving after treatment, which is wonderful. But also living with the quality of life impact and in particular, likely some levels of sexual dysfunction. And hopefully, we can do better at treating the sexual dysfunction. Men are four times more likely to be diagnosed with bladder cancer. And then more than about 70% are diagnosed with non muscle invasive disease. About 30% will progress to muscle invasive disease. And in about 4% of cases, it's spread to different parts of the body.

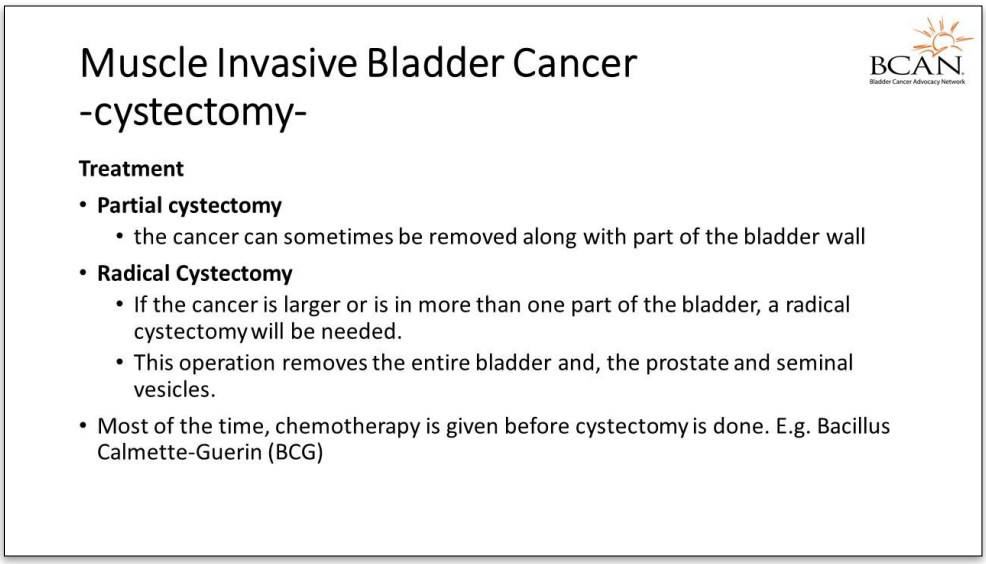


Staging, I'm sure many of you are also familiar with this. Probably the ones you most recognize are carcinoma in situ, which is on the surface of the bladder wall. And then we move on to superficial muscle invasion, deep muscle invasion, and then distal spread.

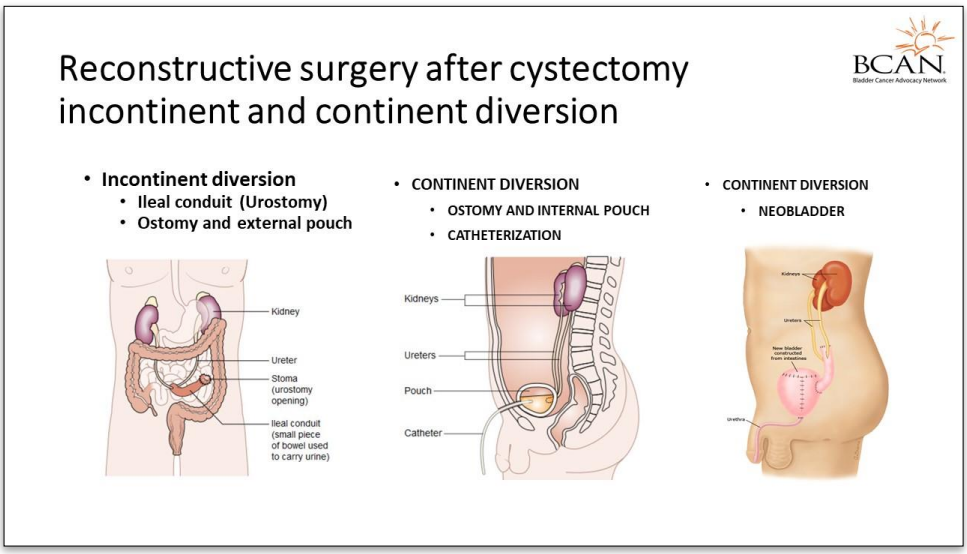
Dr. Matthew: So as I said the majority are non muscle invasive bladder cancers, and the treatments associated with, the most common treatment is the T-U-R-B-T, which stands for transurethral resection of bladder tumor. The same procedure is often used to find out if someone has bladder cancer. And if so, whether or not is muscle invasive. TURBT is also most common treatment and often referred to as scrapings. It's a physical scraping of the tumor off the bladder wall. On occasions tumors may be burned, is called fulguration, or cancer cells can be destroyed using high energy lasers.



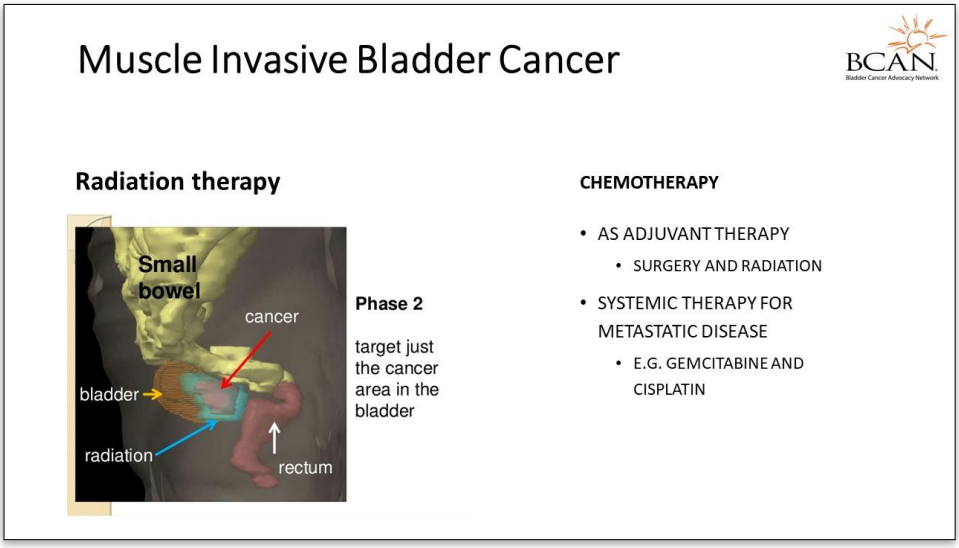
In terms of muscle invasive bladder cancer, representing about 30% of bladder cancers, there is such a thing as partial cystectomy. It's quite rare just mainly because most people's cancer is not contained enough in a localized area where we can just resect a certain part of the bladder and then restore the bladder. So it's quite rare. What is much more common is radical cystectomy. And the operation removes the entire bladder, the entire prostate and the seminal vesicles. And that's, as you will see, very important to recognize if we're taking a look at the potential impact of the treatment on sexual functioning. As well most of the time chemotherapy is given before cystectomy is done, usually BCG. If someone undergoes a cystectomy, it requires some reconstructive surgery. They're basically separated in two groups, incontinent diversion and continent diversion.



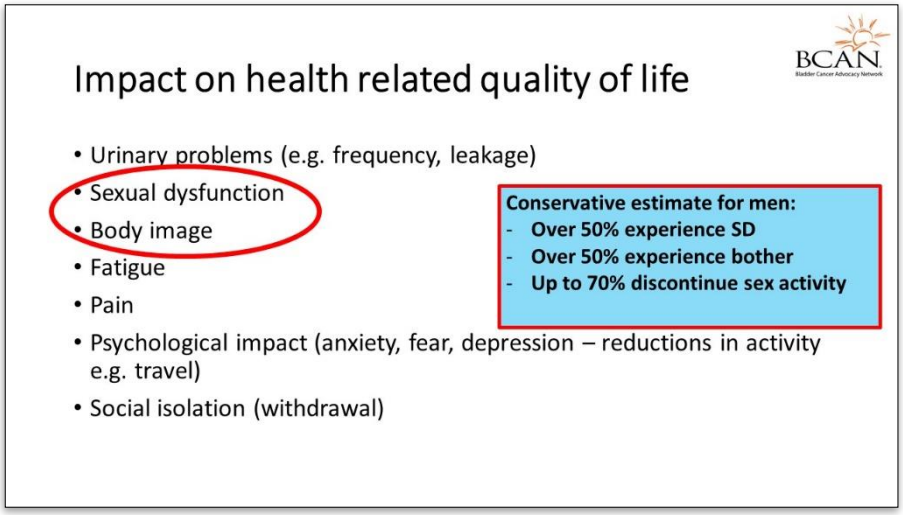
Dr. Matthew: On the left here you see a continent diversion that's often referred to as an ileal conduit or urostomy. And we have an ostomy and external pouch. Then we have a continent diversion that refers to an ostomy and an internal pouch. And the urine is actually released from the internal pouch by catheterization through a stoma. And then finally, continent diversion where a bladder is created out of the intestine, and this is called neobladder. And so I know that many of you are probably very much aware of this. And it's also important to recognize that when we're taking a look at the impacts of sexual dysfunction, if we take a look at the issue of body image. Then taking a look at ileal conduit or where we have an ostomy and an external pouch, or an ostomy and an internal pouch and the ostomy. Patients can complain of having body image concerns.



In terms of a neobladder, those concerns are obviously, the body image concerns are obviously less apparent. However, the ongoing care for neobladder and the systematic approach of caring for and utilizing the neobladder can be challenging for patients and emotionally challenging as well. Other treatments for muscle invasive bladder cancer include radiotherapy, and then chemotherapy can be used in terms of adjuvant therapy to help shrink the tumors before surgery or shrink the tumors or, and actually enhance radiation prior to radiation. Or if we have distal disease, then some systemic therapies known as the broad base chemotherapies. So when we take all this together, and we want to take a look at the impact of health related quality of life. And it is true, although there's a certain rising uptake, which is great.



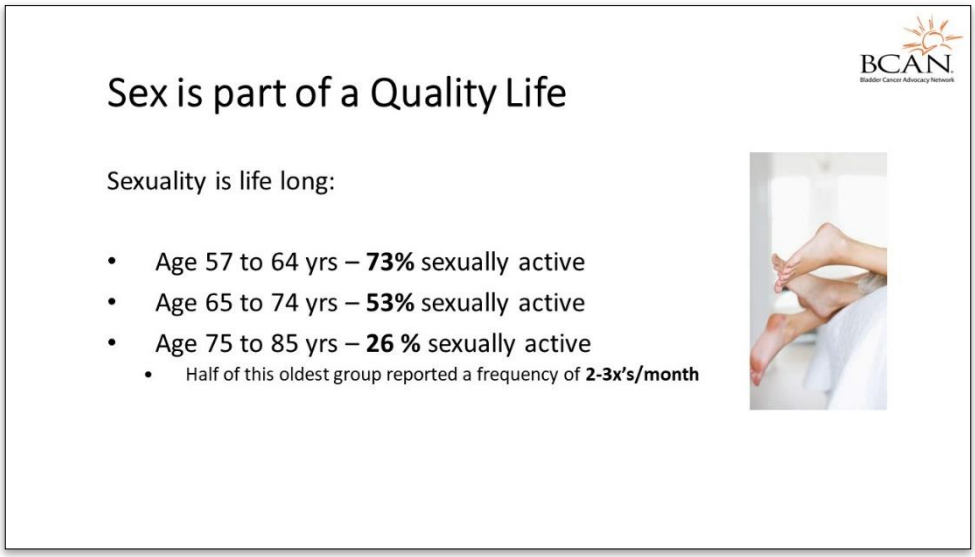
Dr. Matthew: There's not a lot in the literature, specific to bladder cancers, the types of bladder cancers, the types of different treatments, the types of reconstructive surgeries, and really differentiating each of those and providing us real insight into the health related quality of life specific to gender type of treatment, type of reconstructive surgery and the like. So there's certainly more work to be done. But overall, these are the big domains. Urinary problems such as frequency or leakage, sexual dysfunction, body image, fatigue, pain, psychological impact, certainly anxiety and fear, fear and depression. They're the common fears that come with many of the cancers and that's things like fear of recurrence, fear for future health, fear of one's mortality. But also more specific ones related to the experience of bladder cancer.



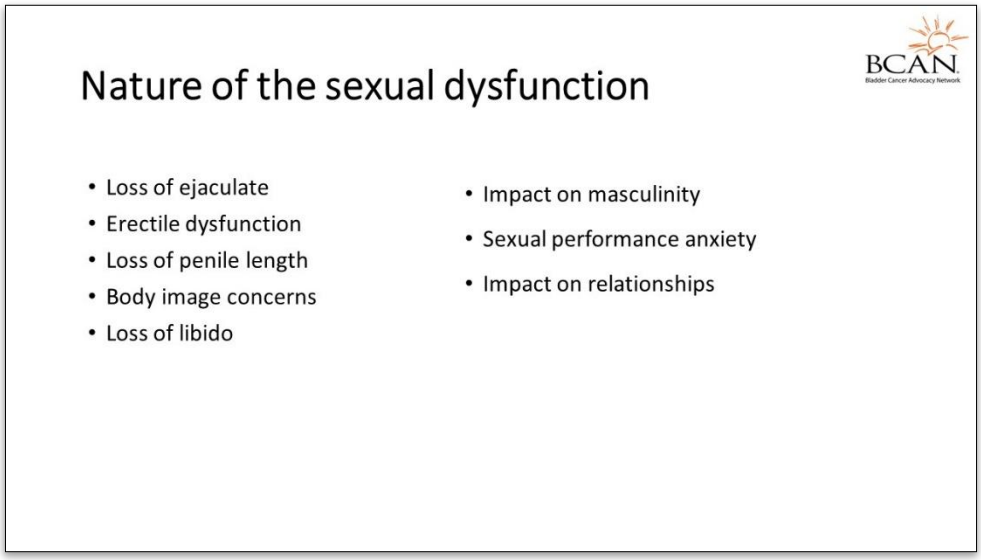
If for instance someone has had a cystectomy and reconstructive surgery, they can have concerns. If it's depending on the type of surgery, there's concerns about travel, and an ostomy, and bag or pouch care and the like. So there can be a real reduction in the everyday quality of life. And then another very common one and challenging for people is social isolation. But if you note here, and this is actually probably described as weighted or rank order in which these patients are reporting impact on their quality of life. So you can see sexual dysfunction, and we will also talk about body image ranks very high in terms of the overall impact on quality of life. And hence, the importance of this topic. Conservative estimates for men is about over 50% will experience sexual dysfunction in relation to their bladder cancer. And the treatment about 40 or 50% experienced bother so if it wasn't bothersome and they're experiencing some dysfunction, that's okay.

But there is real bother. And when I say real bother, I did research in this area. And they would describe this as being moderate to severe bother. And when I've been doing psychosocial research in the entire trajectory of the disease and the diagnosis of any cancer, the most common range of distress is usually mild to moderate. It's relatively rare to get moderate to severe. So not only is there dysfunction but there is significant bother. And as well, up to 70% can discontinue sexual activity as a result of their sexual dysfunction related to the bladder cancer and its treatment. And this is very important.

Dr. Matthew: You can see here sex is part of a quality of life and sexuality is lifelong. 57 to 64-year-olds, you can see 73% are sexually active. If we go down to the last age group, there is 75 to 85 year olds, or 26% are sexually active.



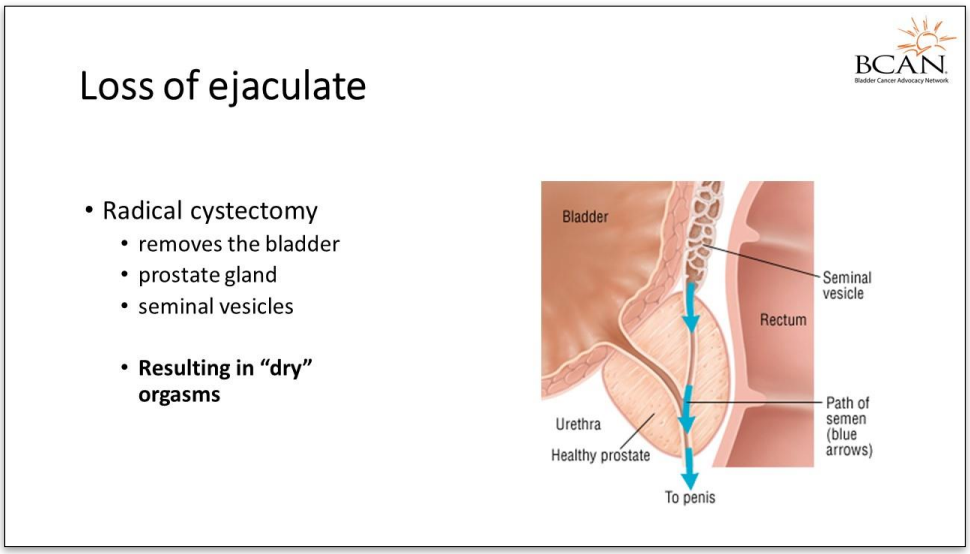
Half of this older group reporting frequency of two to three times a month.



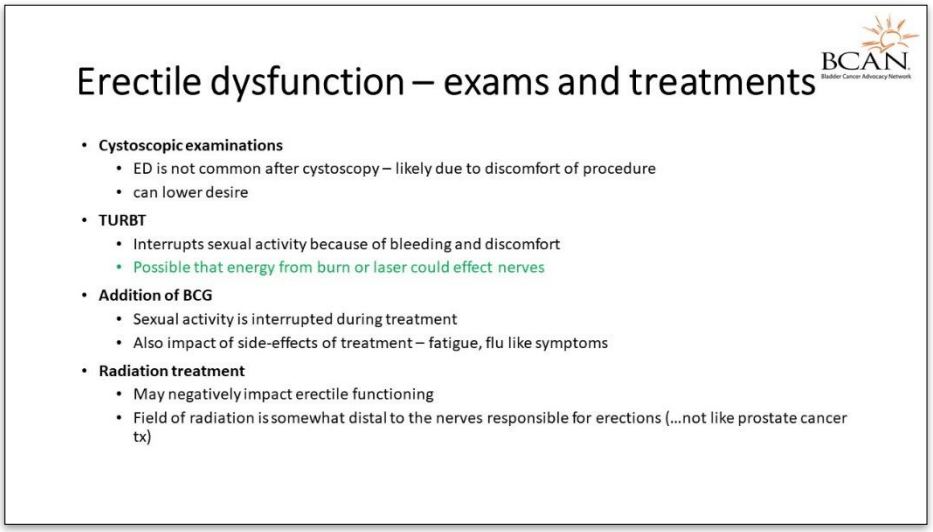
So when we talk about sexual dysfunction, obviously, oftentimes it will talk about, it'll immediately go to something like erectile dysfunction in men. But sexual dysfunction is broad. And certainly erectile dysfunction plays a male major role in this group. But it is important to identify the nature of sexual dysfunction. We take a look at loss of ejaculate or erectile dysfunction, loss of penile length, body image concerns, loss of libido, impact on masculinity, sexual performance, anxiety, and its overall impact on relationships.

And I know that given this Guy Talk, I imagine there's mostly men online today. But if there are female partners online, or male partners online, you're very welcome. And recognize that I'm focusing mainly on sexual dysfunction, and then mainly in a physiological way but I'll work on the psychological. And the idea is that sexual dysfunction in a single individual has a significant impact on their partner, not in necessarily the negative sexual ways ones think, but the idea that it can have a negative influence on relationships. And so it's very important to work through this as a team. And I'll get to that point later on. Anyway, from this point I'm going to go through each of these and talk more, particularly more specifically about them.

Dr. Matthew: So loss of ejaculate of exactly, that really is a physiological response to treatment. If you're having a cystectomy, as I mentioned before, there's the removal of the bladder, there's the move of the prostate gland and there's the removal of seminal vesicles. Under those circumstances, if you see here, this is the prostate, that center, kind of walnut shape there. It's about the size of walnut actually, and here's the seminal vesicles, the sperm actually enters in here. Then the prostate, which is a gland releases a significant amount of fluid. This fluid is designed to carry the sperms out during the orgasm or during ejaculation. And so what you see in ejaculate is significantly made up of the prostate gland fluid and not sperm itself.



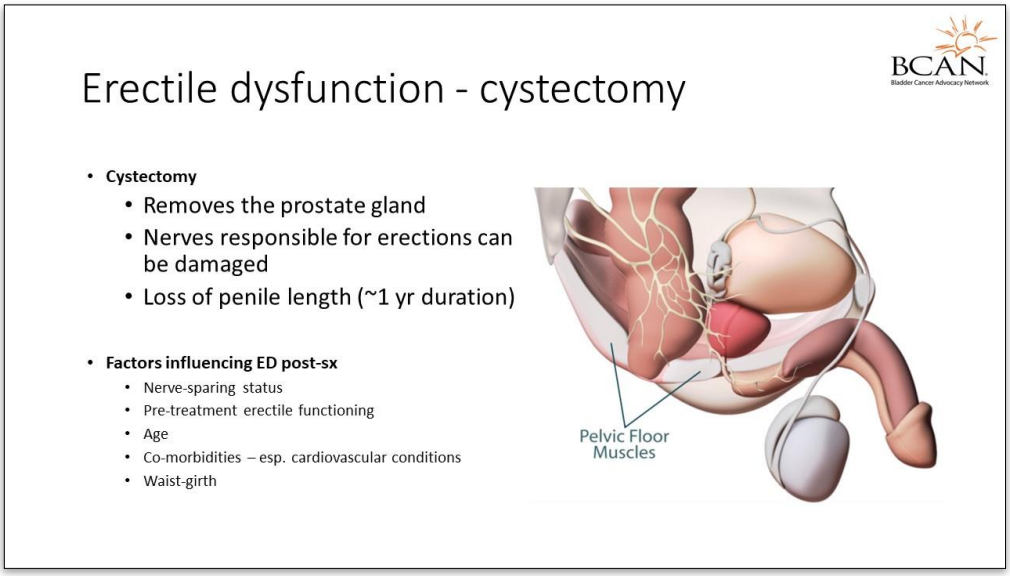
So it's mainly, the semen is mainly made up of the fluid released by the prostate gland. And so when the gland is removed during a cystectomy, that is why you'll end up experiencing what we call dry orgasms. You still have the sensation of having an orgasm, but it comes without any ejaculate. And just so you know, if there is a sperm present, it's usually just absorbed by the body or retrograde up into the bladder and you won't see it at the time of orgasm or climax. Then the bigger topic, I guess, is erectile dysfunction. Before I get into the treatments, just quickly look at exams and treatments. There were some questions that were received earlier on and comments about the potential for erectile dysfunction in response to cystoscopic examinations.



It's not common after a cystoscopy, and it's likely probably due to the practical manual manipulation during a cystoscopy, that causes discomfort related to the procedure. And this may make the whole region, the general region to be feel sore and that may have some psychological impact to create the erectile dysfunction. It can also lower desire, just because there's a lot of focus on that area and there's disruption during that examination. Then there's the TURBT. It can interfere with sexual activity just merely because after scraping, there's a lot of bleeding and discomfort, so there are often a period of time where people are just not interested in engaging in sexual activity. There is some scientific research

going on to see if there is a more, if we can take a look at TURBT as causing some level of erectile dysfunction beyond the bleeding and discomfort and the examining of that, although the evidence is certainly not fully in.

Dr. Matthew: But there's a possibility that the energy from the burn or the laser could reach the nerves and disrupt the nerves, and then enhance, have a physiological effect that could cause some short term erectile dysfunction after a TURBT. As long as the nerves aren't severely damaged, they will restore function. And then there's the addition of BCG. Again, sexual activity is interrupted during treatment as it's not suggested to engage in sexual activity during this time. Also, the impact of fatigue and flu like symptoms, so you're just not interested in engaging in sexual activity. And then we have radiation treatment, there is reporting that patients can experience erectile dysfunction after radiation treatment for bladder cancer. It's certainly it's not as common and certainly not as common as you see in terms of, for instance, prostate cancer. And that's mainly because the area of radiation is focused up on the bladder for bladder cancer.



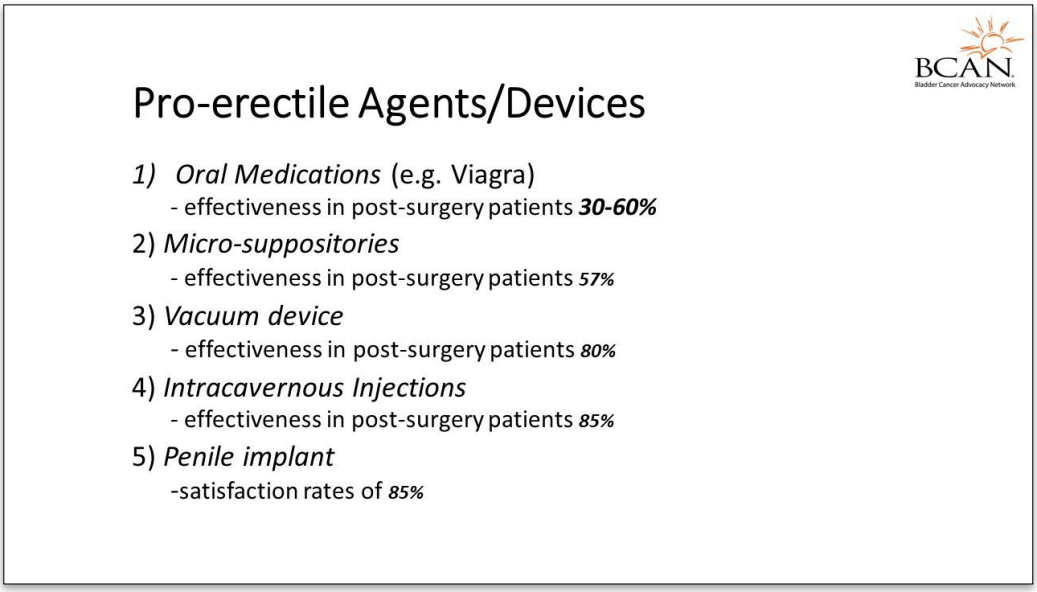
And as long as the field doesn't reach down far enough to encompass the prostate, and the nerves that go down either side of the prostate, then hopefully the erectile functioning will not be a result due to injury of those nerves. Unlike radiation and prostate cancer, as I said, where the actual field of radiation is directed right on the prostate and certainly hits the nerves responsible for erectile function. When we think about erectile dysfunction in bladder cancer, I think many of you would recognize that this is often very strongly associated with a cystectomy. And that is as mentioned before, or move, it's not only that we remove the bladder, but you actually receive what's called a prostatectomy. And oftentimes nerves responsible for erections can be damaged during a prostatectomy. Here, again, is a diagram if you can see my arrow, this is the bladder, this is the seminal vesicles. This is the prostate here and the urethra heading on out.

And these little tiny nerves are fuse to the side of the prostate, and those nerves are responsible for erectile functioning. And so if, and they run down either side of the prostate. And as you can see they're not like cables, they're actually microscopic. And almost like mesh like, and they're fused to the side of the prostate. And so during surgery those are ... and for lack of a better description fit for laid off the prostate, and hopefully left intact and the prostate is removed. However, that's not available, sometimes those nerves can certainly be damaged and cause erectile dysfunction. Also, it's important to note those nerves are responsible for erection, they're not responsible for sensation on the penis. So this procedure should not interfere with the tactile nature of sensation on the penis. In other words, your penis will have the same sensation on the shaft and the head of the penis, even without the nerves. The factors that ... oh, one other point is loss of penile length.

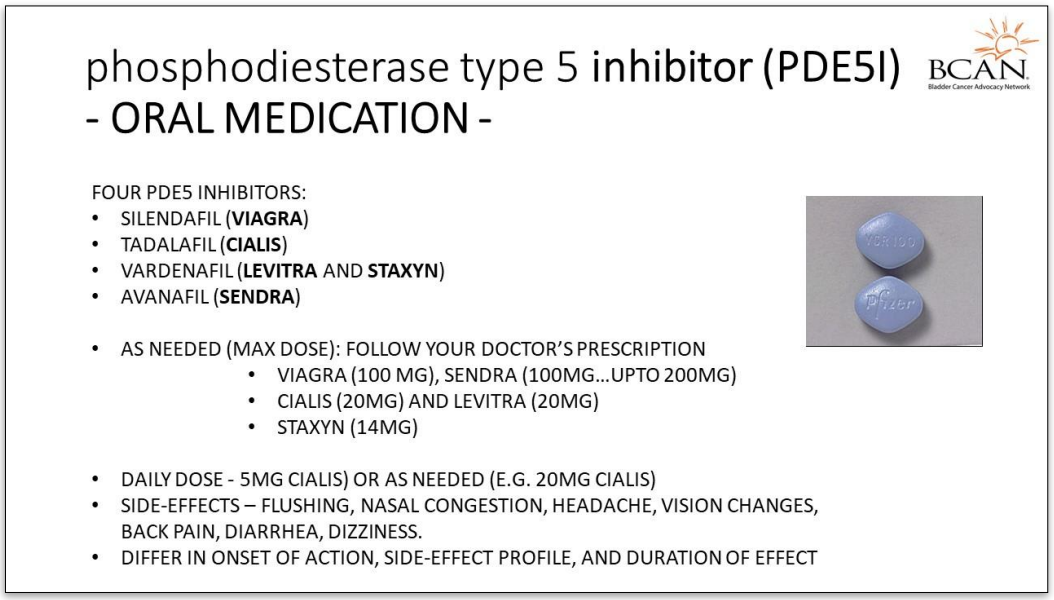
Dr. Matthew: There is a loss of penile length, that is due to scar tissue and some disruption of blood flow and the like. But what it really can be conceived as that this is, there's the prostate, the prostate is removed, the urethra needs to be pulled up and restored, connected. And when it does, so the penis is pulled in a little bit. This was something that I had known about for a long time. What is interesting is that no one had actually checked out whether this shortening penile length lasted for ever. And there's optimistic research that the penile length can restore itself, usually at about one year post treatment. Factors that influence the level of erectile dysfunction that people experienced post surgery are nerve-sparing status. As I said, the nerves run down either side of the prostate. And you can have bilateral nerve-sparing or both sets of nerves spared, unilateral or one set of nerve spared, or non nerve-sparing where the ... unfortunately, in the removal of the prostate and the bladder the nerves were also removed.

Other things like pre-treatment erectile functioning, if you had erectile problems prior to treatment, this will certainly disrupt that even more. Age, younger men have a better chance to recover of function. Comorbidities, especially cardiovascular conditions can disrupt return to function. And also waist and girth, or rather waist girth. And that's just a practical aspect of the degree to which the surgery itself is performed, when performed it's easier for the surgeon, the more slender you are. We have lots of pro-erectoral agents and vices that are useful or helpful. Oral medications like Viagra, micro suppositories like muse, vacuum device, intravenous connection, injections and penile implant, all of which have varying but positive influence on pro-erectile therapy. I'll go through each of them. The most common one you'll know of is the PDE5 inhibitors oral medications. The four that are most commonly known are Viagra, Cialis, Levitra and Staxyn. And they're just two different modes of application. They're both pills, but one is take sub lingually the other is Sendra.

And they're often prescribed in two ways, one as needed. So follow your doctor's prescription. The maximum dose for Viagra say is 100 milligrams, Sendra is 100 milligrams, it can go up to 200 milligrams. Cialis is 20 milligrams, Levitra is 20 milligrams. And it doesn't mean that Viagra is significantly more powerful so than Cialis, it's just that they're calibrated differently and given out at these milligram weights. The daily dose, the one most commonly used for that is the five milligram Cialis, or as I said or as needed the 20 milligram Cialis. So five milligrams Cialis is taken on a regular basis as opposed to the as needed 20 milligram dose.



Dr. Matthew: Side effects are common with these agents, flushing nasal congestion, headache, vision changes, pain, back pain, diarrhea, dizziness. Just to know that they're not ongoing long term side effects, they're just active during the active phase of the medication. And they make a little sense in that PDE5 inhibitors are Pfizer dilator. So wherever how small blood or blood vessels, they'll dilate. We have small blood vessels in the face, so they'll dilate and the blood will come to the surface that's the flushing and the heat or warmth will feel. Small blood vessels in our nasal passage can cause headaches and congestion, vision changes, small blood vessels and actually different receptors related to the PDE5 or PDE inhibitors. The one most commonly discussed is that Viagra can sometimes create a little bit of a blue hue. Also vision changes for the other ones is just a little bit of blurriness on the periphery. The evidence is that none of this is permanent, Sometimes you also will also get back pain.



And these side effects vary across men, certainly, for no apparent reason. And as well, they will differ in terms of level of dosage. So the higher the dose, if you have that side effect, the more you'll experience that side effect. The way they differ is differ of onset of action, side effect profile and duration of effect. Although they have some side effect profile differences, they have a lot of common ones. So that's important to tease out. Different onset of action, Sendra is now considering to be a faster acting PDE5 inhibitor. And duration of effect is more known with Cialis. Cialis is known as the weekender, you taking on Friday, it's good through the end of the weekend. This is more true for patients that have erectile dysfunction for other reasons than for instance a radical cystoprostatectomy. So be sure to talk to your physician who's prescribing these so you get a good idea of what to expect.

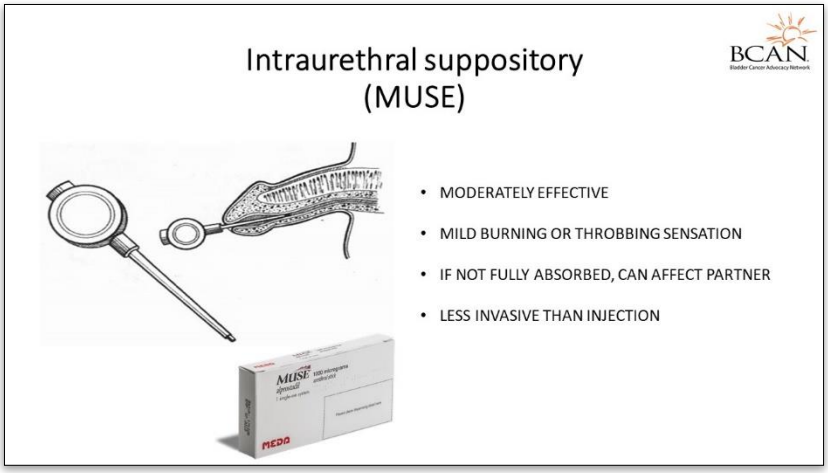
I recommend through our clinic just as a method of incorporating how do we introduce oral medications into our sex lives. And so I break it down into the laboratory approach. And that's where you set your

alarm for an hour to an hour and a half before you get up in the morning, take your prescribed pill at the recommended dosage. Hopefully, fall back asleep for about an hour and a half, that allows full saturation of the medication.

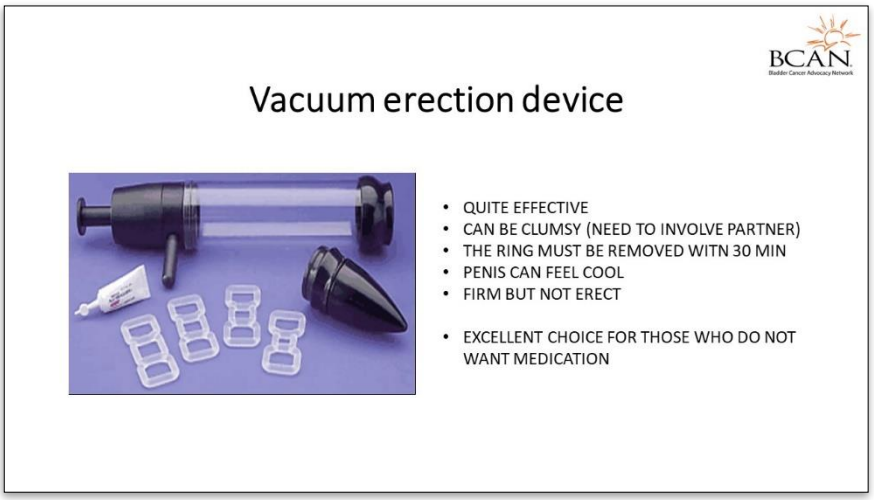
Dr. Matthew: Wake up, empty your bladder and then on your own get yourself in a sexy state of mind, whatever can be useful in doing that. And then self-stimulate your genitals much like you do during masturbation. And note the firmness of any erection achieved. If there's any increased blood flow, it means the nerves are functioning to some degree, and hopefully that will cover over time. Also note side effects. The rationale behind this is that obviously in the morning, there's no food or alcohol in your system. These medications don't love the presence of food and digestion, or alcohol. That's less true, maybe for Cialis.

You're well rested. And since you're on your own, there's no performance anxiety. This is wonderful, if you want to certainly include your partner in this process as well. That's the laboratory approach, just monitor how you are responding to the medication. And remembering, for instance, for cystoprostatectomy, if the nerves are disrupted during the process, it can easily take a year for some level of recovery and erectile function and often two years. And so it's important that you don't have these overly strong expectations that the first time you pop the blue pill it's going to work. Then sexual activity lovemaking approach, this is just take the medication as directed but attempt to adhere to an optimal response of the one hours little food. But then engage in sexual activity as you would normally without necessarily the desire or goal of penetrative sex.

And this way, you still get some activation of your erectile system with the medication. However, you're not so focused on it that it becomes like a laboratory as opposed to the warmth of the sexual activity. Engage in the sexual activity, you can be brought to orgasm dry as it may be with a fully flaccid penis, so you do not need an erection for that. And you can enjoy what some people call outer course or non penetrative based sexual activity. Another one is urethral suppository or Muse. This is a little micro suppository that you insert into the tip of your penis. It's moderately effective, it may cause mild burning or throbbing sensation in the urethra. If not fully absorbed by your body it can affect the partner, in other words it can leak into the partner and cause some reaction or blood flow in the genital area of your partner. And then a less invasive than injections and so often is the stepping stones from PDE5 inhibitors to injections.

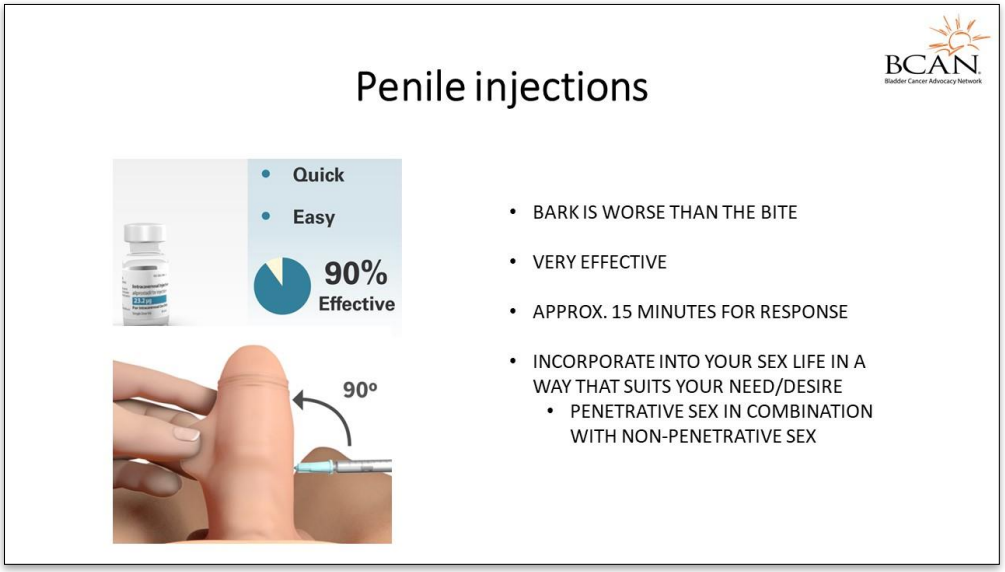


Dr. Matthew: The vacuum device is quite effective. It's a little bit clumsy. And that's why it's hard on people. But so it's very important to involve your partner in this, that you're not doing this in the washroom and coming out. That it's part of your sexual repertoire, so to speak. You do need a ring in order to maintain the erection for a period of time to enjoy penetrative sex. However, that ring needs to be removed within 30 minutes in order to ensure that we restore blood flow. Because you're just trapping blood flow, blood in the penis under the vacuum situation. So you need to let the blood flow back in. The penis can feel cool because there is no warm blood flow. And that may be firm but not erect. And that really refers to the fact where you put the ring is right at the base of the penis. But that doesn't allow necessarily for it to stand erect. So the penis is more likely to pivot, although be firm.



And it's an excellent choice. And I often talk to patients and partners about the fact that if they do not want to engage in any medication that it's a non medication based approach.

Penile injections are also important. It's the idea that bark is worse than its bite, very effective and the bark is worse than bite meaning that it sounds very challenging to inject your penis. Remember, it's a small gauge penis. Small gauge needle, not unlike one that would be used for the flu shot. And it's painful, yes, for a brief moment when you have an injection in your arm. But beyond that, most patients say it's not painful. And it takes about 15 minutes to work. It's 90 plus percent effective. It just a little bit of a challenge on how to incorporate it in your regular sex life.

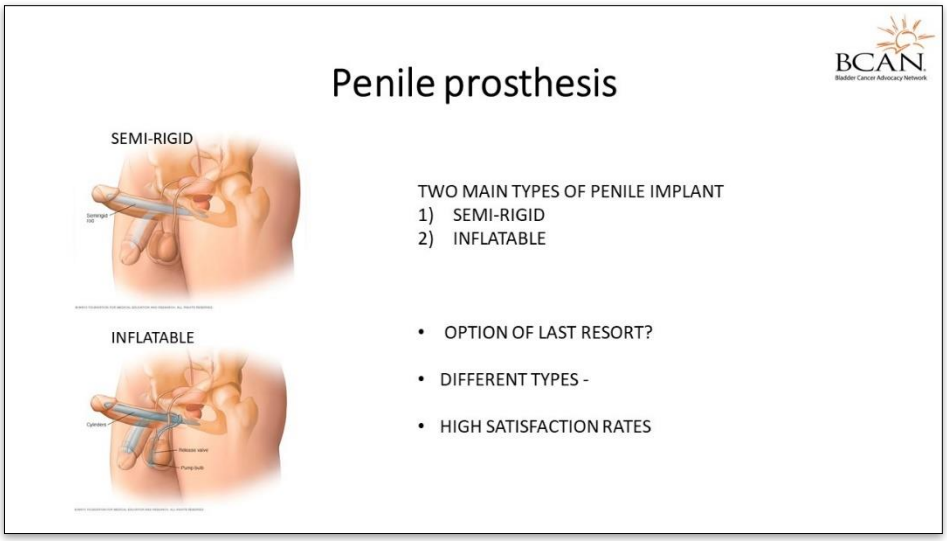


I often suggest to patients and partners if they're engaging in sexual activity four times a month, you might want to just engage in non penetrative sex three times a month and bring each other to orgasm if that's the goal and enjoy each other. But if you want to then re experience the penetrative sex, use an

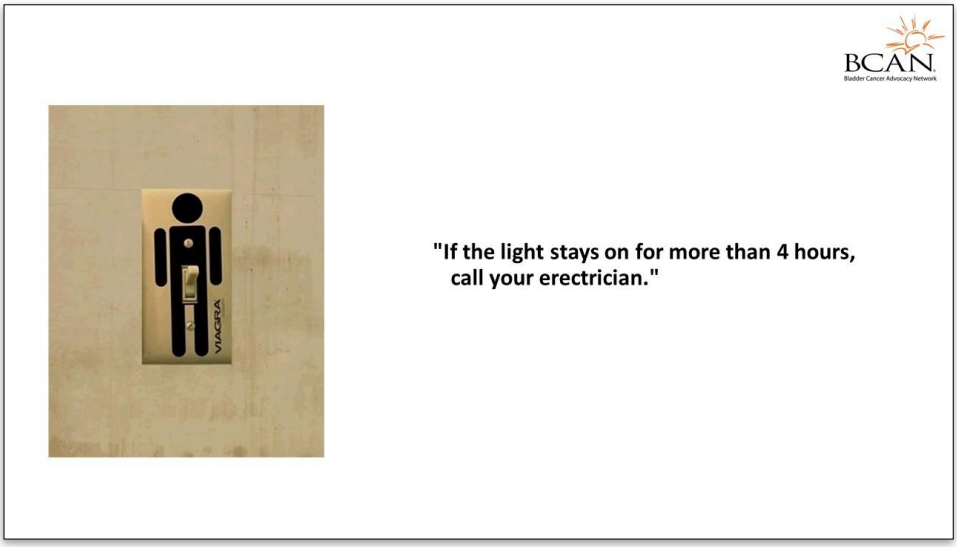
injection once a month, and that will allow for that re experience of penetrative sex. So you can mix it together whichever way makes sense.

Dr. Matthew: But it's often helpful to recognize that every time you engage in sexual activity it doesn't mean you have to have an injection. Then there's penile prosthesis. There're two main types of penile implants, semi rigid or inflatable. These are options of the last resort people will say. So I put a question mark there, that's not necessarily the case for everybody. We have to go with the values and what's important to individuals involved.

But it certainly makes some sense to try the less invasive ones before we get to a prosthesis. As noted, there are the different types and it's semi rigid and inflatable, and then sometimes there's three stage versus two stage. So it's important to have a good discussion with a surgeon before choosing. And in the literature, those that have actually undergone the procedure of the penile do have very high satisfaction rates in the 85 plus range, percent plus range.



A little humor, the Viagra switch, if the light stays on for more than four hours, call your electrician.



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