Prostatepedia[1]

[1]expert insight + advice

Erectile Dysfunction After Cancer

Prostatepedia_September [2019] Volume [5] No. [1]

In this issue....

For men just diagnosed with prostate cancer, the threat treatment poses for sexual function looms large and can play a major role in which treatment they choose. It can even lead some men to choose to avoid or delay treatment. It can even lead some men to avoid tests that can lead to the diagnosis of prostate cancer so that they are not confronted with the possible loss of sexual function. In this review, we will try to put these issues into perspective to help patients think more clearly about decisions they face.

First, I should point out that prostate cancer and its treatment do not represent the most common threat to male sexual function. The most common medical cause of male sexual dysfunction is cardiovascular disease that damages the blood flow to the penis. In fact, loss of erectile function can often be an indication of developing cardiovascular disease and is associated with a greater risk of heart attack or stroke. As you might expect, this scenario is more likely if you have hypertension, diabetes, or elevated cholesterol or triglycerides. Management of these risk factors for cardiovascular disease can often improve erectile function. These issues are quite common in men with prostate cancer and can make impotence from prostate cancer treatment more likely. If you want to preserve sexual function, you should work with your physician to optimize cardiovascular health.

Second, I should point out that as prostate cancer progresses it can impair sexual function. The arteries and nerves to the penis sit on either side of the prostate gland. As the cancer grows, it will engulph these arteries and nerves, resulting in the loss of sexual function. As a result, if you have clinically significant cancer and need treatment, the no treatment option will not prevent loss of sexual function. This path might only serve to delay for a while that loss.

Charles E. Myers, Jr., MD Pp

The physicians interviewed for this issue provide a comprehensive review of the ED treatment options for patients after surgery or radiation. I will only add two observations. First, most patients can recover sexual function if they are willing to consider all options. Second, it is a real tragedy that more men do not consider penile implants. Patients of mine who had penial implants have, for the most part, been very happy.

Prostatepedia is published in Charlottesville, Virginia by Rivanna Health Publications, Inc.

Contents:

Contributors:

Editor-in-Chief
Charles E. Myers, Jr., MD

Publisher
Jessica Myers-Schecter

Copyeditor
Lito Velazquez

Proofreader
Robert M. Protz, MS

Transcriptionist
Sarah Mason

Designer
Verity Burgess

Community Outreach
Corinne Halada

Sales Consultant
Rod Schecter

Business Consultant
Rose Sgarlat Myers, PT, PhD

Editorial + Billing Offices
274 Redwood Shores, #739
Redwood City, CA 94065
(800) 975 6238

Administrative Offices
PO Box 655, Earlysville, VA 22936

R. James Yu, MD: How A Urologist Approaches ED

Dr. R. James Yu is a urologic oncologist with MarinHealth Urology | A UCSF Health Clinic in Marin County, California.

He spoke with *Prostatepedia* about he approaches erectile dysfunction after prostate cancer treatment.

Why did you become a doctor?

Dr. James Yu: My parents always engrained in me the importance of helping others. When I was younger, my mom was also diagnosed with a rare thymus cancer that metastasized to her lung. I got to see first-hand the impact cancer had on someone's life and on the people around them. I saw her going through chemotherapy and the recovery from surgery. It created an instinctive affinity and empathy in me towards cancer patients. As a result, going into medicine was an easy decision for me, specifically in the field of urologic oncology. I was specifically drawn to urology because of the relationships that I could develop with the patients, which I don't feel is a common thing in surgical subspecialties.

"When I was younger, my mom was also diagnosed with a rare thymus cancer that metastasized to her lung."

Have you had any patients over the years who have stood out in your mind as either changing how you think about your own role or how you view the art of medicine?

Dr. Yu: Definitely, but I think my mom had the biggest impact. That's because I got to see cancer from the other side of the exam room, from the patient's perspective. I learned from her the importance of having a team when fighting cancer. Everyone has a role to play: the patient, spouse, kids, church, friends, surgeon, medical oncologist, and radiation oncologist. It's because of her team that helped her beat that cancer.

I see my role in a few different phases when treating prostate cancer. The first phase is when you initially get diagnosed. Of course, my job is to educate about the disease, the treatment options, and all the pros and cons of each modality; but my other job is to help alleviate the anxiety when hearing the *C word* in their body. Most patients have already done their preliminary research when they come to see me. Their minds have already naturally jumped to conclusions. That is what I saw my mom go through. Dealing with that emotional side of things is important. Until you've done that, patients won't hear what you're saying. That is why we spend so much time with patients at that initial consultation.

The second phase is actually doing the technical part of the surgery, which is critically important. It requires a lot of experience and expertise to deliver great results. The last phase is the survivorship. This part of the patient's journey is often overlooked. Patients are having to continue surveillance for their cancer, and are sometimes dealing with some of the side effects of treatments. They always tell me they are super anxious to see their PSA results. But as time passes, they gain more confidence in their cancer control, and also see their side effects improve or resolve. You start to see the tension melt away in their faces. It really brings me a lot of joy to see my patients go through that growth and evolution.

How do you approach the subject of erectile dysfunction after surgery with your patients? Do you introduce the subject in that initial consult?

Dr. Yu: Sexual health, in general, is a delicate and sensitive topic for many patients and their partners. That's especially true when discussing the sexual impacts that prostate cancer treatments can have on patients. In some cases, the embarrassment in talking about sexual health can negatively impact the patient's overall recovery. That's why communication before and after treatment is so important for erectile function. That communication needs to exist between the patient and his doctor AND the patient and his partner. My advice to patients is to not assume the other party knows what you are thinking, or that you know what they are thinking. Only talking about these issues can make things better.

Of course, urologists also know that there's a natural barrier to talking about these topics. As a result, we give patients a questionnaire that prompts us to start the conversation. These questions usually ask about your sexual activity, confidence level, libido, need for medication, and if other medical problems exist that might impact erectile function. This helps to establish a baseline, which impacts treatment results. I also am very proactive in discussing the potential effects of erectile and ejaculatory dysfunction after prostate cancer treatments in our initial discussions. However, despite these tools, and the doctor asking specific questions, it still requires the patient to engage and answer openly and honestly.

You're saying that some people are reluctant to talk about it no matter how much you press?

> *"My other job is to help alleviate the anxiety when hearing the C word in their body."*

Dr. Yu: Sometimes. But everyone processes things differently and on different timelines. Sometimes, we just need to circle back at a later time to address this issue.

What kinds of questions do you suggest men ask their urologists about ED before they have surgery?

Dr. Yu: First, I believe it is up to the surgeon to bring up the specific risks to erectile function related to any prostate cancer treatment. That's part of informed consent. From the patient's standpoint, the main questions I would be asking include, "What is your plan for me before, during, and after surgery to optimize my erectile function recovery?" Related to that is, "Do you recommend a specific regimen for penile rehabilitation protocol? Also ask about specific erectile function recovery rates after surgery specifically for that surgeon. But having a specific plan for what's going to happen after surgery helps alleviate some of the anxiety related to that potential side effect.

I also think the patient should ask themselves and their partner, some questions: "What is the level of intimacy that we have right now? What do we want it to be in the future?" A change in the way couples are intimate can definitely affect a relationship. I recommend that patients bring their partners into the appointment to not only serve as another set of ears, but also to participate in discussions about issues like this.

Some recommend that men seek out a sexual medicine expert before surgery. Do you think that's warranted? Or would you only recommend that once a man is already having problems?

Dr. Yu: That is always an option. I don't usually send patients to sexual medicine experts because I'm comfortable having that open discussion with them.

Is there anything men can do before surgery to prevent potential erectile dysfunction after treatment?

Dr. Yu: There aren't really any studies that show specifically treating men before surgery with a drug regimen actually improves erectile function after surgery. However, there are many strategies to optimize their overall health which will improve their chances—like eating a healthier diet, losing weight if you're overweight, and improving your exercise tolerance. Quitting smoking is important because that also impacts vascular disease. Lower your stress levels. Drink less alcohol. Manage the things we know directly impact erectile function like diabetes, cardiovascular disease, and hypertension.

Doing these things are not only good for erectile function, but also good for overall longevity. I tell patients that a cancer diagnosis is oftentimes a wakeup call, and they should take this opportunity to adopt healthier lifestyles.

Are there any ED treatments that are more effective than others after surgery?

Dr. Yu: I don't think one ED treatment is more effective than another after surgery. However, doing something is better than doing nothing. Also, the sooner you do it, the better, in order to reduce the risk of poor oxygenation, fibrosis and scarring in the penile tissue. It's very much a "use it or lose it" mentality. I recommend whichever treatment best enables the patient to resume sexual activity quickly after treatment.

> *"The embarrassment in talking about sexual health can negatively impact the patient's overall recovery."*

Most men start with medications, because that is the easiest to administer. Published studies don't show a difference between taking it daily versus on demand, although both regimens are most effective when used consistently in the first year. Some men also use a vacuum erection device (VED) to help them have penetrative intercourse sooner after surgery. VEDs have also been shown to reduce penile length loss after surgery, So again, doing something is better than doing nothing. I tend to recommend a daily regimen post-operatively in combination with vacuum device therapy. Every patient has a different mentality about how aggressive they want to be with their rehab. Some couples are not active at all, so they only do on-demand therapy. Others stick with medications, VED, and some of the other treatments out there in combination. These include intra-urethral alprostadil, or intracavernosal injection therapy with either Caverject or Bimix or Trimix.

Then, of course, if all those fail, you can always consider a penile implant. We usually wait for one to two years before talking about the penile implant, just because the expectation is that we will see patients continue to improve for the first one to two years. Nerves don't regenerate that quickly. Doing something as permanent as a penile implant that quickly after the surgery is usually discouraged.

Are these treatments covered by insurance?

Dr. Yu: It depends on the insurance. The costs of medications was definitely more prohibitive three to five years ago, but many of these medications are now offered as a generic. This makes it more affordable for patients to pursue even if their insurance does not cover it. The VED and injections usually are not covered as well, so patients pay out of pocket for those regimens. A surgical approach like the penile implant is usually covered by insurance.

There has been a lot of recent publicity for low intensity penile shock wave therapy in patients with de novo erectile dysfunction. This treatment has not been studied in patients with ED after prostate cancer surgery so we don't know its applicability, safety or effectiveness.

Is that painful?

Dr. Yu: Usually not. A numbing medicine is applied to the penis before the shockwave treatments are given.

Do you have any advice for men who are either worried about ED before surgery yet or who are already struggling with ED after treatment?

Dr. Yu: One thing to keep in mind is to look at the big picture and maintain perspective. We need to really consider the prostate cancer first. The reality is that sometimes we need to be aggressive with our treatments for prostate cancer in order to preserve your life. That may come at the risk to certain functions. In other cases, we can offer active surveillance of prostate cancer because we don't want to risk impacting erectile function while treating an insignificant cancer. Treatment needs to be individualized to the patient.

For patients who have some baseline erectile dysfunction, there is definitely the risk of persistent or worsened erectile function after surgery or radiation. The good news about erectile function is that even if there is poor recovery, there are still many ways for patients get their sexual function back. It may require some inconvenience, but that's something that the urologist on your team can help you with. Having a proper expectation going into treatment and recovery helps: understand that recovery takes 12 to 24 months in some cases. And that recovery process can be frustrating because things do not feel natural at first. That's why it is important to keep the lines of communication open. This is not something that is easily tackled alone. Seek help, even though it is such an intimate topic. Pp

Philip G. Pearson, M.D
Erectile Dysfunction After Surgery

Philip G. Pearson, M.D., is an urologist with City of Hope in Pasadena, California.

Prostatepedia spoke with him about erectile dysfunction after surgery.

Why did you become a doctor? What attracted you to medicine in the first place?

Dr. Philip G. Pearson: I fell into it. I found that I had a talent for math and sciences. I applied to medical school and got in. It seemed to be a good match for me. I wanted to get into a good profession where I could make a difference. This seemed to open up for me.

Have you had any patients over the years whose cases changed how you view your own role or the art of medicine?

Dr. Pearson: I would say there isn't any one particular patient or case that stands out. Rather, just the collective of years of practice, and of dealing with patients and families has changed my view. Helping people when they're in real need and don't know which way is up and what to do. They get different opinions and misleading information. To give them guidance and help them along their path is rewarding. Ultimately, we develop a relationship. Especially those patients I've seen over a long period of time, it's certainly nice to have them come back and update us as to their progress on how they're doing.

How common is erectile dysfunction (ED) after a radical prostatectomy?

Dr. Pearson: It varies. It depends on a lot of different factors. Some of them are related to the patient. Some of them are related to the cancer. Some are related to the surgery.

For example, for patients coming into surgery who already have problems with erectile dysfunction, having a radical prostatectomy is not going to help things. It's going to be tougher for them on the other side.

Whereas for patients who come through and say they have no problems before surgery, the percentage of maintaining that potency after surgery is greater.

The other factors have to do with the cancer. If it's a more aggressive or advanced cancer, then that's going to be more difficult to bounce back from as opposed to very early stage low grade cancer.

Then in terms of the surgery, whether the surgeon can perform a bilateral nerve sparing procedure or whether the surgeon has to go wide if it's a very aggressive or advanced cancer, then that's going to affect the rate of potency after surgery as well.

Does it make sense for a man to discuss the potential risk of ED with his surgeon before a radical prostatectomy? What kinds of questions do you suggest he ask his urologist?

Dr. Pearson: I think it's essential to talk to your surgeon prior to surgery about erectile dysfunction. It has to be done. It's one of those factors that is going to be affected by the surgery. Even in the best-case scenario, it's going to have some effect on erectile dysfunction. Hopefully, the patient regains their function, but it has to be something that you have to focus on and coordinate with.

Sometimes it's a bit of an awkward conversation to have between the surgeon and the patient. I think that if you address that upfront prior to surgery, then you break down those barriers so that when you're in your post-op visits, the surgeon can say, "Remember when we discussed sexual function? How are you doing in that department?" It's a much easier way. If you get it out of the way up front, then you can circle back to that much more easily.

In terms of what questions you should ask, you should ask what type of surgery you're getting. Are you getting a unilateral nerve sparing procedure or a bilateral nerve sparing procedure? What does the surgeon think your rate of maintaining potency after surgery might be?

Is there anything a man can do before surgery to prepare himself for the potentiality of dealing with ED after surgery? Is there any kind of pre-habilitation?

Dr. Pearson: I think you've hit on a hot topic these days in terms of preparing for surgery. Traditionally, we always just go in and have surgery. Then you rehab from surgery. Now, more and more surgeons are focusing on *prehabilitation*. In other words, optimizing the patient prior to surgery. This can be a whole range of things. There are some obvious things like smoking cessation, diet, and weight loss. Exercise as much as you can.

Generally speaking, I tell my patients to get in the best shape that you can prior to coming into surgery. Think of it like an athletic event or something that you have to train for. Don't start bad habits. Keep up with your good habits. There has been more and more research on prehablitation in terms of optimizing your immune system. There are different drinks and supplements that can be used prior to surgery that at least theoretically optimize and strengthen your immune system prior to going into surgery. Hopefully, that will optimize your outcomes on the other side.

What kinds of treatments are most effective for men dealing with ED after surgery, as opposed to those who are dealing with ED after radiation treatments?

Dr. Pearson: Rehabilitation of sexual function after surgery has to start relatively soon after the procedure. We like to get these discussions going pretty quickly after surgery. There is a *use it or lose it* phenomenon with erectile dysfunction. If you just avoid the topic and don't talk about it and don't do anything about it for six months after surgery, then you're going to have a harder time getting back your sexual function.

Start early after surgery. The treatments run the gamut from medication, such as the phosphodiesterase inhibitors like Viagra or Cialis, to vacuum pump devices, which are really effective. There are injection therapies to penile implants that can really work very well for almost anyone with even the most severe erectile dysfunction.

Do you have any advice for men who are either anxious about the possibility of ED after surgery, or who are already struggling with ED?

Dr. Pearson: Know that there are treatments out there. You can correct this problem. I think it's also important to keep your focus on the fact that this is a cancer operation. We're doing this first and foremost to save your life and to treat the cancer. Some of those treatments will have side effects in terms of sexual function.

Get rid of the mystique of ED and talk to your physician about it. Get on some sort of treatment, whatever you think would be a good starting place. Keep in mind, if that's not working, we have lots of other options that we can move up to get you into a more suitable pattern of sexual activity. Pp

Jean-Francois Eid, MD
Penile Prosthesis For ED After Treatment

Dr. Jean-Francois Eid, of New York City's Advanced Urological Care, is a urologist who specializes in treating advanced erectile dysfunction.

Prostatepedia spoke with him recently about penile prostheses after prostate cancer.

How did you become involved in treating men with erectile dysfunction (ED)?

Dr. Jean-Francois Eid: When I was a third-year medical student, I did a general surgery rotation in urology, and I went to a lecture about penile implants. I was fascinated that such a device could be made. Because I have an engineering background (I'm a material science engineer), I felt then it would be a dream to work with the industry that produces these magnificent devices, to continue to improve them, and invent surgical equipment to facilitate implantation. My dream came true.

I work with Boston Scientific and Coloplast, companies that make penile implant devices for men who suffer from ED. I'm on their advisory committee, and we collaborate in order to improve these devices. I have a few patents to my name as well. It's been a great ride for the last thirty years.

I, of course, learned from a lot of many great implant surgeons and have benefited from their experience. I also felt that it was time for me to give back and I was very honored when I was asked to write a chapter on penile implants in the Campbell-Walsh urology textbook, required reading for all Urology Residents.

How common is ED after prostate cancer?

Dr. Eid: It varies depending on the treatment that the patient received and the level of erectile function the patient had before treatment. For example, if a patient had normal erections before radical prostatectomy, studies show that about 7 to 10% of these patients will have normal unassisted erections after the prostate operation. About 30% of these gentlemen will respond to oral therapy such as sildenafil or tadalafil. The remaining 60% will need a more advanced ED treatment option, such as a penile self-injection or a penile implant.

Patients who undergo radiation therapy fair a little bit better. They develop ED about a year to a year and a half after the radiation, and about 50% of these patients will respond to oral medications. The remaining will also need more advanced treatment options such as penile self-injection or penile implant.

What is the progression? You try medication first, and if that doesn't work, then you go to injections, and finally something like a prosthesis?

Dr. Eid: Exactly. Patients who undergo radical or robotic prostatectomy tend to be younger and healthier, and we recommend a period of penile rehabilitation with either oral therapy, vacuum device or penile self-injections. The data supporting penile rehabilitation is not very robust, nevertheless if a patient had normal unassisted erections prior to the cancer treatment, I would recommend a 12 to 18 month waiting period before proceeding with a penile implant. He is unlikely to recover spontaneous erections beyond the 2-year period, however. Conversely, if a patient relied on oral medications or penile self-injection for satisfactory sexual intercourse prior to the prostatectomy, it is then very unlikely for erectile function to return. In that case, one may proceed with a penile implant before the 12 month waiting period. Oral medications and a trial of penile self-injection is always recommended before proceeding with a penile implant.

If a man struggled with ED before going into prostate cancer treatment, will that impact if he has ED after treatment?

Dr. Eid: Yes, the ED is more likely to be advanced and be more difficult to treat. Penile atrophy, deformity and permanent shrinkage are more likely to occur. Early placement of a penile implant may in that circumstance be a better option as it will prevent further penile deformity and shrinkage while restoring erectile function.

What is penile implant prosthesis, and what are the different types?

Dr. Eid: There are basically two types of penile implants: malleable and inflatable implants. Malleable implants are always firm and positional so that they can be concealed by manually bending it down when not in use. These are the simplest of the penile implant devices. However, the feel of the penis is not as natural as for the inflatable devices. Because the shaft of the penis is always firm, pressure atrophy of the flesh of the penis will occur over the long run.

The inflatable devices can be further divided into two groups: devices with a self-contained reservoir, also referred to as a two-piece implant and the multi-component implant with cylinders, pump, and a separate reservoir referred to as the three piece implant. The reservoir is needed in order to store the saline when an erection is not desired. The two-piece devices are comprised of a pair of penile cylinders with a small saline reservoir built into the back of each cylinder and a scrotal pump. To obtain an erection the scrotal pump is squeezed, transferring the saline from the reservoir into the cylinders. The volume of saline is limited, which means there's a compromise between penile rigidity when inflated, and the flaccidity of the penis when the cylinders are deflated.

The three-piece inflatable implants are the more *physiological* devices with a better erection when inflated and better flaccidity when deflated. The separate reservoir is easily concealed and because it contains a much larger volume of saline it enables the bearer to have a much firmer erection.

There are approximately 25,000 implants performed in the United States every year of which 90% are the multi-component inflatable devices. These devices were invented in 1973, and they've been refined since. There are only two companies that make them: American Medical Systems, (Boston Scientific), and Coloplast. Both are excellent companies and current implants have an average life expectancy of 8 to 12 years. When they fail, they are easily replaceable. The procedure to remove and replace it is a lot less cumbersome for the patient because the space inside the penis is already fashioned. There's less pain and swelling than for the original implant placement.

Is there a difference in performance between the two types of devices?

Dr. Eid: The multi-component inflatable devices give the most natural feel of the erection and are a lot more comfortable when the patient no longer wants to have an erection. The malleable implants have a very firm and abnormal feel to them. Over time, the flesh of the penis will become looser over the rigid cylinders. This renders the malleable implant to be less firm than the inflatable device. On the other hand, when the inflatable devices are deflated the cylinders no longer apply pressure on surrounding penile flesh, preventing long-term penile atrophy.

When is a penile implant prosthesis a possible solution for men with ED? When is it not a viable solution?

Dr. Eid: Any man that can have an erection on his own or respond well to oral medications may forgo the need for a penile implant.

We don't expect patients who rely on penile self-injections to stay on them for the rest of their lives, and even if the response to injections is very good, it is not unreasonable to proceed to a penile implant. There are very few circumstances that contraindicate placement of a penile implant; these are the presence of an infection or in situations where the patient is medically unstable.

What is the procedure once he decides this is what he wants to do?

Dr. Eid: It is most important to seek the most experienced surgeon that one can find. That surgeon may not be necessarily the one closest to one's home or in one's insurance plan. A penile implant specialist is preferable to a general urologist. A penile implant specialist has a much greater success with fewer complications. Each specialist will have their individual pre-operative protocol.

Tell me a little bit about recovery from the procedure. How long does a man have to wait after surgery to use the implant? Are there any side effects or considerations he needs to keep in mind as he's recovering?

Dr. Eid: Most patients are able to return to work in 7 to 10 days depending on their type of work activity. In my practice, we now train patients to start inflating and deflating the device on the third day

after the procedure. Most will be able to have intercourse in 3 to 6 weeks. One should expect pain, swelling, and discomfort to gradually subside over a 2-week period. Hot baths twice a day starting on the third day after surgery help in reducing inflammation and discomfort. In my practice, the procedure has evolved tremendously. We have made great progress in performing the procedure in a safe way by preventing infection (No-Touch technique), maximizing the size and quality of the erection, and by concealing the device so the patient feels and looks completely normal.

In my opinion, the implant is best inserted through a small one-inch vertical scrotal incision in an ambulatory surgery center where there are no sick or infected patients. The procedure is best performed with spinal anesthesia on an outpatient basis and generally takes anywhere from 45 minutes to an hour. Nothing is removed from the penis to place an implant and no blood loss is experienced.

Recovery depends a lot on the surgical technique. The more experienced the surgeon, the less swelling and bleeding, the smaller the incision, and the less pain. This means patients will be able to use the device sooner.

If the pain and swelling doesn't subside in the first couple of weeks, one has to suspect there is an infection. If the patient reports an increasing level of pain and discomfort, then there's definitely something wrong, and the patient needs to see his doctor.

As with any surgical procedure, there are potential risks and complications. The most serious complication is an infection. This may take up to two to six weeks before it's manifested. An infection occurs when the penile implant device becomes contaminated during surgery. The source of bacterial contamination is usually the patient's skin, which prompted the implant manufacturers to invent antibiotic-coated implants. This reduced the infection risk to 2%. With a technique that prevents skin contact of the implant (No-Touch technique), we have further reduced the risk of infection to 0.6%. This is based on close to 4000 consecutive implants since January of 2006.

If an infection does occur, the device will need to be completely removed, and a simultaneous salvage procedure by replacing it with a malleable device may or may not be performed. If for whatever reason a salvage procedure cannot be performed and the implant is completely removed, the penis without the implant will retract and shrink in a matter of days. A permanent loss of up to 50% of the original size of the penis can occur.

That happens to a small number of men?

Dr. Eid: Yes, very few, less than 2%. However, in hospitals where this device is not placed often, the infection rate can be as high as 30%. If an institution performs a lot of implants, chances are the infection rate will be low. There is no substitute for experience.

Are there many centers across the United States that offer this?

Dr. Eid: Unfortunately, no. There are only a handful of high-volume (greater than 300 per year) implanters in the United States. Procedures performed in dedicated surgery centers have a much higher success rate with fewer complications. The more focused the practitioner on penile implant surgery and the higher the volume, the better the outcome.

That might be one question a patient might want to ask if they're evaluating. Do you think men should also ask about the infection rate of a center?

Dr. Eid: Absolutely. You shouldn't even have to ask really. The doctor should voluntarily describe their own experience. If the procedure is done by a physician who doesn't do many implants, that physician may quote the infection rate that is published in the literature. That may be totally irrelevant because it doesn't really apply to the experience of that specific institution.

As with any operation, one needs to read about it, and the more one learns, the more questions one may have. There are YouTube videos of how the procedure is performed. There are many good websites including ours, www.UrologicalCare.com, where information for patients and doctors can be found. It's important to fully understand the benefits, risks, and complications of this procedure. One can then fine-tune one's knowledge by interviewing a few doctors (phone or video) and making a decision on where to go for the procedure.

For this procedure many patients will travel to seek an implant specialist. It's much better to travel than to have an infection or a poor outcome. I've heard people say that they like to be close to their doctor in case there is a problem. That may at first seem logical, however, it's best to avoid a complication than to anticipate that one will occur.

I know quite a few of our readers travel for healthcare.

Dr. Eid: Yes, indeed. More than 50% of our patients are from out-of-state or from abroad.

How much does this cost, and is it covered by insurance?

Dr. Eid: The implant is the only ED treatment that is covered by Medicare.

There is the customary 20% copay and the deductible that patients are responsible for.

Most private insurances will also cover the penile implant procedure, while some may make an exclusion for ED treatments, so one needs to make sure that this is not the case.

If a patient has to pay cash for this type of procedure, surgery centers are a lot more affordable than a hospital. In a surgery center, the procedure can run as high as $25,000, including the device, anesthesia, and surgeon's fee. If it's done in a hospital, the patient could pay as much as $60,000.

As you said, these devices can last up to 20 years, right?

Dr. Eid: Yes. The average life expectancy of a penile implant is 8 to 12 years. Compared to other devices in other specialties, such as orthopedic or cardiovascular implants, this represents a good life span. Naturally frequency of use may impact the device life span.

How satisfied are men with the device?

Dr. Eid: The majority of men (over 90%) are extremely satisfied—crazy satisfied! They'll give you hugs; they'll send you notes; they'll tell you things like, "You restored my life". "I'm a new man". "I never think about the ED anymore. My mind is so free". "You restored my relationship." It's unbelievable.

Unlike other ED treatments there's no planning involved before sexual activity. The implant is part of them?

Dr. Eid: Yes, and patients will use the exact same words, even though they don't know each other. I'll meet them in the exam room three months after the implant, and they'll say the same identical words: "I don't think about ED anymore."

When a man suffers from ED, he thinks about it constantly, not just during sexual activity. He thinks about ED during a romantic dinner. He thinks about ED while watching a romantic movie. He thinks about ED if he sees a sexy commercial. It occupies his mind constantly.

When you fix ED with an implant, those thoughts go away. A man's whole outlook changes completely. Patients are extremely grateful. Most importantly, they start to feel normal again. You would think that, after the implant, a man would brag about how long or how often they can make love without losing their erection, but he does not. Men with an implant have normal sexual activity, and as a matter of fact some don't even use their implant much, but they feel great about the ability to have an erection should the occasion arise. That's the feeling a normal guy has.

Is there anything else you think men should know about the prosthesis or about ED after surgery?

Dr. Eid: There are other issues that can occur after a radical prostatectomy; a man can experience *climacturia*, which means urine leakage during sexual arousal and orgasm. This occurs because the external sphincter, which holds the urine, opens up during arousal to let the semen out during ejaculation. But after prostatectomy, there's no semen and no prostate near the bladder opening to hold back the urine.

The degree of incontinence can vary and this situation is best treated with a male sling. *Climacturia* is less common in post-radiation patients. After radiation, patients will have very little semen or no semen on ejaculation. Most importantly, seek a specialist and do your homework. The more experienced the physician, the better the outcome.

Finally, I can't over-emphasize how important it is to seek the right doctor. I assume that's true for prostate cancer treatment as well. You want to see somebody who does a lot of the same procedure rather than somebody that may be on one's insurance plan or close to one's home.

You should spend the time to find the right surgeon for any surgery you have, right?

Dr. Eid: Yes. I would say that is the most valuable take home message, especially in regards to penile implants. Pp

Patients Speak
Managing ED After Treatment

Matthew M. talks with *Prostatepedia* about his prostate cancer journey and his experience with erectile dysfunction after treatment.

How did you find out you had prostate cancer?

Matthew M.: I had been referred by my primary care doctor to a urologist when he saw my PSA go over the threshold, basically a score of 4.0, which is a critical point in the range. This goes back a few years, and my urologist was old school. He didn't seem to be too concerned, so he just tracked it. My digital rectal exams (DREs) were normal.

"There are many reasons I didn't choose surgery, but one was the fact that you're dependent on the skill of the surgeon."

Eventually, I became concerned. Around that time, I had been attending lectures at a local hospital (the one where I'm now a patient advocate), but I had been attending as just part of the public, getting information on various types of cancer whenever I could. One of the urologists who presented on prostate cancer had gone to medical school with one of my son's best friends. I felt a connection there, so I moved over to him because I wanted a solid second opinion.

This younger doctor recommended an MRI/Ultrasound fusion-based biopsy, which was new in 2013. I didn't want the standard 12-core biopsy.

During the procedure the medical team set me up on a separate table with a huge screen. I could watch exactly where the computer directed the needle to penetrate the lesion and take a sample of the tissue. It took almost an hour because the doctor was explaining things to the nurses and other technicians. That's when I was diagnosed with intermediate risk Gleason 7, 4 + 3 prostate cancer.

What was your reaction when you first heard the diagnosis?

Matthew M.: Because of the rising trend in my PSA I had expected to be diagnosed with prostate cancer, but I hoped it would be low risk. Active surveillance had just started to be recommended, but because I had intermediate risk, it needed to be treated and probably within three months.

Which treatments did you receive?

Matthew M.: I went to an eminent radiation oncologist who was the deputy head of radiation oncology and chief of brachytherapy at a major cancer center. Because my prostate cancer was classified as intermediate risk, brachytherapy (radioactive seed implants) alone might not have been curative. So, I had brachytherapy plus, external beam five days per week for four weeks, starting one month after my brachytherapy treatment. That made a lot of sense to me; get it from the inside and get it from the outside.

There are many reasons I didn't choose surgery, but one was the fact that you're dependent on the skill of the surgeon. Dr. Patrick Walsh, who was the pioneer of radical prostatectomies at John's Hopkins University decades ago, said that prostatectomies are the most challenging operations in urology. Now they have robotic prostatectomy, but it's still a challenge. The procedure takes a long time (2-4 hours for robotic surgery). The prostate is deep in your body, positioned between your rectum and your bladder, and you're basically going in blind with hands or instruments.

The cancer center where I was treated had 12 state-of-the-art, Intensity-Modulated Radiation Therapy (IMRT) machines, of which 2 ran from early morning until late in the day exclusively treating prostate cancer patients. That's all they did on those two machines. If they didn't know how to calculate the correct dose and calibrate the machines, who would?

Another reason I decided on radiation treatment was that the erectile dysfunction (ED) side effects are typically delayed for about two years.

What kind of side effects did you have?

Matthew M.: I had the typical side effect of urinary urgency and frequency, which probably will stay with me. Recently, I started on a course of pelvic floor physical therapy with a specialist at the local hospital, and that has helped.

I'm a bit of an anomaly, and this proves that every patient is different. Men typically get rectal problems with loose stools, but I had the opposite. I suffered from constipation, and it made my hemorrhoids worse. I deal with it through diet. I also had ED, but the onset was delayed for about 2 years following my treatment. In addition, I was one of the few men (about 3%) who had a urinary stricture after radiation.

What was that like?

Matthew M.: You never know when these darned things are going to show up. A couple of years ago, I started getting a little blood in my urine, off and on. My doctor sent me to get a cystoscopy, in which they put a catheter through the urethra into the bladder. That was a disaster.

Why?

Matthew M.: It wasn't a disaster, but it was extremely challenging due to the narrowing of the urethra. While the urologist was pushing the catheter through my urethra, I felt a sudden, sharp pain like an extreme electric shock. I had such incredible pain that my body, involuntarily, shot up from lying on my back to an upright position. The urinary stricture was fairly significant, and though the doctor had tried to push through it with the original sized catheter it was just too painful. Eventually they had to solve the problem by using a children's sized catheter.

The cancer center has a urologist on staff who specializes in urinary strictures. I had a surgical procedure called a Direct Vision Internal Urethrotomy (DVIU) and the surgeon zapped the stricture with a laser. She was frank and said there was only a 25% chance that it would be successful because radiation causes scarring, and it interferes with subsequent procedures.

I had a terrible time for three months recovering from the side effects; excruciating pain passing blood clots, two trips to an emergency room because of problems with the catheters and numerous bladder infections. My doctor convinced me that it would settle down, and eventually it did.

That's awful that it was so painful.

Matthew M.: Yes, but I see her every six months now. She uses a camera to look inside the urethra. Goes up to the stricture but not

through it and takes photos to see if it is stable. Fortunately, so far, it has been.

There's no pain involved with that?

Matthew M.: No, there's not. The pain results from trying to push through the stricture with a catheter to get into your bladder. If it has to be done again it would take place under general anesthesia.

That's good.

Matthew M.: The other thing is erectile dysfunction (ED), which was previously effectively managed using Viagra.

I have heart disease and type-2 diabetes, which are both well controlled. My primary care physician says I've got the best blood work in his practice!

Were you on any kind of medication or treatment for ED before your radiation treatment?

I only needed to take Viagra, which worked well for years, until about two years after my radiation treatment.

How did that play out?

Matthew M.: I've always had a strong libido. Viagra and other PDE-5 Inhibitors do not stimulate one's libido, they only help increase blood flow by dilating arteries in the penis. That's another reason I chose radiation over surgery. During a prostatectomy (surgical removal of the prostate), a surgeon removes a man's seminal vesicles resulting in an inability to ejaculate. Consequently, a man has a "dry" orgasm (no semen expelled).

Several men we've interviewed said that losing the seminal vesicle

was problematic, and it impacted the experience in ways that they hadn't anticipated.

Matthew M.: I guess a lot of urologists don't tell them, and that's why you, after the surgery, you find men who are upset and very angry.

Prior to being diagnosed with prostate cancer and, for two years after my treatment, everything was great with Viagra. I had hard erections and ejaculations. However, after the operation to treat the stricture, I fell off the proverbial cliff!

My libido remained strong but Viagra was no longer an effective treatment. None of the pills worked at all. My urologist said it was unusual, and she recommended that every two years we should go back into the operating room and stretch the urethra. But I said, "No way are you going to stretch my urethra after the agony I went through." She understood.

Thanks, but no thanks.

Matthew M.: I was referred to a sexual medicine doctor and his whole protocol made a great deal of sense to me. I give myself penile injections whenever I want to have sex. They're very effective. You have to be titrated up because you start with a low dose. You also need to be careful that you don't over treat. You could end up with an erection that lasts more than four hours. If so, it's a serious problem, and you must go to an emergency room for treatment.

My urologist told me that men don't even need a libido for the penile injections to work. She said that, if urologists need an erect penis in the operating room, they'll inject the patient, and even though he's under general anesthesia, the penis gets erect.

I hope she tells them beforehand that she's going to do that.

Matthew M.: Indeed. They showed me how to do it, and it's not difficult. I'm married, so it's not a big issue. I wouldn't want to do it if I were single because there would be a big pause while you excused yourself to run into the bathroom. After you have the injection, it takes about fifteen minutes of stimulation (yourself or via your partner) to get an erection.

Does it hurt when you do the injection?

Matthew M.: No, it's the same type of syringe people with diabetes use for injecting insulin into their stomachs.

So, it's a thinner needle?

Matthew M.: Extremely thin, yes.

Was it effective?

Matthew M.: Eventually, because they titrate and don't start out knowing the dosage that will work for you. It varies for each individual. The preparation of the medicine is similar to that used for chemotherapy. It must be compounded by a specialty pharmacy, you cannot order it from pharmacies such as CVS or Walgreens. In addition, the medicine must be kept refrigerated so it's not a good idea to take it on a cruise!

You went from Viagra to the penile injection. Is that still working, or did that stop working? Did you have to move on to another solution after that?

Matthew M.: No, I was told to expect it would work for many years. However one has to be very cognizant about the impact of advanced age and comorbidities and set your expectations accordingly.

I just turned 76. My diabetes is under control, and I had heart disease. As you get older, your body changes. This is a bummer. One of the urologists said that the seminal vesicles in most men dry up by the time they're 80, and that's even if you're totally healthy. Most men have no semen to ejaculate after 80 but they can still have "dry" orgasms (the muscle contractions and signals of pleasure sent to one's brain by your nerves).

The other thing that goes along with being married for a very long time is that the relationship often becomes stale; all kinds of aches and pains develop with both partners and sexual intercourse becomes less frequent. Even if you're both very fit and healthy, men and women don't have sex very often when they're into their 70s and beyond.

Are you saying that if a man with prostate cancer is single, he'll probably end up having more sex than if he's been married for 30 or 40 years?

Matthew M.: Most likely, if he is among the fortunate ones still dating. At least he will want to.

You've had a lot of experience being in different support groups and working as a patient advocate. What insights have you gained about the struggles other men have with ED from those experiences?

Matthew M.: Remember how the group of physicians on the government's Preventive Task Force gave an F rating to having PSA blood tests about six years ago? Guess what; there was not one urologist on the panel. I believe the head of the panel was a pediatrician!

Yes, it was a fiasco.

Matthew M.: Perhaps for that reason, primary care doctors haven't been such staunch advocates for PSAs in recent years. They tend to follow the guidelines unless a patient specifically makes a request for the test. Whatever the reason, the four guys that I've been talking to in the last year are men diagnosed with high-risk prostate cancer. They're all on androgen deprivation therapy (ADT). It's a very small sample, so you can't extrapolate. Their libidos are zero (their testosterone levels by virtue of the hormone treatment have intentionally been driven to "castration" levels (< 20). That's the whole point of ADT, right?

One of their wives is very supportive, and because they don't know how long he'll be on ADT, she says that as long as he survives, it's okay, and they can put sex on the back burner for a few years.

But other men who are no longer on ADT haven't bounced back. It's sad to hear them comment at our learn-and-share meetings. They say things like they want to have sex on their birthday or, maybe Christmas. That's what they're hoping for.

One man is single, was divorced years ago, and he had a penile implant. He's very happy with it.

I've heard people are very happy with that.

Matthew M.: Very happy, yes. As for the penile injections, about half of the men give up because they're inconvenient. My single friend wanted to date and have sex, but the injections were too interruptive and inconvenient.

A cooler bag is probably not a great accessory to bring on a date.

Matthew M.: Yes! Not recommended being taken on a cruise. So, have sex without penile penetration.

It seems like, after the implant surgery, it doesn't require any preparation, and there's nothing you have to do beforehand, right?

Matthew M.: Right. According to The Journal of Sexual Medicine, only about 2-3% of men with ED have a penile implant and that proportion has been declining. Most men diagnosed with prostate cancer are well over 60. Probably, a lot of them are still married but many give up on sexual intercourse, and some wives are okay with that.

Jeffery Albaugh and Anne Katz who counsel men with ED issues and who are on the board of directors of Us TOO, a leading patient advocacy organization, both suggest that sexuality should not revolve around intercourse but sexual intimacy.

I've heard several medical professionals state that men are so focused on whether they can get erections that they lose sight of physical intimacy with another person. Not everything is closed to them. They just may need to work harder to get an actual erection, but there's still a whole spectrum of activity that you can do to promote intimacy and closeness with another person.

Matthew M.: Any psychologist will tell you how important the simple acts of touching and holding another person are for human beings. Walk down the street holding hands with your wife. You haven't done it for 20 years. Stroke the back of her neck. Stroke her hair. Older men do not seem to take the time or have the interest in doing those things but they impact intimacy and your relationships.

Intimacy.

Matthew M.: Exactly. That's precisely the point.

Any advice for men who are worried about what might happen after treatment or who are already struggling?

Matthew M.: If you have the opportunity, go to a major cancer center that's state-of-the-art with decades of experience.

A place with a good track record?

Matthew M.: Yes. The National Comprehensive Cancer Network (NCCN) has identified 28 state-of-the-art cancer centers in the U.S. You can access the list, protocols, and treatments on their website. Be an educated, actively involved partner in your own treatment.

Footnote:

Recommended Reading:

- Reclaiming Sex & Intimacy After Prostate Cancer - A Guide for Men and Their Partners: Jeffrey Albaugh, PhD, APRN.
- Prostate Cancer and the Man You Love - Supporting and Caring for Your Partner: Anne Katz, RN, PhD.
- Saving Your Sex Life - A Guide for Men with Prostate Cancer: John Mulhall, MD Pp

Micael Zelefsky, MD
Erectile Dysfunction After Radiation Therapy

Dr. Michael Zelefsky, a radiation oncologist, is Professor of Radiation Oncology, Chief of the Brachytherapy Service and co-leader of the Genitourinary Disease Management Team at Memorial Sloan Kettering Cancer Center in New York City.

Prostatepedia recently spoke with him about erectile dysfunction after radiation therapy.

How common is erectile dysfunction after radiation for prostate cancer?

Dr. Micael Zelefsky: Firstly it's important to point out that erectile dysfunction represents only one of the many aspects of sexual function that needs to be considered after treatment. Certainly, an important component is the ability to have a sufficient enough erection for penetration. There are other aspects of sexual function that are important to consider. These include the sensation of orgasm, associated pleasure, and the experience of the sexual intercourse, the libido, and as well as other aspects.

When we have a conversation with patients regarding sexual function after radiation, we in general speak not only about the likelihood of maintaining an erection but also about whether there is any associated ejaculatory dysfunction, orgasmic dysfunction, and, while not affected necessarily from radiation, changes in libido. Changes in libido could be related to hormonal therapy, which is often given together with radiation, especially for higher risk patients.

> *"Erectile dysfunction represents only one of the many aspects of sexual function that needs to be considered after treatment."*

Specifically, erectile dysfunction after radiation therapy is seen in about 25 to 50% of patients. Because erectile dysfunction is a multi-factorial problem, there are many aspects associated with the likelihood of erectile dysfunction. When I say multi-factorial, I mean that there are many characteristics and variables associated with erectile dysfunction in general, such as the age of the patient, the baseline sexual function of the patient, the medications they take which all need to be considered when talking with anybody about erectile function.

Meaning you need to discuss these considerations before a man has radiation?

Dr. Zelefsky: Correct. People who have significant issues or have functional erections in a borderline fashion prior to radiation are more likely to lose erections after radiation. People who have a better baseline status are clearly much better off after treatment and have a greater likelihood of preserving their erectile function. The age of the patient, as has been shown by the Massachusetts Aging Study and other studies, plays a very important role as well. Older patients generally may have a greater likelihood of losing erectile function compared to younger patients.

This, of course, depends on a host of other factors like comorbidities, cardiac disease, peripheral vascular disease, and other medical comorbidities where such patients have clearly higher risks of ED compared to other patients. A smoking history is important; those people who are actively smoking clearly have a lower incidence of preserving their function compared to those who are not smoking.

In a patient population getting radiation, often those with some associated comorbidities, generally an older patient population, the incidence of ED may be higher than a surgical patient population, not because of what radiation can do in terms of erectile dysfunction, but because we're dealing with a very different patient population based on the presence of medical comorbidities, age and sometimes the baseline erectile function status of the patient.

And, as you pointed out, many times men are receiving hormonal therapy at the same time.

Dr. Zelefsky: Yes. And with hormonal therapy itself, the addition of hormonal therapy could increase the risks of ED in this patient population. I think it's interesting to mention the ProtecT trial, which was a randomized trial from the UK published in *The New England Journal of Medicine* that compared active surveillance to brachytherapy compared to external beam radiation therapy. The ten-year data that was published looking at toxicity outcomes specifically noted that among the radiation patients, and in particular among the brachytherapy patients, there was less sexual dysfunction compared to the other groups. We noticed that as well in our own prospective Quality of Life Study where we obtained information from patients sequentially after their radiation treatments. We noted that there was potentially less impact on sexual function among the patients who got radiation, and in particular brachytherapy, within all of the treatment groups.

The take-home message here is that ED does happen after radiation, probably in a range of 25 to 50%. That range is large because it depends heavily on baseline function, age, comorbidities, smoking history, and the concurrent medications that patients may be taking.

A direct comparison of ED after surgery versus after radiation is generally uncommon. It has been made, as I just mentioned, based on the ProtecT trial. In that trial where they made such comparisons, they reported less dysfunction among the non-surgical patients compared to surgery.

> *"Erectile dysfunction after radiation therapy is seen in about 25 to 50% of patients."*

Is ED after radiation treated differently than ED after surgery?

Dr. Zelefsky: Generally the approach is the same. Many years ago, we published a study where we tried to look at the cause of erectile dysfunction after radiation. It seemed that it was somewhat different than surgery where the cause of erectile dysfunction after radiation may be more of a blood vessel dysfunction rather than dysfunction of the nerves controlling the erections. We found that among patients who had radiation, more often, the cause of ED was related to what we called arterogeneic dysfunction, which basically means the small blood vessels are affected by the radiation. Blood flow is obviously critical to the maintenance of an erection. That could be the cause of the issue after radiation, rather than dysfunction after surgery, which is more likely caused by damage to the nerve bundles intimately involved with erections.

The cause of erectile dysfunction after radiation could be related to other things as well, but if it is a blood vessel phenomenon, it makes a good deal of sense why people have responded well to medications like sildenafil, which has about a 70% response rate in such patients. We generally treat our patients with such medications, but there have been a couple of studies that have been explored. It's certainly been done in the surgical population. We've done it as a randomized trial in the radiation population where we randomized patients to getting sildenafil or a placebo as prophylactic therapy before, during, and after radiation. We published some very interesting findings: patients who did end up receiving the sildenafil as a prophylaxis to promote blood flow in the penile complex more often had better preservation of their erections longer term. Overall, those patients felt their erectile function was much better than the group who ended up getting the placebo. This is an approach or a strategy used in surgery patients, which is known as penile rehabilitation.

We routinely utilize that approach in our patients, especially in those who have good baseline function by recommending to them to take medications like sildenafil daily at a low dose before, during, and after their treatment.

How long before radiation do you start the medication?

"A direct comparison of ED after surgery versus after radiation is generally uncommon."

Dr. Zelefsky: About a week or so before and obviously during the treatment and then ideally for six to twelve months after the course of their treatment. That really covers the effectiveness of treatments. There are other, obviously, approaches besides medication. These include penile injections, vacuum pump, or surgery to promote erections as well by having an artificial device that's inserted to achieve an erection.

Can you talk a bit about ED among men who have had salvage radiation?

Dr. Zelefsky: These are patients who have radiation after having had surgery. Even if they still have erections, more frequently than not, their erections are not exactly the way they used to be, although they could still be functional. Additional radiation may increase further their chances or risk of losing erections. About 40 to 50% of patients have ED after salvage radiation. Nowadays, more often than not, salvage radiation after surgery incorporates a six-month course of hormonal therapy. Sildenafil or similar medications may be somewhat less effective among people who had surgery and radiation following this, especially after a patient has had a significant surgery like a prostatectomy with radiation and hormonal therapy to follow. This means a lot of treatments have been placed on the general nerve bundle and vasculature and the risks of ED could certainly be higher in that population.

What is my final advice for patients who are going into radiation for prostate cancer and are worried about ED? In general, if patients have good baseline function before the radiation, I think they have good odds of keeping that function afterwards. They should consider the use of daily sildenafil before, during, and after their treatments and try to continue it at a low dose after their treatments for perhaps six to twelve months. They may use higher doses of the medication when they want to be sexually active.

Those who are entering into a course of radiation need to know, as we discussed before, that there are other aspects of sexual dysfunction patients need to be aware about. These other aspects include a lack of ejaculation in 80 to 90% of patients, although interestingly in most patients, the sensation of orgasm is generally preserved. Patients should also understand the impact of hormonal therapy and the decrease on the libido. It can take a good six or twelve months after cessation of hormonal therapy for testosterone to normalize again. Awareness and appropriate expectations are important.

Finally, for those people who have had radiation and are struggling with ED, there are very good approaches out there. I encourage patients to see a urologist with special expertise in sexual function to work out the various possibilities, such as penile injections and other approaches, which I think could be valuable and potentially effective. Pp

274 Redwood Shores, #739
Redwood City, CA 94065
(800) 975 6238
info@prostatepedia.net
www.prostatepedia.net

Coming Up!

October:
Imaging