

Erectile Dysfunction is a common issue for many men as they age. Erectile Dysfunction post prostatectomy is common but there are many treatment options available. A number of factors contribute to erectile function recovery post prostatectomy. Patient factors such as age, baseline erectile function and comorbidities such as diabetes have an impact on erectile function outcomes. The location and size of the prostate cancer along with surgical technique can also impact on erectile function outcomes.

Treatment of Erectile dysfunction is a very personal journey and it is important that we establish your individual goals. Whether you aim to achieve erections suitable for penetration, to maintain the health and length of your penis, or to promote a positive sense of self we will work with you to guide you through your penile rehabilitation and sexual renavigation journey. If you have a partner they are an important part of your journey and we do encourage you to bring them to your appointments.

### **Erectile Dysfunction (ED)**

Erectile dysfunction (ED) is a common issue for men over the age of 40 with a significant number of Australian men suffering from it. ED can understandably have an impact on sense of self and quality of life. There are many causes of erectile dysfunction and often the cause is multifactorial. Psychological factors such as life stressors, performance anxiety and depression are common causes of ED. More serious medical conditions causative of ED are vascular and metabolic disorders, such as narrowing of the arteries, high blood pressure and diabetes. Hormonal issues such as low testosterone and the use of prescription, recreational drugs, cigarette smoking and alcohol can cause ED. Lastly, neurogenic ED is caused by interference with the nerve function, such as with surgery for prostate cancer.

### **Normal Erectile Function**

Achieving an erection is a complex process involving vascular, hormonal, neurological and psychological components. There are two tubes of spongy tissue called the Corpora Cavernosa that run the length of the penis. During arousal the brain sends messages to the erectile nerves which release chemical messengers called neurotransmitters, these neurotransmitters signal the arteries supplying blood to the spongy tubes in the penis to fill with blood. The spongy tubes expand and pressurise to stop the blood from draining out of the spongy tubes until stimulation is complete. Men with healthy erectile function are able to achieve erections with arousal/ stimulation, and also experience erections during the night when they are sleeping.

### **Erectile Dysfunction Post Prostatectomy**

Dependent on your prostate cancer you may or may not have a nerve sparing prostatectomy. Even with a nerve sparing prostatectomy the nerves will need time to recover. This recovery time can vary from a few months up to two years. Recovery of erections post prostatectomy is variable between patients but age, baseline sexual function, comorbidities and technical considerations with surgery will have an impact on your individual recovery. There are many interventions available to treat ED post prostatectomy. We will work with you to establish your individual goals and then implement an individualised treatment plan. For many men the goal of treatment is to achieve erections suitable for penetration, whereas some men who are not sexually active aim to maintain the length of their penis and to optimise the health of their penis. Pharmacologically or mechanically induced erections are important to avoid the adverse structural damage that can occur while you are not having natural erections. If penile rehabilitation is started early after surgery, adverse changes such as penile fibrosis (scarring) and loss of length can be prevented.

### **Arousal and Intimacy**

Many men and their partners wonder how things will be with altered erections. We refer to recovery as sexual renavigation as it is likely that the sexual experience will be different post prostatectomy. The nerves are damaged, but libido and arousal remain, although there is dry ejaculate, men are still able to orgasm with or without an erection. Maintaining intimacy is important and many men and their partners find that intimacy and outercourse is pleasurable and they are able to maintain a good sex life. With the use of oral, injectable medications and / or vacuum pumps many men are able to successfully achieve penetrative intercourse if they wish and report good satisfaction and quality of life with these treatments.

### Management of Erectile Dysfunction

Pharmacologically and mechanically induced erections prevent the structural damage associated with infrequent or no erections post prostatectomy. Evidence shows that a penile rehabilitation program will prevent structural damage and may offer men a better chance at recovering normal erectile function. We will discuss your individual goals with you and discuss maintaining intimacy in the event of loss of erections. Managing anxiety related to lack of erections and performance issues is important as high anxiety levels will further impair the ability to achieve and maintain erections. The treatment options available for ED range from simple non-pharmacological interventions such as a vacuum device, to the use of oral medications and in suitable patients the use of injectable medications or a penile prosthesis.

### PDE5 inhibitors (oral medications)

Medications such as Viagra and Cialis are PDE5 inhibitors (PDE5i) and through various complex processes cause vasodilation to enhance erectile responsiveness. Taking these medications as instructed is crucial as the medications will not spontaneously provoke an erection, stimulation is necessary. There is evidence that using a low dose of a PDE5i daily as part of a penile rehabilitation regime will help with recovery of erections post prostatectomy. When using an 'on demand dose' (taken when an erection is wanted) men should try these on at least 8 separate occasions before deeming them ineffective as the response to PDE5i increases with successive doses. In order to produce an erection these medications require functioning nerves, in the early days post prostatectomy when your nerves are yet to recover, the medication is unlikely to produce an erection. As the nerves recover over time and you start to notice some erectile function, PDE5i can be re-trialled if they have not previously worked. There are various different PDE5i available which come in different forms and it is important to ascertain which is best suited for you and your individual goals.

### Vacuum Erection Devices (VED)

Vacuum erection devices (VED) offer a safe, low cost and drug free option for both penile rehabilitation and achieving an erection for penetrative intercourse. Using the VED to maintain the health of your penis should be thought of 'a gym for the penis' as you are maintaining elasticity through stretch, maintaining length and reducing the risk of scarring over time. The flaccid penis is placed in a cylindrical tube sealed at the base of the penis to enable suction. Through pumping the device up and down the pressure in the cylinder is reduced and venous blood is drawn into the corpora cavernosa (spongy tubes) leading to engorgement. A constriction band can be used to maintain the erection. The constriction ring should not be in place for more than 30 minutes else there is a risk of ischemic damage. VED are highly effective when used correctly and with the use of easy to manoeuvre devices can be incorporated into sexual activity. Pumping should not be vigorous as bruising can occur. The motion should be slow and steady, and it is essential to use sufficient lubricant. Perseverance is the key to VED success.

### Intracavernosal Injections (ICI)

Intracavernosal injections (ICI) involve injecting a medication such as alprostadil into the spongy tissue of penis. The medication produces an erection suitable for penetration within a few minutes and is NOT reliant on functioning nerves so has a very low failure rate. Patients are carefully educated about preparation of the medication and self-injection. Because these medications are not reliant on the nerves firing as with the oral medications they offer a great treatment option in the early weeks – months post prostatectomy whilst the nerves are regenerating, and in the event of a non-nerve sparing prostatectomy. Once the apprehension of self-injecting is overcome and adequate dosage is established ICI is a very effective treatment choice. You will be well supported through ICI and have a point of call for troubleshooting.

### Penile Prosthesis

A penile prosthesis is a surgically implanted prosthetic device. An implant is placed into the corpora cavernosa which is connected to an implanted fluid reservoir and an activation button which is implanted in the scrotum. The penile prosthesis presents a great option for men who have failed less invasive treatment measures. The penile prosthesis is a last line treatment option as once the prosthesis is implanted, other treatment options would be ineffective.

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