

Erectile Dysfunction Treatments and Penile Rehabilitation Post Prostate Surgery or Treatment

Damage to vital penile nerves during a radical prostatectomy can lead to neuropraxia (interruption of nerve impulse transmission), resulting in temporary erectile dysfunction for about 70 percent of patients. It has been shown that return of erectile function can take between six to 24 months during which, men can be unable to experience spontaneous night time erections due to neuropraxia. Thus, the lack of natural erections results in cavernosal hypoxia (lack of oxygen to the penile smooth muscle). Cavernosal hypoxia has been implicated as one of the most important factors in the pathophysiology of erectile dysfunction. Men who have cavernosal hypoxia can develop cavernosal fibrosis, which ultimately leads to a loss of blood from the penis and long-term erectile dysfunction.

Implementing a prophylactic penile rehabilitation programme has been shown to be effective in preventing long term erectile dysfunction. These programmes are designed to improve the delivery of oxygen to the penile erectile tissues and thus preserve the tissue, minimize damage that otherwise occurs during the period of neuropraxia, and potentially increase the likelihood of preserving erectile function.

Whilst the early application of penile rehabilitation programmes may promote improvement in spontaneous erections sufficient to allow for sexual intercourse, the failure to pursue early post-prostatectomy treatments for erectile dysfunction is widely thought to contribute to higher rates of erectile problems after prostate surgery.

Despite this, more than ever before, there are varied penile rehabilitation treatments that have been shown to be successful in treating erectile dysfunction. These include:

- Vacuum Erection Devices (VED) or penile pumps
- Phosphodiesterase Type 5 Inhibitors (Sildenafil [Viagra] and Tadalafil [Cialis])
- Penile Vibratory Stimulation
- Intracavernous Injections (penile injections)



Evidence shows that the early use of these treatments can improve the recovery of post-operative erectile function as well as levels of sex life satisfaction. It has been shown that men who receive detailed instruction, sexual counselling and medical follow ups every three months, are also likely to experience higher levels of treatment satisfaction. Treatment compliance can be influenced by partner support and involvement, partner acceptance of treatment selection and the importance that partners place on maintaining an active sexual relationship. Apart from sexual communication, relationships in which partners demonstrate a willingness to actively assist in incorporating treatment strategies within sexual activities are more likely to lead to enhanced treatment satisfaction. In contrast, men who have low levels of sexual communication and involvement in treatment strategies are more likely to withdraw from treatment use and subsequently have poorer outcomes.

Vacuum erection devices

Vacuum erection devices (VED or penis pump) are often used as first-line penile rehabilitation therapies. A VED generally takes the form of a tube that is placed over the penis, to which a vacuum pump is attached, resulting in increased penile blood flow and oxygenation of nerve and muscle tissues.

VED Prescription:

A study carried out by Kohler et. al. found that early use and daily use of VED (1-month post-surgery) improved sexual function recovery and helped the preservation of penile length. In their study, 28 men undergoing radical prostatectomy were randomized to early intervention (1-month post-surgery, group 1), or a control group (6 months post-surgery, group 2) using a traditional VED protocol (10 minutes of VED usage without the constriction band). International Index of Erectile Function (IIEF) questionnaire and penile length data were collected at baseline, 1, 3, 6, 9, and 12 months. The mean follow-up was 9.5 months. The IIEF scores were significantly higher in group 1 than group 2 at 3, 6 months post-surgery. Compared to group 1, stretched penile length was significantly decreased at both 3 and 6 months, by approximately 2 cm in group 2. *(See attached study for further information).*

Phosphodiesterase Type 5 Inhibitors (PDE5's)

PDE5's (include Viagra and Cialis) are often prescribed as first-line oral agents to treat erectile dysfunction due to their ease of use and perceived clinical value.





Whilst PDE5 use has improved erectile functioning in up to 70% of cases, levels of erectile recovery success levels have been reported in some studies to be as low as 29%.

Factors that affect levels of treatment success include, age, treatment dosage, the extent of damage to penile nerves, and the amount of time between surgery and the commencement of treatment for erectile dysfunction.

As easy as they are to use, researchers have found inappropriate use of these drugs to occur in as many as 56% of men. Treatment glitches included patients being prescribed incorrect treatment dosages, improperly taking medication with a full stomach immediately following a meal; taking medication immediately before the initiation of sexual activity and not knowing that sexual stimulation was mandatory towards achieving an erection.

Penile Vibratory Stimulation

Penile erection is a nerve reflex and there are many nerve receptors that line the surface of your penis but particularly at the frenulum (skin that attaches foreskin to penis) and base of glans. There are stimulation trigger centres in the spinal cord and brain which start a process that leads to penile erection, firmness and ejaculation.

Penile Vibratory Stimulation safely stimulates these sensors and helps initiate the flow of blood into your penis and stimulates the muscles that maintains blood flow, making the penis erect.

It is postulated that PVS works by activating the parasympathetic erectile spinal centre between the levels of S2-S4 in the spine. This then activates cavernosal nerves which speeds up the recovery from neuropraxia and restoration of spontaneous erections. It is also suggested that PVS can improve continence through stimulating the somatic S2-S4 centre, the pudendal nerve is activated which then stimulates pelvic floor muscles.





Penile Vibration Stimulation Prescription:

A study carried out by Fode et. al. in 2014 found considerable benefit of PVS in recovering erectile function in men post radical prostatectomy. Their suggested protocol involved using PVS pre and post op. They suggested using PVS for 10 seconds on, 10 seconds off and repeating this 10 times once a day. Post op, they suggested starting PVS after the catheter was removed and carrying out the same protocol of 10 seconds on, 10 seconds off every day for 6 weeks. Stimulation can occur anywhere along the penis however best results have been found when the frenulum (skin that connects the foreskin to the penis – in non-circumcised men) or base of the glans (in circumcised men) is stimulated. *(See attached study for further information)*

Intracavernous injections (ICI)

Alprostadil intracavernous injections are a standard prescribed treatment of erectile dysfunction in cases where the use of medications (such as Viagra) have been found to be unsatisfactory. The Alprostadil functions by increasing blood flow to the penis directly by way of injection.

Understandably, patients are often negative towards injection treatments due to the common perception that they are painful, and they interfere with the spontaneity of intercourse.

Time, developing courage and the assistance of supportive partners, are critical for treatment execution. For some men, self-injection is considered too large a challenge to overcome, so often, their partners assist in the administration of injection treatments.

Studies show however that for some men, once they were able to overcome their fears of penile injection, the use of injections have allowed them to experience increases in levels of sexual confidence and satisfaction as well as improvements in relationships with partners.

Sexual Health Professionals

If you have further questions or require more assistance, please don't hesitate to contact a sexual health professional.

Phone: Sydney (02) 8065 6762 Monday – Friday during office hours

