treatED

PROSTATE EDITION

Understanding the impact of prostate cancer treatment on erectile function

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IMPORTANT: The content of this document has been developed by medical experts using available medical evidence and should be used as a guide only. Treatment advice specific to your situation should be sought from your doctor. A thorough medical assessment should be conducted before any treatment is commenced.

The content of this resource has been reviewed and approved by the Prostate Cancer Foundation of Australia (www.prostate.org.au) and Impotence Australia (1800 800 614). These are independent, not-for-profit consumer organisations that support the development of this type of resource to achieve ongoing improvements in treatment and care for men and their partners.

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Contents

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Introduction

Receiving a diagnosis of cancer is a shock to most people. Prostate cancer is no different. It is estimated that 18,700 new cases were diagnosed in 2006.[1]

There is a lot of information to take in and digest at the time of the cancer diagnosis. One of the main discussions you'll have with your doctor is about treatment options.

Another medical condition that should be considered by you and your partner when treatment options for prostate cancer are being discussed is erectile dysfunction (ED).

If you're thinking 'this is the least of my concerns right now', you're probably right, but in the future it may be one of your greatest concerns as unfortunately ED is a common consequence of treating prostate cancer.

This information booklet has been developed by a team of medical professionals who specialise in treating a range of men's health issues, including prostate cancer and resulting erectile dysfunction.

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About ED

Erectile dysfunction (ED) is a treatable medical condition and is probably more common than men realise. It is the medical term for erection problems and is defined as the inability to achieve or maintain an erection firm enough for sexual activity.

Approximately one-third of males aged 40 years report some degree of ED and this number continues to increase with age.[2]

There are many causes of ED, but it can also be associated with medical conditions (e.g., high blood pressure, diabetes or cardiovascular disease), psychological issues (e.g., anxiety, stress or depression) or lifestyle factors (e.g. excessive alcohol, smoking, physical inactivity and obesity).

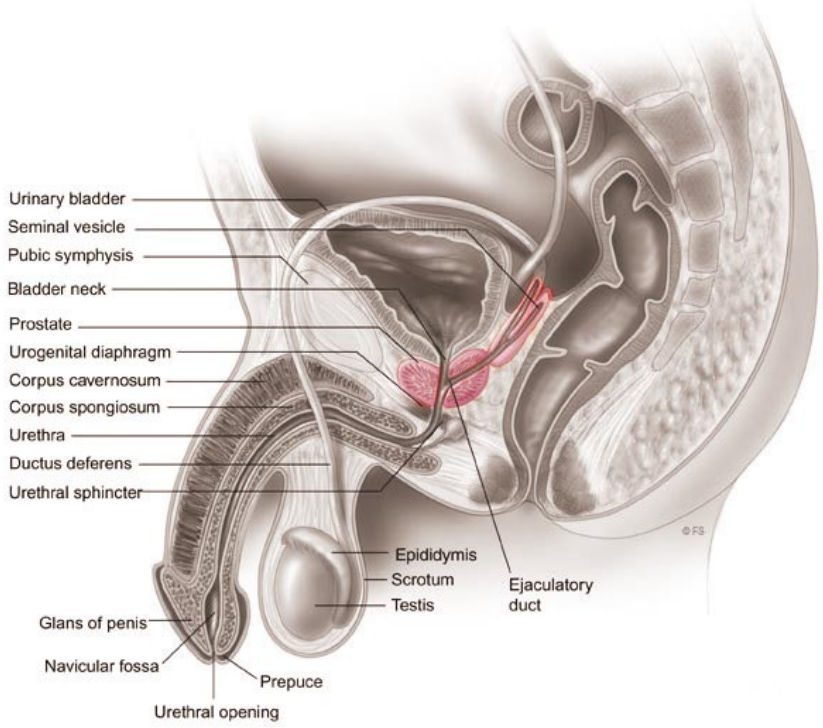
About prostate cancer and ED

ED is also an expected consequence of the treatment of prostate cancer. While advanced cancer will destroy erections, it is the cancer treatments for localised prostate cancer that cause most ED through damage to the nerves and the blood vessels required for strong erections. Early cancer does not cause ED.

Exactly how you may be affected depends on a variety of factors but erections after the cancer treatment are not going to be better than they were before.

A person's age is key. A young (up to 55 years), healthy man who was having regular sex before prostate cancer is more likely to recover and continue healthy, regular sexual activity after treatment than an older man who was only occasionally sexually active. Similarly, those who have weak erections before treatment (because of associated vascular disease) are likely to have weaker or no erections afterwards.

All forms of prostate cancer treatment affect the amount of ejaculate (semen) – it is either reduced or absent. Libido is usually maintained afterall forms of treatment (with the exception of hormone therapy), but libido may also be affected by the stress and anxiety associated with a cancer diagnosis.



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If you already have ED, then prostate cancer treatments may have a further impact on your ability to achieve or maintain an erection. **There is, however, some good news.**

Erections can be improved and the best chance of doing so is with early intervention. If your doctors haven't discussed ED with you yet, ask them about it – the sooner, the better.

The best time to discuss the effects of prostate cancer treatments on your sexual relationships is *before* you commence cancer treatment.

Additional general information on ED and approved ED treatments can be obtained by contacting:

Impotence Australia:
1800 800 614

Andrology Australia:
1300 303 878

Treating prostate cancer

If the prostate cancer has not spread beyond the prostate (localised prostate cancer) there are three main treatment options. Your doctor will discuss these with you and base a decision on your individual case, assessing the stage of the cancer, risks and benefits of each treatment and what potential side effects you will be able to manage.

Many of the options may be used in combination with other treatments to maximise success rates.

1. SURGERY - RADICAL PROSTATECTOMY

This involves the removal of the whole of the prostate gland, including the part of the urethra that is located within the prostate gland, and the seminal vesicles (glands that produce the semen).

After the prostate is removed, the urethra is rejoined to the bladder and a catheter will be used to collect urine in a bag. You may need a catheter for 1 - 3 weeks after you leave hospital.[3]

The operation can be performed by open (traditional) or keyhole (laparoscopic) surgery. Depending on what surgery you have, a typical hospital stay is 3 - 7 days with a recovery period of up to six weeks before returning to work or resuming activities such as heavy lifting.[4]

Advantages

This procedure is known as a 'curative' option because of its high success rates. Approximately 90 per cent of men with localised cancer live for at least 10 years after treatment and for 75 per cent of men, the cancer does not return during this time.[3]

Disadvantages

After a radical prostatectomy, the penis changes and there are several potential risks including:

- Not experiencing ejaculation even though you can still experience orgasm. Some men report pain during orgasm that interferes with sexual intimacy.
- Scar tissue may develop and the penis may also appear shorter.
- Incontinence.
- A high risk of ED in 30 - 80 per cent of cases.[5] If the cancer is small and the nerves controlling erections can be spared, ED rates are closer to 30 per cent, especially in younger men.

For men who've had prostate cancer surgery, it's important to allow enough time for nerve regeneration to occur before expecting to achieve an erection and, in the clinical experience of the authors, this can take up to two years.

Nerve-sparing surgery

This surgical technique focusses on preserving the nerves that control erections and is now commonly used when radical prostatectomies are performed. It works best with younger men (aged below 65 years) who had good quality erections before the surgery.

The risk of ED may be reduced if the nerves are saved. If the surgeon is concerned that the cancer may have spread, she or he may have to work on a larger area - beyond the prostate – and this may involve surgery on the erection nerves, which increases the risk of ED.

Research shows that approximately 40-65 per cent of men who were sexually active before nerve-sparing surgery retained potency adequate for sexual intercourse.[6]

2. RADIATION THERAPY

Radiotherapy uses x-ray energy to kill cancer cells. As it does not have a sudden, stressful impact on the body like surgery does, it is often offered to older people and those not strong enough to undergo surgery. Radiation is also useful when the cancer has spread just outside the prostate, but is still contained within the pelvic region.

This treatment can be delivered externally through external beam radiotherapy (EBRT) or internally through brachytherapy. It may also be used in combination with surgery - particularly when there is evidence that the cancer has spread into the urethra and bladder - and hormone therapy.

ED is not immediate with radiation therapy. Typically, it occurs six months after treatment.

EXTERNAL BEAM RADIOTHERAPY (EBRT)

This involves small doses of radiation being given over a period of up to eight weeks, e.g. a few minutes of treatment on five days per week over a period of 7 - 8 weeks.[5] Each treatment only takes a few minutes.

Advantages

It is estimated that about 60 - 65 per cent of men will remain cancer free after 10 years following treatment.[4] EBRT is non-invasive and is generally well tolerated by patients. It has a lower risk of incontinence than surgery.

Disadvantages

- Radiation to bladder and rectum.
- Erectile dysfunction may happen in 40 - 80 per cent of cases.[7] This is a large range and depends on the age of the patient and the patient's sexual condition before treatment.
- Hormonal treatment is often used with radiotherapy, which will increase the rate of ED.

BRACHYTHERAPY

Brachytherapy involves the radiation source being placed directly within a tumour so the radiation can be delivered straight to the cancer cells. This procedure takes several hours and is done under general anaesthetic, usually requiring an overnight stay in hospital.

Brachytherapy can be given at either a low-dose rate, by inserting permanent radioactive seeds into the prostate gland to emit radiation for 6 - 12 months, or a high-dose rate, through temporary needle implants. Brachytherapy is sometimes delivered prior to or following EBRT.

Advantages

- Lowest chance of causing erection problems immediately after treatment compared with other treatment options. Brachytherapy-induced ED occurs in 50 per cent of patients at three years[8]
- Targeted radiotherapy so lower risk of radiation to bladder and rectum.
- Ten-year outcomes are similar to surgery for men with low-risk prostate cancer.

Disadvantages

- There is a slow but increasing rate of erection difficulties following brachytherapy with up to 50 per cent of men noticing erection problems at three years post treatment.[8]

3. WATCHFUL WAITING

In some cases, a decision is taken not to treat prostate cancer and instead keep a close watch on it. This active surveillance includes repeating Prostate Specific Antigen (PSA) tests and blood tests, and conducting regular biopsies to make sure the cancer has not grown.

Some of the reasons for watchful waiting include:

- The age of the person. It is a more common option in men over 70 years who have the potential for a good quality of life for the next 10 years without treatment
- Type of cancer (small and growing slowly)
- Other medical conditions (e.g. heart problems or stroke)

4. HORMONE THERAPY

For cancer that has spread beyond the prostate region or has recurred following initial treatment by surgery or radiotherapy, hormone therapy is the major treatment option. It is also sometimes used in combination with radiotherapy for the initial treatment of prostate cancer.

Hormone therapy will not cure prostate cancer but it can help with symptoms such as pain caused by the cancer spreading.

It works by slowing the production of testosterone, which is needed for the growth of normal and most cancerous prostate cells.

Hormone therapy is given either by injection or tablets. The injectable drugs last from 1 - 6 months per injection. They act on the brain to reduce the stimulus it sends to the testicles, which make the testosterone. Doctors often start with a tablet then move to an injection 2 - 4 weeks later and before phasing out tablets after a few more weeks.

Often, hormone therapy is given for several months before radiotherapy to make the prostate smaller, thereby reducing the area that needs radiation and increasing the effectiveness of the treatment. It may also be given in cycles, i.e. commenced and stopped repeatedly (known as intermittent hormonal therapy).

Advantages

- About 30 per cent of prostate cancers treated this way will shrink while 30 per cent may not grow any further.[9]

Disadvantages

- Loss of libido.
- Tiredness.
- Osteoporosis.
- Accelerated insulin insensitivity and diabetes.
- Poor or absent erections.
- About 1 in 5 men experience continued growth of the prostate cancer within a year of starting treatment, despite hormone therapy.

The other hormone treatment option is to surgically remove the testicles (called orchidectomy) as they are responsible for 95 per cent of a man's testosterone production.

For further information on prostate cancer treatment options contact:

Prostate Cancer Foundation of Australia:
www.prostate.org.au

Cancer Council: **www.cancercouncil.com.au**

Andrology Australia:
1300 303 878

Treating ED after prostate cancer treatment

After being told you have prostate cancer, it's no surprise that other things – including sex - become a low priority for you. However, even though sex is not high on your agenda right now, it may nonetheless become important to you again in the future, so it's still critical for you and your partner to discuss this with your doctor now.

It is generally agreed that the earlier you commence treatment for ED following your cancer treatment, the better your chances of a good outcome.

While all prostate cancer treatments carry some risk of ED, the good news is that safe, effective and proven treatments for ED are available. A doctor is the best person to help you with this.

Several factors affect the ability to regain erectile function after prostate cancer treatment - prior quality of the erections, age of the person, how the cancer was treated (e.g., if surgery, then the quality as well as the quantity of nerves preserved) and whether the cancer has spread.

Your doctor will usually discuss the range of treatment options available. These are the same as for any other man who has ED from other causes. You can, however, expect some differences in the results.

How soon you want to resume sex will also affect treatment choices. If you want good erectile function for sex in the near future, while tablets may be tried, injection treatment will probably be necessary.

There is a lot of evidence now to suggest that the early encouragement of erections after cancer treatment, with approved ED treatments, appears to be beneficial to a strong recovery of sexual functioning.

More research is now showing the benefit of early intervention, especially with injections to maintain the health of erectile tissue, aid nerve recovery and to allow for sex.[10, 11, 12]

Involving a medical professional is essential for several reasons.

ED is a common medical condition and consequently there are a number of treatment options available. Some of these can interfere with a range of other therapies and medical conditions. Your doctor will take this into account to ensure that whatever is being prescribed for ED does not interfere with anything else.

Being diagnosed with prostate cancer makes it even more important to be cautious about what treatments you take. Anything that may act like testosterone or affect testosterone levels may cause problems as testosterone is required for both normal and cancer cells to grow.

If you're curious about any treatment, the safest approach is to ask your doctor all about it. She or he will be able to tell you what treatments have been approved by the Australian Government's medicines agency - the Therapeutic Goods Administration (TGA) - which means these treatments have met a number of strict guidelines for safety, effectiveness and tolerability.

1. ORAL TREATMENTS (TABLETS)

Your doctor will often start you on tablets. There are three tablets approved for use in Australia – Cialis®, Levitra® and Viagra® – and they are known as PDE5 inhibitors. They can be used on their own or in combination with other treatment options. Generally, PDE5 inhibitors and injections should not be used at the same time; the exception tends to be in men with severe cases of ED.

How do they work?

Oral medications allow greater blood flow to the penis, allowing an erection to be achieved with sexual stimulation. Contrary to what many people think, men won't have a permanent erection while the medication is in their system – sexual stimulation is required.

The tablets can begin to work as early as 20 - 30 minutes after taking them. It is, however, advisable to allow 60 minutes before attempting intercourse, the first time you use them.

If you're finding the tablets aren't working after only one or two doses, that's quite common. You're likely to have more success if you keep trying. Doctors don't really consider these medications to have 'not worked' until you've tried at least six to eight times at the right dose.

There are differences between the tablets. Clinical studies show that typically, Levitra and Viagra work for between four to six hours, while Cialis can work for up to 36 hours. These are the time-frames during which an erection can be achieved with sexual stimulation while taking these medications.

Exclusions

Oral treatments should not be used by men also taking medicines known as 'nitrates', which are used for the treatment of angina (chest pain) or other heart conditions. A sudden and serious drop in blood pressure can occur if you take both medications at the same time.

Availability and cost

The cost of ED medications can vary slightly. For a prescription of four tablets, the cost is generally between $65 and $80.

In most cases, the Government does not reimburse ED medications. Some private health insurance funds may cover some of the cost of prescription medications so check with your insurer. Men with Repatriation Health Cards may also be reimbursed.

Side effects

The most common side effects are headaches, facial flushing, blocked nose, indigestion and muscular pain.

Considerations for men with prostate cancer

For men who have been treated with brachytherapy, and are experiencing mild to moderate ED, oral medications are an option. These tablets are not as successful where there has been major nerve damage, such as following prostate surgery. They may need to be combined with external devices, such as rubber constriction rings, if a man can get an erection but has difficulty maintaining it.

Couples who want to have sex sooner rather than later may be advised to try injections first. This will also maximise potential for future sexual recovery. For couples not wanting to use injections, they will typically be started on PDE5 inhibitors to maximise their potential for sex in the future, even if they are not successful at restoring full erections now.

2. INJECTIONS

Penile injections are generally considered the most effective form of therapy to achieve erections after treatment for prostate cancer.

How do they work?

A drug is injected each time an erection is needed. An erection is usually achieved in up to 10 minutes and lasts for 30 - 60 minutes. Direct sexual stimulation is not required, as this drug works by a chemical response that directly opens up the blood vessels in the penis.

Most men can learn how to inject themselves correctly provided their eyesight and dexterity are reasonable. Patience is also required as it may take between 5 and 10 attempts to master the technique.

It is recommended to start injections at a lower dose and then work your way up, to minimise the chance of a prolonged erection (priapism), which can cause permanent damage.

Most doctors recommend a maximum of three injections per week.

Side effects

- Pain in the penis either from the injection itself or the medication it contains.
- A prolonged erection. Any erection lasting more than four hours with this type of medication requires urgent medical intervention.
- Thickening can occur at the site of the injection, which can then scar and distort the shape of the penis.

Making a follow-up appointment with a doctor to have the penis checked to make sure everything is in order and that the injection is being delivered correctly will help to minimise the risk of these side effects.

Availability and cost

The most widely used injection is Caverject Impulse® (alprostadil). It is available in a powder form that can be stored or transported at room temperature. It needs to be mixed into a solution just before use.

A pack of two injections costs $30 - 40. Injections are not available on the PBS (Pharmaceutical Benefits Scheme). Some private health insurance funds may cover some of the cost and men with Repatriation Health Cards may also be reimbursed.

Considerations for men with prostate cancer

There is no prescribed time as to when you should start injections. Doctors advise that injections should start when you are ready for sex. Typically, men are not interested in sex in the few weeks immediately following their prostate cancer treatment.

3. PENILE RINGS AND VACUUM PUMPS

To ensure these devices are being used properly, it's best to have them properly explained and appropriately fitted. A doctor can tell you where to purchase the devices and advise you on using them properly.

Penile rings are best suited to men who can get erections but can't sustain them.

The rings are made of rubber and are placed around the base of the penis to make it rigid enough for sex. Recommended use is limited to 30 minutes and the ring must be removed after this time or a man risks permanent damage to his penis. It's important not to go to sleep with the ring still on.

A vacuum pump is for men who can't get or sustain erections.

The vacuum pump is made up of a clear plastic cylinder and a pump that may be hand or battery operated. The vacuum pump is placed over the penis and, as air is taken out of the cylinder, blood is drawn into the penis, making it enlarge. A ring is then placed around the base of the penis to maintain the erection.

It may take up to two weeks for a man to be comfortable with using a vacuum pump.

The cost is between $500 and $800.

4. SURGICAL OPTIONS – PENILE IMPLANTS

It is typical to start with the least invasive option when treating ED and therefore penile implants are a consideration if less invasive options (e.g. tablets, injections) have not been successful.

A device can be placed within the penis to create a mechanical erection. During the operation, the normal spongy penile structure is removed to allow the device to be placed. This procedure is normally not performed until two years after radical prostatectomy as it is possible for a natural recovery to occur prior to this.

Penile implants are a good option for younger men who do not have any return of erections after two years and who wish to be sexually active on a regular basis.

Men who cannot tolerate injections are also good candidates to consider implant surgery. The erections achieved are similar to natural erections.

Most of the cost of a penile implant is covered by private health funds with ancillary benefits packages. For those without private health insurance, the cost of the penile implant may be $4,000 to $10,000, however you would need to speak with your surgeon about the total cost of this surgery.

Lifestyle factors

Lifestyle changes can be a valuable addition to any ED treatment the doctor prescribes and there are certainly benefits beyond sex. Remember to speak with your doctor before making any lifestyle changes.

Some changes you may want to consider are:

- Regular exercise - the benefits of regular exercise are well documented and may even boost levels of the male hormone, testosterone. This in turn may help achieve more regular erections.
- A balanced diet - a healthy diet may help to lower cholesterol levels. This in turn reduces the chance of cholesterol blocking your arteries, which reduces the blood flow needed to achieve an erection.
- Responsible drinking - heavy drinking reduces the ability to have an erection, but it's not that 'one time' that is the issue; it's long-term, excessive drinking that causes serious problems - nerve damage, liver damage and hormone imbalances. These are all good reasons to take it easy on the alcohol if you want to improve your erections.
- Reduced stress and fatigue – being diagnosed with prostate cancer and adjusting to the changes it brings can understandably preoccupy your mind. This, combined with just being physically and emotionally worn out, can make it difficult to 'get in the mood'. Talking with your partner might help to reduce stress. Psychologists or counsellors can help put things in perspective or for more serious conditions, such as anxiety and depression, you should see a doctor.
- Not smoking - if you needed yet another reason to stop smoking, here it is - studies indicate that sexual function is affected by smoking.[13] This is still relevant to men who have ED as a result of prostate cancer treatments because tobacco has a harmful affect on circulation and good circulation is needed for good erections.

Relationship impacts

A diagnosis of prostate cancer can take a huge emotional toll on a man and his partner. ED can add to this pressure on a relationship, at a time when it is very important to have the support of your partner.

While it's understandable that a man experiencing ED may have feelings of embarrassment, frustration or anger, that can even result in depression, anxiety or simply withdrawing, the issue can also be distressing for partners.

A 'good' relationship means different things to different people, but most people want respect and open communication. It's impossible to find a solution if you don't know there's a problem.

Not everyone wants a sexual relationship, but rather than trying to guess or assume, have an open and honest discussion about what your partner wants.

This may seem unnecessary in long-term relationships as people tend to assume they know all there is to know about their partner but this is not always the case.

When you're ready to start having sex again, and if you would like help, talk to your GP or specialist. Other people you can talk to about your relationship include psychologists, sex therapists and relationship counsellors, who can provide an objective viewpoint. Your partner can be a valuable support if you're feeling a little nervous about doing all the talking, so take them along.

For further information on relationship counselling, visit Relationships Australia:

www.relationships.com.au

and

www.relationshiphelponline.com.au

Where to now?

Prostate cancer and ED have far more than just a physical impact on you and your family, especially your partner.

The psychological and emotional impact of a cancer diagnosis can initially be overwhelming, leaving you with little room to think about much else.

This resource has been produced to help get you started thinking about ED in the context of your prostate cancer treatment.

Unfortunately all current prostate cancer treatments carry the risk of ED. You can still treat ED resulting from prostate cancer with the same approved treatments available to all men with ED, however, your success rates are likely to be different.

If you do want to resume a sex life after prostate cancer treatment, talk about it early with your treating doctors to maximise your chance of having the sex life you want.

Communication is key - both with your doctors and your partner.

Doctors are the experts in prostate cancer treatments and their effect on erections, so the first step is to start the ED conversation with your doctor if she or he hasn't already started it with you. Doctors have assisted hundreds of men facing similar challenges to yours, so don't be afraid to ask them questions.

Involve your partner in discussions about ED as well as cancer treatments – they are an important support for you and should be included and informed. It should also make things easier for both of you in the future as there won't be any surprises if you understand what's in store.

The effect of a positive outlook should never be underestimated and there are good reasons for this - success rates in treating prostate cancer continue to improve and there are also safe and effective treatment options for ED.

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