Urinary Incontinence After Treatment for Prostate Cancer

What is incontinence?

Incontinence is when you can't hold your urine. This can lead to the leaking of urine. Incontinence can be a side effect of treatment for prostate cancer.

Why does incontinence happen after prostate cancer surgery?

Two sphincter muscles help men control their urine (being continent). These sphincters are:

- The internal urethral sphincter is found at the bottom of the bladder, called the "bladder neck." You do not control your internal sphincter. It is removed (taken out) during a radical prostatectomy (RP). The prostate cannot be taken out without also taking out the sphincter.
- The external urethral sphincter is found below your prostate. You can control your external sphincter and use it to stop your urine stream. You can strengthen this sphincter with pelvic floor muscle (Kegel) exercises (described below).

Often, an intact, healthy external sphincter is enough to help you stay continent after surgery. But, RP can damage nerves, blood supply, supporting structures, or the muscle which can affect the external sphincter. This damage can lead to incontinence.

What types of incontinence can happen after RP?

There are two main types of urinary incontinence after RP:

- **Urgency incontinence** is when you feel the need to urinate but cannot make it to the toilet in time. This is often due to bladder spasms and medication can help. This type of incontinence is caused by changes in the way the bladder works after surgery.
- **Stress urinary incontinence (SUI)** is leakage of urine with movement or effort and can happen when you cough, sneeze, lift something heavy, move, or exercise. This type of incontinence may be caused by damage to your external sphincter muscle. Almost all men will have SUI right after their urinary catheter is taken out. A urinary catheter is placed short-term to collect urine during and while recovering from surgery.

Do all men have incontinence after RP surgery?

Incontinence gets better quickly in most men during the first few months, once the urinary catheter is taken out. For some men, incontinence can be an issue up to 1 year after surgery. Most surgeons will consider a man continent if he does not regularly use incontinence pads and only has dribbling with lots of activity. Talk to your provider about how urinary incontinence is affecting you. The goal is to help your quality of life as much as possible.

Who is at risk for incontinence?

It is not known why some men have incontinence that continues after surgery and others do not. SUI after surgery could be caused by:

- Older age.
- Larger prostate size before its removal.
- Smoking.
- Diabetes or other neurological diseases.
- A lot of blood loss during surgery.
- Need for cutting nerves during surgery.
- Size or stage of prostate tumor.
- Previous surgery for BPH (Benign Prostatic Hyperplasia - which means that the prostate is enlarged).
- Radiation after surgery (see below).

How can radiation therapy after prostatectomy affect incontinence?

Some men need radiation after a prostatectomy. This treats the "prostate bed" (the area where the prostate was). Some normal tissue will get a low dose of radiation, along with the external urinary sphincter. During radiation therapy and for a short time after, the external sphincter, urethra, and bladder may be irritated. This can lead to worsening incontinence that often gets better after radiation. Some men may have more incontinence in the months to years after radiation therapy due to the buildup of scar tissue. This can cause the external sphincter to not open and close as it should.

What should I do after radiation therapy to reduce incontinence?

Men should keep doing daily pelvic floor (Kegel) exercises. Pelvic floor exercises help strengthen the muscles at your bladder outlet, which helps bladder and bowel control.

To find your pelvic floor muscles, stop urination in midstream or tighten the muscles that keep you from passing gas. If you tighten your pelvic floor muscles while looking in the mirror, the base of your penis will move closer to your belly and your testicles will rise. Do not tighten the muscles in your belly, thighs, or buttocks.

Try to do 3-10 sets of 10 repetitions every day. Some sets should be with long muscle contractions (tightening of the muscles) and others with quick muscle contractions:

- Long contractions: Slowly add to the time you can hold the contraction until you can hold for 10 seconds. Rest for 10 seconds between each contraction.
- Quick contractions: Quickly tighten and then relax the muscles.

Decreasing your use of caffeine, alcohol, and bladder irritants (sugary juices, acidic foods like tomatoes, and carbonated drinks) can also help decrease incontinence. Drink plenty of water every day.

What if the incontinence does not get better?

In these cases, you should see an incontinence provider to talk about available treatments. They will ask you questions about your health history, the symptoms you are having, the number of pads you use, and what treatments you have already had. They will also do an exam and may ask for a urine sample. They may do a bladder scan (ultrasound) to see how much urine is in your bladder.

Your provider may want you to do more pelvic floor exercises. You may also be given a biofeedback machine that you can use to see how strong your pelvic floor muscles are. The specialist may talk about medication options.

What if these treatments do not work?

If these do not work, you may be sent to a urologist for more tests on your bladder and sphincter. These tests will help decide what type of incontinence you have, how well your bladder is working, and what other treatments might be best for you. A urodynamic test and cystoscopy may be done. They are both done in the office, often during the same visit. The results help decide which procedure might be best for you.

- The urodynamics test places a very small catheter in your bladder, fills it with fluid, and measures bladder activity and pressure during filling and voiding (urination). You will also be asked to cough and strain so your provider can see if and how you leak urine.
- A cystoscopy may also be done to look at the urethra, the anastomosis (the area where the bladder is put back together with the urethra after the prostate is removed during surgery), and the bladder. After these tests, your provider will go over the results with you, and together you can decide what treatment would be best.

What are the surgeries for incontinence?

There are three main types of surgery for men who have incontinence after an RP:

- **Urethral bulking**is done endoscopically (through a cystoscope). A material is injected just under the lining of the urethra. This makes the urinary pathway smaller. It is often done as an outpatient procedure, either with or without anesthesia. You can often return to normal activity right away. Your body often reabsorbs the material that was injected so it needs to be repeated every 9-15 months. The side effects can be:
    - Bleeding.
    - Urinary tract infection.
    - Temporary urinary retention (not being able to fully empty your bladder). Rarely, patients may feel that their incontinence is made worse by the procedure.
- **Male perineal sling** procedures are done in the operating room under anesthesia. A small incision is made in your perineum (the area between the scrotum and anus). A strip of mesh is placed under the urethra and is used to elevate and slightly press on the urethra. You will be asked to limit your activity for 4-6 weeks after surgery to allow the sling to scar into place so it does not move after the procedure. There is little pain after the procedure. Success tends to be best in men with slight to moderate incontinence (1-3 pads per day). Side effects can be:
    - Bleeding.
    - Skin or mesh infection.
    - Pain.
    - Erosion into the urethra (rare).
    - Inability to urinate (rare).
    - No improvement in continence.
- **The Artificial Urinary Sphincter (AUS)** is the most reliable and often most effective surgical treatment for incontinence after RP. It is a silicone implant with 3 parts: a cuff that goes around the urethra and squeezes it closed, a small fluid reservoir, and a control pump that is placed under the skin in the scrotum. This implant prevents urine from leaking. You must squeeze the small pump in the scrotum to open the cuff and urinate. The cuff refills and closes on its own after 3-4 minutes. You are kept overnight in the hospital. The procedure can be done either through one small incision at the top of the scrotum or through two incisions with one in the perineum and one in the groin. Recovery is short with this procedure. The device will not start to work until 4-6 weeks after surgery. Your incontinence will not change until the device is working which will happen in the office. This procedure can be used for all types of incontinence. This surgery has slightly more risk of serious issues mostly related to the

implant. The potential side effects are:

- Bleeding.
- Skin or device infection.
- Erosion into the urethra.
- The device not working.
- Urethral atrophy (the tissue around the urethra becomes thin over time which may lead to incontinence).

Treatment for prostate cancer and the side effects of incontinence can be a challenge. Talk to your provider about the side effects of surgery and radiation. If you have incontinence after treatments, talk to your urologist about your options.