Information for
patients & families

HDR Brachytherapy for Prostate Cancer

Temporary Iridium-192 Implant

Treatment – Radiation

Cancer Care Alberta

This booklet describes **brachytherapy treatment with radioactive Iridium-192 temporary source implant**. This treatment is called HDR prostate brachytherapy. It is a treatment option available for some men with prostate cancer. HDR prostate brachytherapy is often given with external beam radiation treatment (see below).

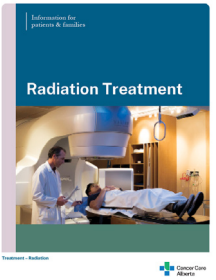
There are many methods of treating prostate cancer. Your doctor will talk to you about your options and help you choose the option that is best for you.

To find out more about prostate cancer treatments

- Visit decisionhelp.qcancercare.com/
- In Calgary, consider going to the Rapid Access Clinic (RAC) information session at the Rockyview Hospital. Ask your Urologist to register you in the next information session.

Prostate Brachytherapy with External Beam Radiation Treatment

In addition to HDR prostate brachytherapy you may also get external beam radiation treatment. You can learn more about external beam radiation in the book called 'Radiation Treatment'. Ask for a copy if you were not given one already.



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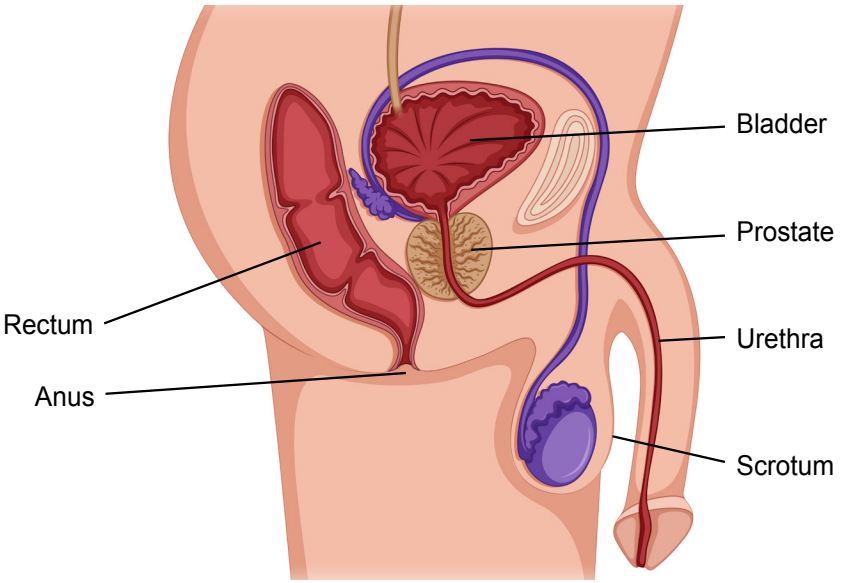
Just Diagnosed

What is the prostate?

The prostate gland is part of the male reproductive system. Its main function is to produce the fluid portion of semen. The size of the prostate can vary among men, but it is usually the size of a large walnut.

It is located just below the bladder near the internal base of the penis. The prostate surrounds the urethra, the tube that transports urine from the bladder and out through the penis.

The prostate gland secretes its fluid into the upper part of the urethra during ejaculation. This fluid helps to transport sperm out of the penis. The prostate gland slowly increases in size from birth to puberty. Enlargement of the gland may occur after age 45.

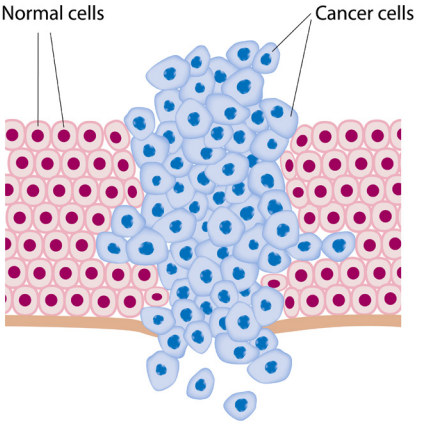


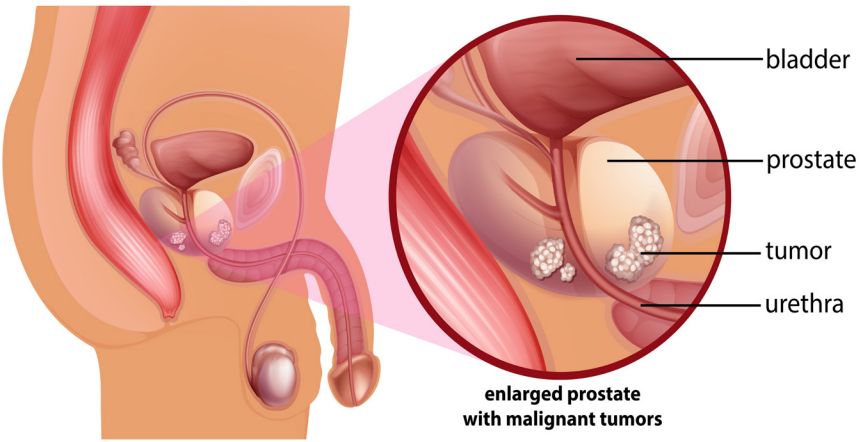
What is prostate cancer?

In a healthy body, new normal cells grow to replace old cells. Genes inside each cell tell it to grow, function, reproduce and die according to a plan.

For many people, this process continues normally throughout their lives. But in some people, some cells begin to reproduce abnormally because the instructions become confused. Groups of abnormal cells can grow together and form tumours.

Prostate cancer is usually slow-growing. It can develop over a long period of time without showing any symptoms. As it grows, it can put pressure on the urethra, making urination difficult, slow or painful. Prostate cancer can be detected using many different tests.





enlarged prostate
with malignant tumors

Radiation Treatment

Radiation is a treatment for cancer that destroys cancer cells by stopping them from growing and dividing.

The types of radiation treatment are:

- **External radiation** — the radiation is produced by a machine and is aimed at the tumour, so it comes from outside the body.
- **Internal radiation** — the radioactive source is placed inside the body, either inside the tumour, or close to it. This is also called brachytherapy.

HDR Brachytherapy?

HDR brachytherapy is a type of internal radiation treatment where a source is temporarily placed inside the patient using a treatment catheter. HDR stands for **High Dose Rate**.

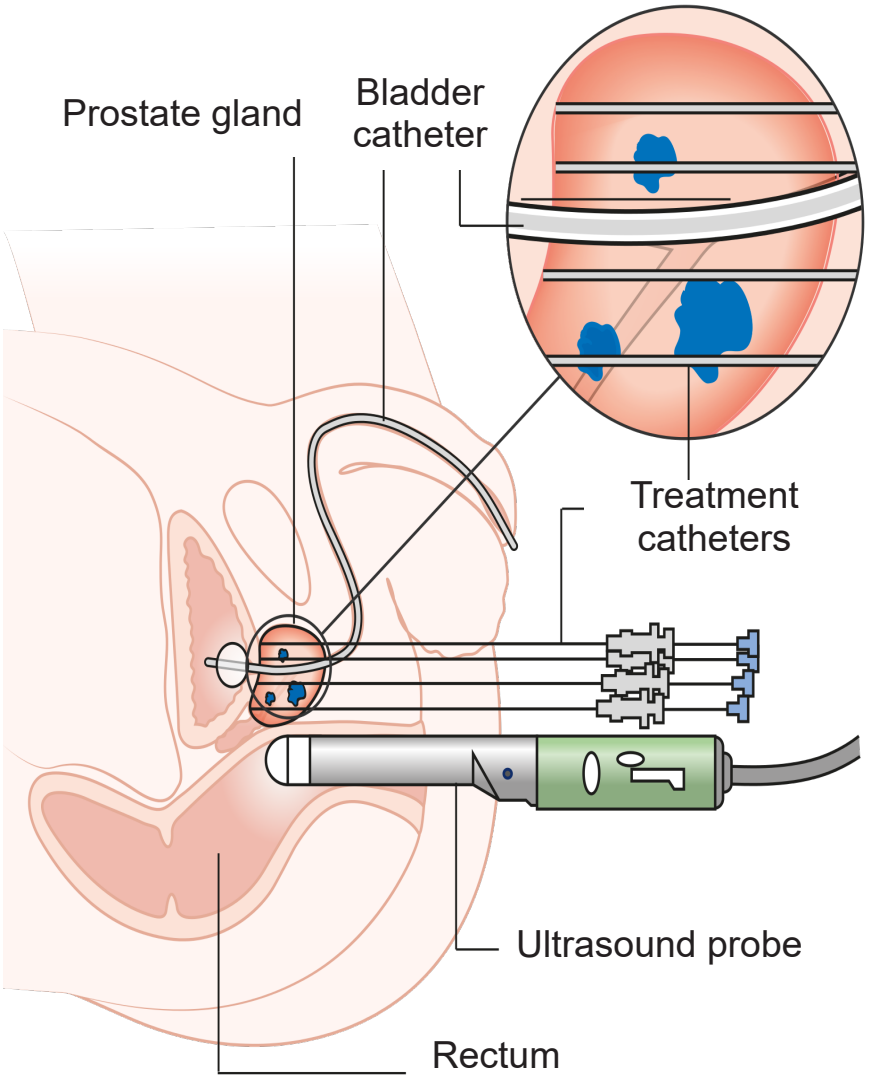
What is HDR prostate brachytherapy?

This treatment is done by placing hollow treatment catheters inside the prostate gland (see image on page 7). This is done in the operating room. An ultrasound probe is used to guide the placement of the treatment catheters into the prostate gland.

During the treatment a radioactive source goes into the treatment catheters and delivers the radiation treatment to the area the radiation oncologist wants to treat.

After this treatment there is **no radiation left inside** — you are not radioactive.

This treatment procedure usually take 3 hours to complete, but you will be at the cancer center for the whole day.


Prostate gland
Bladder catheter
Treatment catheters
Ultrasound probe
Rectum

What do I need before I have prostate brachytherapy?

- A blood test to know your PSA (prostate specific antigen) level.
- A biopsy to know your Gleason score (a rating system for prostate cancer). Visit www.bit.ly/CCSGleasonScore to learn more.
- A CT scan or transrectal ultrasound to know the size of your prostate, and if needed, to plan the external beam radiation treatment you will be given.
- A visit to the pre-admission clinic to assess your general health and ability to have anesthetic.
- Other tests may be requested by your doctor.

The night before your treatment

- Follow the eating and drinking instructions you were given
- Empty your bowels using a Fleet enema or Pico-salex.

Ask your healthcare provider **which product you should use:**

☐ Fleet enema **or** ☐ Pico-salex with Dulcolax

The Brachytherapy Team

- **Radiation Oncologist** – a cancer doctor for radiation treatment who prescribes your treatment, performs the brachytherapy implant procedure, and helps you manage any side effects.
- **Medical Physicist** – a specialist of medical physics who helps plan the treatment and ensures the quality of the implant.
- **Radiation Therapist** – delivers radiation treatments, and helps you before, during and after the implant.
- **Dosimetrist** – a radiation therapist specializing in the treatment planning for radiation.
- **Anesthesiologist** – a doctor who provides you with care during your implant and recovery. They may talk to you about medications you take before and after the implant.
- **Nurse** – may assist in the operating room and during your recovery.
- **Ultrasonographer** – a technologist trained in ultrasound to produce pictures of your prostate gland and anatomy.

Preparing for the Implant

What can I do to help prepare for my procedure?
Write the instructions on a calender or on your phone so you remember when you need to do them.

What should I bring to the hospital?

- ☐ Your healthcare card
- ☐ Government ID
- ☐ Someone to drive you home

What if I need a place to stay before the implant day?
There are several hotels and motels close by. In Calgary you can stay at the hospital hostel.

The Day of the Procedure

Checking-in for your treatment
You will get a phone call 1 business day before your appointment to confirm your check-in time. Check-in for your appointment at reception.

Before the treatment happens

You will need to put on a hospital gown. Your clothes and valuables will be put into a locker.

The anesthesiologist will decide if you will have a **general anesthetic** (be asleep), a **spinal anesthetic** (numbness from the waist down), or conscious sedation (you are awake but will not feel pain or remember the procedure).

- You will get an IV (intravenous line).
- After your anesthetic, you will have a catheter placed in your bladder.

The treatment catheters are put in place in the operating room.

- You will be monitored during the procedure.
- You may get IV antibiotics to help reduce your risk of infection.

Inserting your treatment applicators

Your radiation oncologist will work with the team to insert the treatment catheters inside of you.

Ultrasound can be used to guide the placement of the treatment catheters.

You will need to lie as still as possible once your treatment catheters have been inserted to keep them from moving.

The treatment plan

Once your treatment catheters are in place, your brachytherapy team will plan your treatment. This can take 2–3 hours.

Your treatment is planned so that your prostate gland will get a certain amount of radiation. The plan also helps keep the amount of radiation to the tissues around your prostate low.

Will I have discomfort while I'm waiting?

While you wait for your treatment, you may have cramping or discomfort in the area of your pelvis. If this happens, tell your nurse. Your care team can give you medication to help make you more comfortable.

The Iridium-192 radioactive source

The Iridium-192 source is very small. It is about 3.5 mm long and 0.6 mm thick. The source is stored inside of a treatment machine and is connected to machine by a thin wire.

Your brachytherapy treatment

- A tube will connect the treatment catheters to the treatment machine.
- To avoid radiation exposure to staff, everyone will leave the room during the treatment.
- Staff will monitor you using an intercom (voice), and video camera system.
- When the machine is turned "**on**", the radioactive source will travel from the treatment machine through the tubing, and into each of the catheters.
- The catheters deliver the radioactive source to the prostate.
- You will not feel anything when the radiation treatment is delivered.
- Each treatment will take between 10–20 minutes.
- You need to stay as still as possible during the treatment so that the treatment catheters stay in place.

Removing the radiation source

The radiation source has a thin wire attached to it, which is used to return the source to the treatment machine when the treatment is finished. You will not feel any discomfort as the source is moving through the applicator and tubes.

Removing the treatment catheters

When the treatment catheters are removed:

- You will feel pressure as gauze (packing) is applied to the area.
- You may get medication to help reduce bleeding.
- We will take you to the recovery area where you will stay until you can pee on your own without the catheter. This normally takes about 1 hour, but can vary from person to person.
- You will be discharged from the hospital. You will need to have someone drive you home.

Follow-up care

- You will have a follow-up phone assessment with a brachytherapist **4 weeks** after the implant.
- You will have a follow up appointment with your radiation oncologist **3 months after the implant**. This may be done over the phone.

Your radiation oncologist will continue to see you. Write the dates of your next appointments below..

Precautions After Your Implant

Do	• Sit down to urinate. This helps you relax	For 2 Weeks (14 days)
Do NOT	• Lift anything over 10 pounds	For 1 Week (7 days)
	• Ride a bike or stationary bike • Ride a horse • Ride a motorcycle	For 6 Weeks (42 days)

Possible Short Term Side Effect

Changes to urination

You may have a **burning feeling when you urinate** if you do not drink enough fluids (like water, unsweetened cranberry juice). Avoid alcohol and caffeine (like tea, coffee, and cola).

You may **urinate more slowly**. Your Flomax® prescription will help your muscles relax and improve your urine flow. Sitting on the toilet can also help. It can take a few months for this symptom to improve.

Urinary obstruction

For 1 out of 20 patients, urine flow may stop completely (you cannot pee). If this happens, we can insert a tube called a catheter into your bladder for a short time until you can urinate again.

Go to the nearest Emergency Room if:

You can't go pee for **5–6 hours** or more

OR

You are still peeing, but you feel **discomfort** and **fullness** in your bladder, or **discomfort or pain** in your lower back. You may not be emptying your bladder fully.

Infection

Sometimes an infection can develop in the days after the procedure. You will get antibiotics in the operating room to help prevent infection.

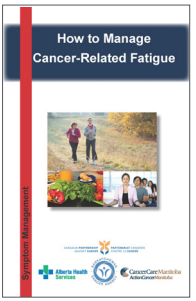
Go to the nearest Emergency Room if:

- You have burning or pain while you urinate
- Your urine smells bad or is cloudy
- You have fever and chills

Fatigue

Fatigue (or tiredness) can happen, but is not very common. Light to moderate exercise can help.

Get more tips and check out the booklet "Cancer-Related Fatigue"



Sexual activity

Sexual function can vary after the treatment. It may take time before your sexual function returns to how it was before the implant. You may need medication. Talk to your radiation oncologist for more information or scan the QR code using your smartphone to learn more.

Because the prostate gland produces fluid, many men will notice less ejaculate (fluid/semen) after the procedure. This is common and normal.

Possible Long Term Side Effects

Narrowing of the urethra

The urethra is the tube that carries urine (pee) from the bladder, and out through the tip of the penis. Sometimes the urethra can become more narrow because the:

- treatment might cause the prostate to swell
- radiation can “scar” the urethra.

If the urethra gets more narrow, it can cause you to:

- urinate more often
- feel an urgent need to urinate
- have burning when you urinate
- have difficulty starting to urinate
- have difficulty emptying your bladder

A urologist can treat narrowing of the urethra by stretching the urethra. For some people, a surgery may also be needed.

Tell your radiation oncologist if this happens before you seek any other treatment.

Incontinence (unable to hold your bladder)

- This is rare after the treatment. Talk to your radiation oncologist if this happens.
- Underwear liners or pads (like Depends®) can help.

Rectal bleeding

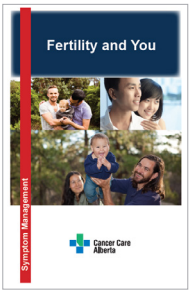
- This can happen from radiation scar tissue forming in the rectum.
- Try changing your diet by adding more fibre.
- Sometimes scar tissue is removed with a laser.
- Sometimes major surgery may be needed to if you have had additional biopsies or treatments.

Impotence (inability to get an erection)

- 1–3 men out of 10 may develop this up to 5 years after their implant.
- There are medications that can help. Talk to your oncologist or family doctor to see if medications are an option for you.
- If medications do not work, other options are available.

Infertility (unable to have a child)

- Your fertility may be reduced. Having treatment close to your testicles can reduce the number of sperm or their ability to fertilize an egg.
- Talk with your oncologist or family doctor and ask for the booklet: ‘Fertility and You’.



“Fertility and You”

Supportive Care

Cancer Care Alberta Psychosocial Oncology

Difficult emotions often arise during cancer and its treatments. Psychosocial oncology experts can offer counselling to patients and family members to help reduce emotional distress and explore coping techniques. They help with things such as communication, stress, coping with treatment side effects, mood changes, quality of life, body image or loneliness.

Support groups give those living with cancer an opportunity to interact with others in similar situations. Some are led by healthcare professionals while others are led by community members.

Patients and family members are welcome to call and ask for an appointment or information. For more information, scan the QR code with your smartphone camera.

Prostate Cancer Canada

Prostate Cancer Canada website has information for people who have been diagnosed with prostate cancer and their families including information on support groups.

Visit www.prostatecancer.ca or call 1-888-939-3333 to find out if there are prostate cancer support groups in your area.

Canadian Cancer Society — Peer Support Program

The Canadian Cancer Society's **Cancer Connection** program is a support network that offers peer-to-peer support to cancer patients and their caregivers. You can talk with caregivers or current and former patients with your same type of cancer. Call 1-800-263-6750 or visit www.cancerconnection.ca.

Prostate Cancer Centre

Calgary's Prostate Cancer Centre (PCC) has programs for men and their family members dealing with prostate cancer. The centre provides diagnostic services, educational resources, information sessions, post operation care and research.

For more information, email info@prostatecancercentre.ca, or visit www.prostatecancercentre.ca.

Medical Treatment After your Implant

If you need future medical treatment, especially abdominal surgery, the doctor may wish to have information about your implant.

- Call your radiation oncologist to discuss any concerns that might relate to your future treatment.
- If needed, your radiation oncologist can discuss any concerns with your doctor.

The information is to be updated every 3 years, or as new clinical evidence emerges. If there are any concerns or updates with this information, please email cancer.patiented@ahs.ca.

For your next appointment

Bring this booklet

Check-in 2 hours before your appointment

Bring a list of your medications

Follow your preparation instructions

For other Cancer Care Alberta resources, visit
cancercarealberta.ca

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