



Canadian
Cancer
Society

Soci t 
canadienne
du cancer

Prostate Cancer

Understanding your diagnosis



Let's Make Cancer History

1 888 939-3333 | www.cancer.ca

Prostate Cancer

Understanding your diagnosis

When you first hear that you have cancer you may feel alone and afraid. You may be overwhelmed by the large amount of information you will have to take in and the decisions you will need to make.

The introductory information in this brochure can help you and your family take the first step in learning about prostate cancer. A better understanding may give you a sense of control and help you work with your healthcare team to choose the best care for you.

What is cancer?

Cancer is a disease that starts in our cells. Our bodies are made up of millions of cells, grouped together to form tissues and organs such as muscles and bones, the lungs and the liver. Genes inside each cell order it to grow, work, reproduce and die. Normally, our cells obey these orders and we remain healthy.

But sometimes the instructions in some cells get mixed up, causing them to behave abnormally. These cells grow and divide uncontrollably. After a while, groups of abnormal cells form lumps, or tumours.

Tumours can be either *benign* (non-cancerous) or *malignant* (cancerous). Benign tumour cells stay in one place in the body and are not usually life-threatening.

Malignant tumour cells are able to invade nearby tissues and spread to other parts of the body. Cancer cells that spread to other parts of the body are called *metastases*.

The first sign that a malignant tumour has spread (metastasized) is often swelling of nearby lymph nodes, but cancer can spread to almost any part of the body. It is important to find and treat malignant tumours as early as possible.

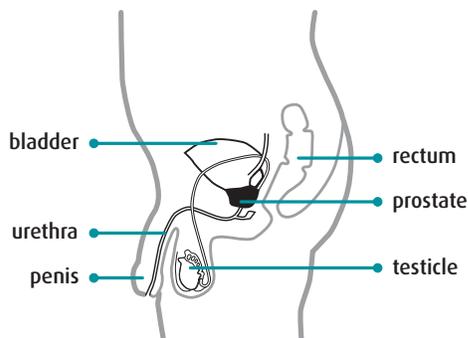
Cancers are named after the part of the body where they start. For example, cancer that starts in the prostate but spreads to the bone is called prostate cancer with bone metastases.

What is prostate cancer?

Prostate cancer starts in the cells of the prostate gland. The prostate is part of the male reproductive system. Its main function is to make part of the liquid (seminal fluid) that mixes with sperm from the testicles to make semen. Semen is ejaculated during sex.

The prostate is about the size of a large walnut. It is located close to the rectum just below the bladder at the base of the penis. The prostate surrounds the urethra, the tube that carries urine and semen through the penis.

Prostate cancer is the most common cancer in Canadian men. It usually grows slowly and can often be cured or managed successfully.



Causes of prostate cancer

There is no single cause of prostate cancer, but some factors increase the risk of developing it:

- age - being older than 65
- family history of prostate cancer
- African ancestry

Obesity, physical inactivity, eating a diet high in fat, and working with a metal called cadmium are being studied as possible risk factors. Eating a diet high in calcium is being studied as a possible risk factor. Calcium has many health benefits, and research so far tells us that the levels of calcium have to be very high - much higher than in the average man's diet - for it to be a concern.

It is possible to develop prostate cancer without having any of these risk factors.

Symptoms of prostate cancer

Prostate cancer may not cause any signs or symptoms, especially in the early stages. Symptoms may appear if the tumour makes the prostate larger than normal and it starts to press on the urethra. This can make passing urine more difficult or painful or you may need to go more often.

As a man gets older, the prostate may become enlarged and block the urethra or bladder. This is a common condition called *benign prostatic hyperplasia* (BPH). BPH is not cancer, but the symptoms of BPH are similar to the symptoms of prostate cancer. Testing is needed to confirm a diagnosis.

Diagnosing prostate cancer

Your doctor most likely suspected you had prostate cancer after talking with you about your health and completing a physical examination, including a digital rectal examination (DRE). The prostate gland can easily be felt by the doctor because it is close to the rectum.

To confirm the diagnosis, your doctor will arrange special tests. These tests may also be used to “stage” and “grade” the cancer. You may have one or more of the following tests.

Blood tests: Your blood may be tested for a substance called *prostate-specific antigen* (PSA). If you have an enlarged prostate, the amount of PSA in your blood may be slightly higher than normal. Prostate cancer usually causes even higher levels of PSA in the blood than an enlarged prostate does. If your PSA level is higher than expected for your age, more tests will be done to find out whether this is because of prostate cancer or another prostate problem.

Other blood tests may be done to check your general health. Blood is taken and studied to see if the different types of blood cells are normal in number and appearance.

Imaging studies: Imaging studies allow tissues, organs and bones to be looked at in more detail. Using x-rays, ultrasounds, CT scans, MRIs or bone scans, your healthcare team can get a picture of the size of the tumour and see if it has spread.

A *transrectal ultrasound* (TRUS) is usually the only imaging study needed to diagnose prostate cancer. A TRUS uses sound waves to form a picture of the prostate. The doctor passes a small probe into the rectum and looks for dark or dense areas on the image that may represent cancer. A sample of cells (called a *biopsy*) is taken at the same time. This test may be slightly uncomfortable, but it does not last long.

Biopsy: A biopsy is usually necessary to make a definite diagnosis of cancer. The cells are checked under a microscope. If the cells are cancerous, they may be studied further to see how fast they are growing.

A prostate biopsy is taken during a TRUS. Several samples of prostate cells are removed through the rectum. You may feel a brief sharp pain during the procedure. A local anesthetic (freezing) can be used to lessen the discomfort.

Staging and grading

Once a definite diagnosis of cancer has been made and your healthcare team has the information it needs, the cancer will be given a stage and a grade.

The cancer stage describes the tumour size and tells whether it has spread beyond the place where it started to grow.

For prostate cancer, there are four stages.

Stage	Description
1	Cancer is found in the prostate only.
2	Cancer is larger than stage 1, but is still found only in the prostate.
3	Cancer has spread outside the prostate but not to nearby organs.
4	Cancer has spread to nearby organs, lymph nodes or distant parts of the body.

To find out the grade of a tumour, the biopsy sample is examined under a microscope. A grade is given based on how the cancer cells look and behave compared to normal cells. This can give your healthcare team an idea of how quickly the cancer may be growing and how likely it is to spread.

For prostate cancer, the grade is usually given as a Gleason score from 2 to 10. A low Gleason score means the cancer cells are similar to normal prostate cells. A high Gleason score means the cancer cells are very different from normal cells. Most prostate cancer tumours are moderate grade.

Grade	Gleason score	Description
1	2-4	Low grade – slow growing, less likely to spread
2	5-7	Moderate grade – grow slightly faster than grade 1 and may spread
3	8-10	High grade – tend to grow quickly, more likely to spread

It is important to know the stage and grade of the cancer and your PSA level. This information helps you and your healthcare team choose the best treatment for you.

Treatments for prostate cancer

Your healthcare team will consider your general health, your PSA levels and the type, stage and grade of the cancer to recommend what treatments will be best for you. You will work together with your healthcare team to make the final treatment choices. Talk to them if you have questions or concerns.

Treatments affect everyone in different ways. It's hard to predict which side effects you will have. Your healthcare team will tell you what to expect with each treatment. They will also let you know what side effects you should report right away and which ones you can wait to tell them about at your next appointment. If you notice any side effects or symptoms that you did not expect, talk to a member of your healthcare team as soon as possible.

Patients often worry about the side effects of cancer treatment. However, side effects can often be well managed and even prevented with medicine. Be open with your healthcare team. Tell them your concerns and ask questions. They will help you get the care and information you need.

Prostate cancer often grows very slowly. If the prostate cancer is not causing any symptoms, you may not need treatment. Instead, your doctor may offer you a program called *watchful waiting* (also called *active surveillance*).

Active surveillance: Some prostate cancers grow very slowly and can be present for years without affecting your health. Your healthcare team will watch the cancer closely. Your doctor will examine your prostate and test your PSA levels regularly. A TRUS or biopsy may be done from time to time. Immediate treatment may be considered only if signs of cancer appear or change.

If immediate treatment is recommended, you might receive one or more of the following treatments.

Surgery: A decision to have surgery depends on the stage and grade of the cancer, your general health and your PSA level. During the operation, the entire prostate will be removed. This is called a *prostatectomy*. Some nearby tissue may also be affected by the surgery. Surgery is done under general anesthetic (you will be unconscious) and you may stay in the hospital for several days after the surgery.

After surgery, you will have a narrow tube called a *catheter* in your bladder, but this is usually removed within a few days. You may have some pain or nausea, or may not feel like eating. These side effects are temporary and can be controlled. Surgery to the prostate can damage the nerves that control your ability to have or keep an erection (*impotence*). When possible, nerve-sparing surgery will be used to try to avoid nerve damage. After prostate surgery you may have problems controlling your bladder (*incontinence*). Problems with incontinence usually improve with time.

Radiation therapy: In *external beam radiation therapy*, a large machine is used to carefully aim a beam of radiation at the prostate. The radiation damages the cells in the path of the beam - normal cells as well as cancer cells. In *brachytherapy*, or internal radiation therapy, radioactive beads or seeds are placed directly into or near the prostate.

Side effects will be different depending on what part of the body receives the radiation. You may feel more tired than usual, have diarrhea, or notice changes to the skin (it may be red or tender) where the treatment was given. Radiation for prostate cancer may irritate the rectum and cause changes to your bowel movements. You may also need to pass urine more often. These side effects are a result of damage to normal cells. The side effects will usually improve or go away when the treatment period is over and the normal cells repair themselves.

Radiation therapy can damage the nerves and blood vessels in the penis. This may make it difficult to have an erection.

Hormonal therapy: Hormonal therapy is a treatment that removes or blocks hormones and stops cancer cells from growing. Prostate cancer needs the male hormone testosterone to grow. Hormonal therapy gets rid of testosterone or lowers the level of testosterone in your body to slow the growth of the tumour and to shrink it.

The level of testosterone in the body can be lowered by surgically removing the testicles (called a *bilateral orchiectomy*) or by using drugs. Hormonal drugs can be given as pills or injections, or both. Today, it is more common to use drugs to lower testosterone than it is to remove the testicles.

Hormonal drug therapy may cause some side effects in some men. Different drugs cause different side effects, such as hot flashes, impotence, loss of desire for sex, weight gain or breast tenderness. Your bones may become weaker. These effects can usually be reduced or controlled. They often go away when therapy is finished. If both testicles are removed, impotence and loss of sex drive are permanent.

Chemotherapy: Chemotherapy may be given as pills or by injection. Chemotherapy drugs interfere with the ability of cancer cells to grow and spread, but they also damage healthy cells. Although healthy cells can recover over time, you may experience side effects from your treatment like nausea, vomiting, loss of appetite, fatigue, hair loss and an increased risk of infection. Chemotherapy is not used to treat cancer of the prostate in the early stages of the disease.

Clinical treatment trials: Clinical treatment trials investigate new approaches to treating cancer, such as new drugs, new types of treatments or combinations of existing treatments. They are closely monitored to make sure that they are safe for the participants. Ask your doctor if there is a clinical trial suitable as a treatment option for you. You may benefit and so may future cancer patients.

Complementary therapies: Complementary therapies are used *together with* conventional treatments. More research is needed to understand if these therapies are effective and how they work.

Alternative therapies are used *instead of* conventional treatments. Alternative therapies haven't been tested for safety or effectiveness. It's not known whether they will harm you or be effective in the treatment of cancer.

If you are thinking about using a complementary or alternative therapy, find out as much as you can about the therapy and talk to your healthcare team. It's possible that the therapy might interfere with test results or regular treatments.

Possible long-term side effects of treatment

Some side effects of treatment for prostate cancer can be long-lasting or permanent. When choosing which treatment is best for you, it is important to consider the possible long-term side effects. Long-term side effects include problems with bladder control (incontinence), sexual function (impotence) and the ability to father children (fertility).

Incontinence: Incontinence means you are no longer able to fully control the flow of urine. It can be caused by damage to the bladder, the bladder muscle or to the nerves that help your bladder work properly. Urine may leak out suddenly after a cough, sneeze, hearty laugh or other physical activity. Sometimes, urine may leak out when your bladder is too full or when the urge to urinate is too strong.

You are more likely to notice incontinence right after treatment, especially after surgery. As your body recovers, you will notice improvement and your bladder control may return to normal. Some men never have complete control again.

There are many ways to help manage incontinence. Ask your doctor about Kegel exercises to train your pelvic muscles if you have small leaks many times a day. Medications can also help the muscle that controls the bladder.

Impotence: Impotence is the inability to have or keep an erection. If the testicles have been removed, impotence is permanent. In some men, surgery or radiation therapy can cause long-lasting damage that will result in erectile problems.

It is not unusual for your doctor to wait several months after cancer treatment – to give you time to recover – before ordering tests to find the exact cause of the impotence. The test results will help decide how to treat the impotence. If you and your partner need emotional support, your doctor can also refer you to specialists and counsellors.

Infertility: Infertility is the inability to father a child. Most treatments for prostate cancer cause infertility. Before you undergo any treatment, talk to your doctor about sperm banking (freezing sperm for use in the future). Sperm banking allows you and your partner to decide later whether or not you want to have children. Your healthcare team can help you plan ahead.

After treatment

Follow-up care helps you and your healthcare team monitor your progress and your recovery from treatment. At first, your follow-up care may be managed by one of the specialists from your healthcare team. Later on it may be managed by your family doctor.

The schedule of follow-up visits is different for each person. You might see your doctor more often in the first year after treatment, and less often after that.

The end of cancer treatment may bring mixed emotions. You may be glad the treatments are over and look forward to returning to your normal activities. But you could feel anxious as well. If you are worried about your treatment ending, talk to your healthcare team. They are there to help you through this transition period.

Living with cancer

There are many sources of help available for people with cancer and for their caregivers.

Your healthcare team: If you need practical help or emotional support, members of your healthcare team may be able to suggest services in your community or refer you to cancer centre staff or mental health professionals.

Family and friends: Those closest to you can be very supportive. Accept offers of help. When someone says “Let me know how I can help,” tell them what they can do. Maybe they can run errands, cook a meal or give you a ride to your doctor’s office.

People who have had a similar experience: Consider visiting a support group or talking with a cancer survivor in person, over the telephone or online. Talking with and learning from others who have had similar experiences can be helpful. Try more than one option to see which one suits you best.

Yourself: Try to stay positive. Staying positive is about figuring out how to deal with cancer in the best way that you can – and everyone will do this their own way. It doesn’t mean that you must seem happy or cheerful all the time or avoid talking or thinking about the difficulties of having cancer. But it can mean looking after yourself by finding relaxing, enjoyable activities that refresh you mentally, spiritually or physically.

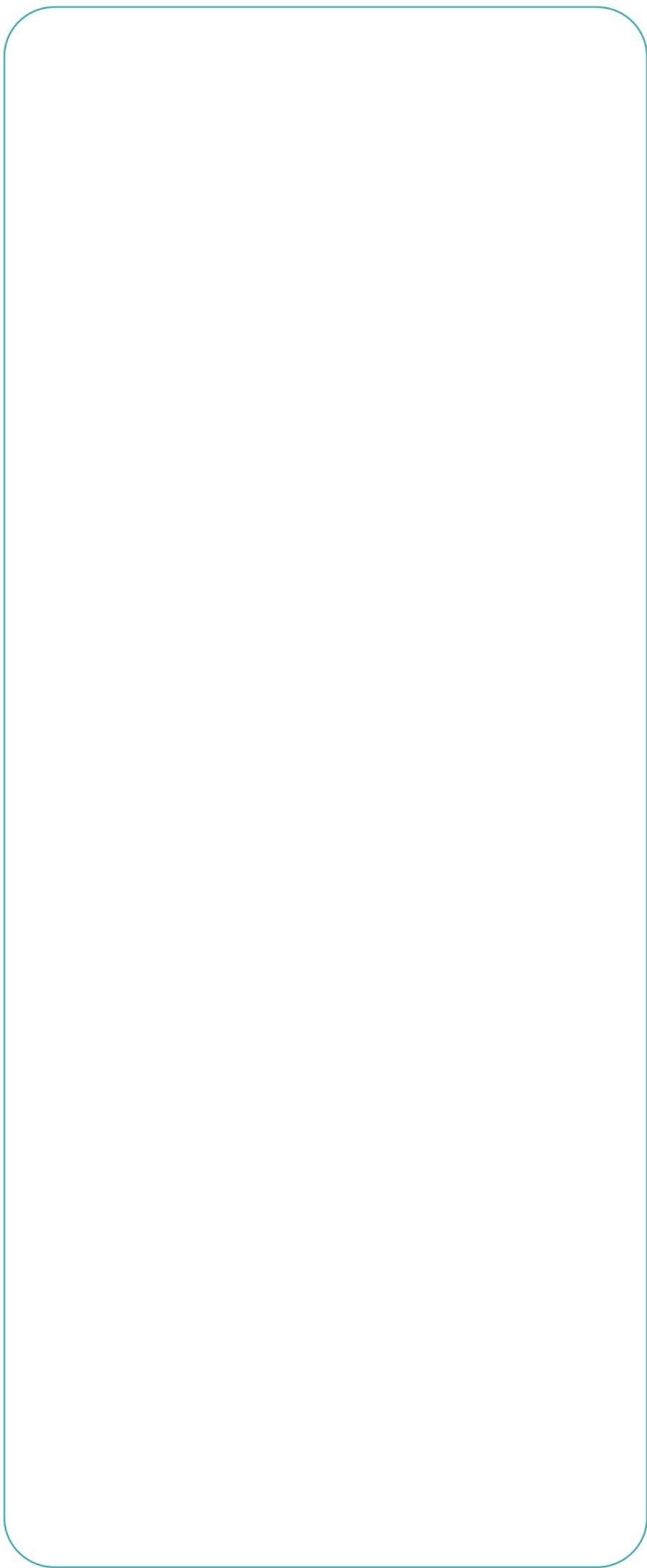
The Canadian Cancer Society *Helping you understand cancer*

Now that you have been introduced to the basics of prostate cancer, you may want to learn more. Please contact the Canadian Cancer Society for more detailed information on prostate cancer. Our services are free and confidential.

To contact the Canadian Cancer Society:

- Call an information specialist toll-free at **1 888 939-3333** Monday to Friday 9 a.m. to 6 p.m.
- E-mail us at info@cis.cancer.ca.
- Visit our website at www.cancer.ca.
- Contact your local Canadian Cancer Society office.





What we do

Thanks to the work of our volunteers and staff, and the generosity of our donors, the Canadian Cancer Society is leading the way in the fight against cancer. The Canadian Cancer Society:

- funds excellent research for all types of cancer
- advocates for healthy public policy
- promotes healthy lifestyles to help reduce cancer risk
- provides information about cancer
- supports people living with cancer

Contact us for up-to-date information about cancer, our services, or to make a donation.



Canadian Cancer Society Société
canadienne
du cancer

Let's Make Cancer History

1 888 939-3333 | www.cancer.ca

This is general information developed by the Canadian Cancer Society. It is not intended to replace the advice of a qualified healthcare provider.

The material in this publication may be copied or reproduced without permission; however, the following citation must be used: *Prostate Cancer: Understanding your diagnosis*. Canadian Cancer Society 2007.