

## > Prostate Cancer Canada Resources

Prostate Cancer Canada provides up-to-date information, support services and educational resources.

### WEBSITE

Visit [prostatecancer.ca](http://prostatecancer.ca) for the latest information, videos and downloadable resources.

### EXPERT ANGLE WEBINAR SERIES

Find on-demand webinars delivered by experts in the field. Visit [prostatecancer.ca/ExpertAngle](http://prostatecancer.ca/ExpertAngle) for a full library of past webinars.

### SUPPORT GROUPS

Support groups provide an opportunity for men with prostate cancer, and their loved ones, to share information and provide practical and emotional support throughout the cancer journey. Find a support group near you at [prostatecancer.ca/supportgroups](http://prostatecancer.ca/supportgroups)

*Please note:* the information presented in this resource is not meant to replace any medical advice provided by your healthcare team. For medical advice please consult with your healthcare provider.

## ABOUT PROSTATE CANCER CANADA

*Prostate Cancer Canada is the leading national charity addressing prostate cancer needs across the country.*

Prostate Cancer Canada hopes that this resource supports prostate cancer patients and their caregivers in managing their cancer journey.

If you have questions related to this document or Prostate Cancer Canada, please contact:

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A Answering Your Questions on Prostate Cancer

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BN 89127 0944 RR0001



## Basics of Treatment for Prostate Cancer



# Treatment

This brochure provides information about different treatments for prostate cancer including what to expect and the risks and side effects of treatment.

## > Treating prostate cancer

To determine the best treatment option for you, work with your healthcare team and consider the following factors:

- Your age
- The stage and grade of your cancer (i.e., how far the cancer has spread and how fast it is capable of growing)
- Your general health
- Your values and preferences

Prostate cancer can grow at different speeds. Talk to your doctor and if needed, get a second opinion to learn about all your treatment options.

## > Common treatments

The most common treatments for prostate cancer are:

- **Active Surveillance** – Involves close monitoring of small, slow-growing prostate cancer with relatively normal-looking cells (as determined by your biopsy results).
- **Radical Prostatectomy** (Open, Laparoscopic, Robotic) – Surgery that completely removes the prostate gland, as well as the seminal vesicles and part of the urethra within the prostate.
- **Radiation Therapy** (External Beam, Brachytherapy) – Radiation therapy uses high-energy radiation to shrink tumours and kill cancer cells.
- **Hormone Therapy** – Hormone therapy works by depriving cancer cells of the male hormones (androgens) they need to grow.
- **Chemotherapy** – Drugs that treat cancer. These drugs affect both cancer cells and healthy cells. Healthy cells tend to regenerate whereas cancer cells struggle to do so.

See more detailed information about the most common treatments on the back of this brochure. For more information about drugs to treat prostate cancer visit our website: [www.prostatecancer.ca](http://www.prostatecancer.ca) and search 'Prostate Cancer Drugs'.

## > Clinical trials

One way to access new treatments before they become widely available is to participate in a clinical trial. A clinical trial is a research study that uses volunteers (called participants) to test new ways to prevent, detect, treat or manage prostate cancer or other illnesses. Some clinical trials help determine whether or not a new treatment, drug or device is effective and safe.

Participating in a clinical trial is a valuable contribution to research as clinical trials answer important questions and can lead to improved health outcomes. Participating can be a good way for participants to access free treatments and get monitored closely by healthcare professionals.

If you are interested in learning more about clinical trials please visit [www.prostatecancer.ca](http://www.prostatecancer.ca), search 'clinical trials' and talk to your healthcare team.

For further information, please visit:

- ClinicalTrials.gov: [www.clinicaltrials.gov](http://www.clinicaltrials.gov)
- Canadian Cancer Trials: [www.canadiancancertrials.ca](http://www.canadiancancertrials.ca)
- National Cancer Institute: [www.cancer.gov/clinicaltrials](http://www.cancer.gov/clinicaltrials)

## > Complementary and alternative therapies

Complementary and alternative therapies include a wide range of approaches and therapies. It is important to understand the differences between conventional medicine, complementary therapies and alternative therapies.

- **Conventional (Mainstream) Medicine** – Medical or surgical treatments that are accepted and practiced in the Canadian healthcare system. The best available research has shown these treatments to be effective and safe. An example of conventional medicine is radiation therapy.
- **Complementary Therapies** – Therapies used with or alongside conventional medicine, often to help people cope with cancer, treatment or side effects. Further research is needed to find out if they are safe and effective. An example of a complementary therapy is using meditation to help with stress or anxiety during treatment.
- **Alternative Therapies** – Therapies used instead of or in place of conventional medicine. These therapies have not been scientifically proven to be safe and effective. An example of alternative therapies is using a special diet, in place of conventional treatments, to treat prostate cancer. Delaying or refusing conventional therapies to use alternative therapies may have serious health consequences.

Discuss all treatment decisions with your healthcare team.

## Questions to ask your doctor

There are many considerations when it comes to prostate cancer treatment and there will be a lot of information to take in during appointments. It's a good idea to bring someone with you to take notes and ask any questions you may forget.

Your doctor will likely cover most, if not all, of the questions below. Ask your doctor to answer any of the questions that have not been covered in the appointment.

1. What are the risks if my cancer is not treated soon?
2. What treatment options might be right for me?
3. What are the major side effects of the treatments available to me?
4. What are the chances I will have problems with incontinence, erectile dysfunction or rectal issues?
5. How would the various treatments affect my quality of life?
6. What is your experience with this treatment?
7. How frequent are complications?
8. What happens if the cancer spreads beyond my prostate?
9. When will my treatment begin and how long is it expected to last?
10. What if the first line of treatment doesn't work?
11. How will I be monitored after treatment or during active surveillance?



Active Surveillance	Radical Prostatectomy: Open/Laparoscopic/Robotic	RADIATION THERAPY		Hormone Therapy	Chemotherapy
		External Beam	Brachytherapy		
<ul style="list-style-type: none"> <li>Involves close monitoring of small, slow-growing prostate cancer with relatively normal-looking and well-behaved cells (as determined by your biopsy results);</li> <li>May be recommended if: <ul style="list-style-type: none"> <li>Your cancer is small and low-grade.</li> <li>The possible side-effects of other treatments are felt to outweigh the benefits at this time.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Surgery that completely removes the prostate gland and surrounding tissue, as well as the seminal vesicles and part of the urethra.</li> <li>Potentially removes all cancer cells.</li> <li>May be recommended if your cancer has not spread outside the prostate (stage T1 or T2).</li> <li>May be used in combination with other treatments e.g., surgery followed by radiation if indicated</li> </ul>	<ul style="list-style-type: none"> <li>External beam radiation delivers therapeutic x-rays to a localized area in order to kill cancer cells.</li> <li>Often a good option if age or general health makes surgery too risky.</li> <li>Can be used in combination with other treatments although surgical removal of the prostate is very difficult after radiotherapy.</li> </ul> <p>3-Dimensional Conformal Radiation and Intensity Modulated Radiation are commonly used techniques. They use either CT scans or MRIs to pinpoint where radiation is needed. The radiation beams “conform” to the prostate, sparing neighbouring tissue. This allows the delivery of high-dose radiation to cancerous areas while minimizing risk of damage to healthy cells.</p>	<p>Brachytherapy delivers radiation internally. There are 2 main types: low-dose seed implant brachytherapy and high-dose rate brachytherapy (HDR).</p> <p><b>Low-dose seed implant brachytherapy</b></p> <ul style="list-style-type: none"> <li>Usually recommended to men with lower-grade cancers that are contained within the prostate gland.</li> <li>Between 80 and 100 radioactive seeds, the size of a grain of rice, are implanted directly into the prostate.</li> <li>Each seed releases low-energy level radiation steadily over several months.</li> </ul> <p><b>HDR</b></p> <ul style="list-style-type: none"> <li>Reserved for patients with high-grade cancers.</li> <li>High-dose radiation is received through approximately 15 needles in the prostate, concentrating on the cancerous areas.</li> <li>HDR is usually supplemented by a course of external beam radiation.</li> </ul>	<ul style="list-style-type: none"> <li>Hormone therapy works by depriving cancer cells of androgens (the male hormones) they need to grow.</li> <li>Affects the whole body rather than a particular area.</li> <li>Most often used to treat: <ul style="list-style-type: none"> <li>Cancer that has spread outside the prostate,</li> <li>Recurrence of prostate cancer after another therapy has been used</li> <li>Men who are at a high risk of experiencing a recurrence after surgery or radiation therapy.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>The use of specific drugs to treat cancer.</li> <li>Normally used to treat recurring or metastatic prostate cancer if hormone therapy does not work anymore.</li> <li>Chemotherapy drugs affect both cancer cells and healthy cells. Healthy cells tend to regenerate whereas cancer cells struggle to do so.</li> <li>It is sometimes used to treat more advanced cancer in conjunction with surgical removal of the prostate.</li> </ul>
<ul style="list-style-type: none"> <li>A responsible program of active surveillance will include regular PSA tests and DREs.</li> <li>Your doctor will track your PSA levels over time, and any changes in DRE findings.</li> <li>Repeat biopsies will be required to determine if there has been a significant change or progression of the cancer.</li> </ul>	<p><b>There are 3 main types:</b></p> <ul style="list-style-type: none"> <li><b>Open:</b> One cut, 3 to 4 inches long, is made from the belly button to the pubic bone.</li> <li><b>Laparoscopic:</b> Several small cuts are made in the abdomen and a video camera is inserted to view the prostate. The surgeon operates the instruments by the bedside.</li> <li><b>Robot-assisted:</b> Similar to laparoscopic surgery except that the video camera and instruments are connected to a robotic system that is controlled by the surgeon.</li> </ul> <p>Nerve-sparing techniques can be used to try and preserve the nerves that control erections, rather than removing them with the prostate. If you have more advanced or aggressive cancer, this may not be recommended as there is increased risk that cancer cells may remain.</p>	<ul style="list-style-type: none"> <li>Radiation works by interfering with cell division. Because normal cells are affected along with cancerous ones, radiation is given in small doses over a period of eight weeks.</li> <li>Usually treatment is given Monday–Friday, with a break on weekends to give the healthy cells some time to recover.</li> </ul>	<p><b>Low-dose seed implant brachytherapy</b></p> <ul style="list-style-type: none"> <li>The seeds are inserted through the skin in the perineum (the area between the anus and scrotum).</li> <li>Procedure is performed under either general or spinal anesthesia and lasts approximately 1 hour.</li> </ul> <p><b>HDR</b></p> <ul style="list-style-type: none"> <li>Under anesthesia, approximately 15 needles are inserted through the perineum.</li> <li>These needles are wired to the radiation source that delivers a high radiation dose to the prostate.</li> <li>The needles are then removed.</li> <li>The treatment takes 10–20 minutes.</li> </ul>	<p>There are two methods of hormone therapy:</p> <ul style="list-style-type: none"> <li><b>Surgical removal the testicles</b> to prevent testosterone production (now rarely used in North America).</li> <li><b>Medication.</b></li> </ul> <p>The 2 main categories of medications are:</p> <ul style="list-style-type: none"> <li><b>Luteinizing hormone releasing hormone (LHRH) analogues</b> (or agonists) and <b>LHRH antagonists</b>, both of which interfere with androgen production.</li> <li><b>Anti-androgens</b> which block the effects of male hormones on prostate cells.</li> </ul> <p>Some new oral agents have become available as “second-line” treatment when standard hormone treatment has become less effective. The new agents (abiraterone and enzalutamide) either lower the testosterone level even further or more effectively block the effects of male hormones on the prostate and prostate cancer cells.</p>	<p>Chemotherapy is usually given through the vein but some forms can be taken as a pill.</p>
<ul style="list-style-type: none"> <li>You will need to have regular appointments with your doctor.</li> <li>Your doctor may suggest changing your treatment options if your PSA levels rise significantly or the feel of your prostate changes during a DRE, or if the repeat biopsy shows significant changes.</li> </ul>	<p><b>Day of surgery:</b></p> <ul style="list-style-type: none"> <li>You will be admitted to hospital.</li> <li>Procedure takes 2–4 hours and is carried out under anaesthetic.</li> <li>A catheter is inserted at the end of surgery.</li> </ul> <p><b>After surgery:</b></p> <ul style="list-style-type: none"> <li>Hospital stay is typically 2–4 days.</li> <li>Most men have minimal pain and discomfort after surgery.</li> <li>Catheter is removed after 1–2 weeks.</li> <li>Recovery process at home takes 4–6 weeks.</li> </ul> <p>It is important to have regular PSA tests to monitor your PSA level for any changes, even after the prostate gland is removed, since some cancer cells may remain in the body after surgery and they can produce PSA. As well, a small amount of prostate tissue may remain and it can produce PSA also.</p>	<p><b>Before treatment:</b></p> <p>You will have one or more planning sessions (with different scans or x-rays) to identify the exact area to be treated.</p> <p><b>During treatment:</b></p> <ul style="list-style-type: none"> <li>A machine sends painless high-energy beams into your body. You will be fully awake for the treatment.</li> <li>One session takes 10–30 minutes. No hospitalization is needed.</li> <li>During treatment you will have regular meetings with your radiation oncologist to monitor side-effects and review your progress.</li> </ul> <p><b>After treatment:</b></p> <p>You will have follow-up appointments and PSA tests to check how effective the treatment has been.</p>	<p><b>Low-dose seed implant brachytherapy</b></p> <ul style="list-style-type: none"> <li>A catheter may be used for a short time for urine drainage.</li> </ul> <p><b>HDR</b></p> <ul style="list-style-type: none"> <li>Often preceded or followed by a few weeks of external radiation.</li> <li>Sometimes HDR treatments are given over a few days and the external radiation is not needed.</li> </ul>	<p>Hormone therapy is used in various ways to treat prostate cancer.</p> <p><b>Combination hormone therapy</b></p> <p>Anti-androgens are combined with either LHRH analogue therapy or surgical removal of the testicles.</p> <p><b>Intermittent hormone therapy</b></p> <p>Hormone therapy is stopped once PSA number is lowered and stabilized. It is then resumed at a certain point after PSA numbers have increased again.</p> <p><b>Neoadjuvant hormone therapy</b></p> <p>Hormone therapy is given before local treatment. This reduces the size of the tumour to make the “main” treatment potentially more effective.</p> <p><b>Adjuvant hormone therapy</b></p> <p>Used directly after surgery or radiation to treat cancerous cells that may remain.</p>	<p>Chemotherapy is typically used to slow the prostate cancer’s spread, prolong life, and relieve pain associated with the late stages of cancer.</p>
<ul style="list-style-type: none"> <li>There may be no physical side-effects in the short-term.</li> <li>Some men may experience anxiety or depression.</li> <li>With time, some of the more common symptoms of prostate cancer may progress.</li> <li>Talk to your doctor or local support group for help.</li> </ul>	<ul style="list-style-type: none"> <li>Incontinence is temporary in most men, but around 10% will continue to have stress incontinence (urine leaks when sneezing, coughing etc.). 2–3% or men may have serious incontinence long-term.</li> <li>Erectile dysfunction is a common side-effect that may be permanent or temporary. Recovery may take up to a couple of years.</li> <li>Short-term constipation is a common side-effect.</li> <li>Radical prostatectomy results in infertility.</li> <li>Blood loss during surgery may require a transfusion (fewer than 10% of cases).</li> <li>Very rarely (in less than 1% of cases) there is injury to the rectum requiring a temporary colostomy.</li> <li>Very small risk of death (as with any major surgery).</li> </ul>	<p><b>Immediate side-effects:</b></p> <ul style="list-style-type: none"> <li>May appear after a few weeks of radiation and disappear some weeks after treatment has ended.</li> <li>Some men experience fatigue, decreased energy, weight loss or changes in appetite.</li> <li>Less common are gastrointestinal or rectal problems such as diarrhea, pain during defecation and rectal bleeding.</li> <li>Urinary problems are also possible e.g., blood in the urine, frequent urination, burning with urination, urine leakage.</li> </ul> <p><b>Long-term side-effects:</b></p> <ul style="list-style-type: none"> <li>These may appear anywhere from 6 months to several years after treatment.</li> <li>Side-effects can range from scar tissue in the urinary passage (causing a slow urinary stream) to infertility.</li> <li>Erectile dysfunction may occur in up to 50% of patients.</li> <li>Blood in the urine and rectal bleeding may occasionally still be troublesome years after radiation treatment.</li> </ul>	<ul style="list-style-type: none"> <li>Side-effects of low-dose seed implant brachytherapy and HDR are similar to those of external beam radiation.</li> <li>Brachytherapy differs slightly in the following ways: <ul style="list-style-type: none"> <li>Dominant short-term effect is irritation to the bladder and urethra.</li> <li>Acute urinary retention may develop.</li> <li>Bowel irritation is relatively uncommon.</li> <li>Side effects may last months.</li> </ul> </li> </ul>	<p><b>Possible side-effects include:</b></p> <ul style="list-style-type: none"> <li>Hot flashes.</li> <li>Erectile dysfunction.</li> <li>Loss of energy, general weakness</li> <li>Breast enlargement and tenderness</li> <li>Irritability</li> <li>Emotional disturbance including depression</li> <li>Headache</li> <li>Itching, dry skin, rash</li> <li>Gastrointestinal issues: diarrhea, nausea, vomiting</li> <li>Loss of muscle mass</li> <li>Weight gain (mainly due to increased body fat)</li> <li>Shrinkage of testicles</li> </ul> <p><b>Long-term use may lead to:</b></p> <ul style="list-style-type: none"> <li>Osteoporosis</li> <li>Lower blood counts or “anemia”</li> <li>Higher level of “bad” lipids in the blood</li> </ul>	<p>Specific side-effects depend on the type of drugs that are given. The following side effects are common with most types of chemotherapy:</p> <ul style="list-style-type: none"> <li>Gastrointestinal side-effects such as vomiting and diarrhea</li> <li>Anemia</li> <li>Total or partial hair loss</li> <li>Sensitive skin</li> <li>Infertility</li> <li>Vulnerability to infection (most commonly chest, mouth, throat and urinary infections)</li> <li>Nail changes</li> </ul> <p>Some side-effects can be treated with other drugs; others continue until chemotherapy is stopped.</p>