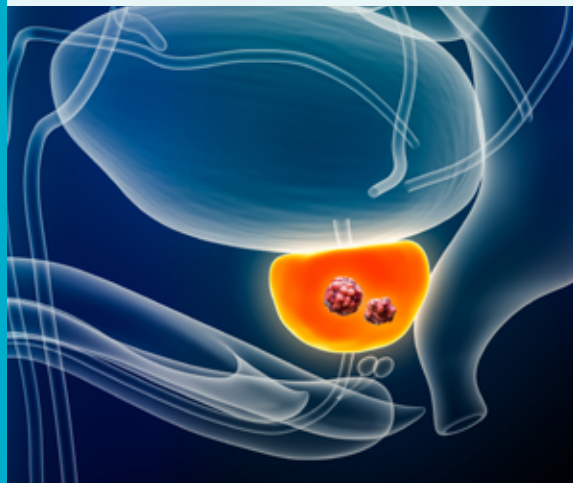


# RADIATION THERAPY FOR PROSTATE CANCER



**ASTRO**

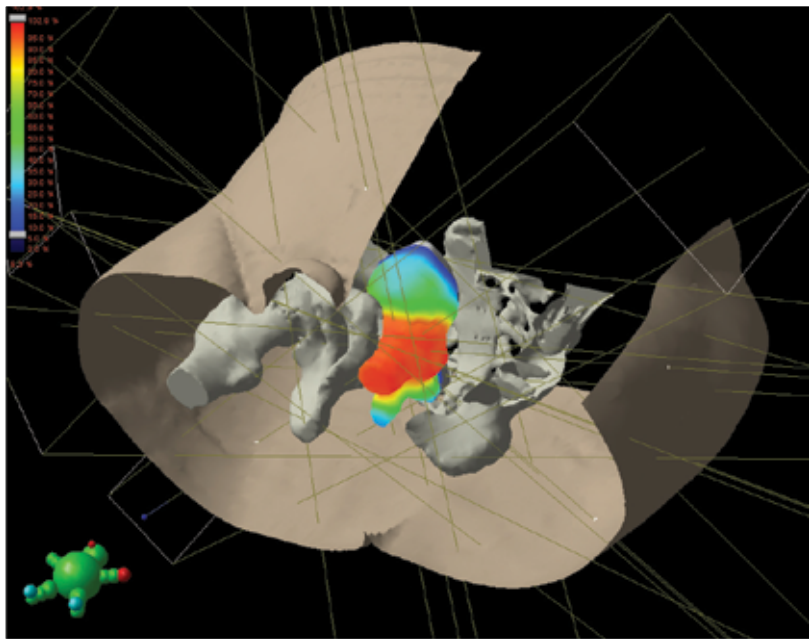
AMERICAN SOCIETY FOR RADIATION ONCOLOGY

# RADIATION THERAPY FOR PROSTATE CANCER

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Prostate cancer is the most common cancer in American men. According to the American Cancer Society, **one in every six men** will develop prostate cancer in his lifetime. Prostate cancer is very manageable and often curable. With **effective treatment**, more than 98% of men diagnosed with prostate cancer will live for more than 10 years after diagnosis.

## TREATING PROSTATE CANCER

If you find out you have prostate cancer, you should discuss your treatment options with a radiation oncologist – a cancer doctor who specializes in treating disease with radiation therapy – and a urologist – a surgeon who specializes in the genital and urinary systems. You may also consider consulting a medical oncologist – a doctor who focuses on treating prostate cancer with hormone therapy, chemotherapy and/or targeted therapy.

Cure rates are similar when undergoing radiation therapy or surgery, but certain factors may make one of these treatments better than the other for certain individuals.

***Your prostate cancer treatment may include one or more of the following:***

**External beam radiation therapy** – a radiation oncologist directs high-energy radiation to kill the cancer cells.

**Radiopharmaceutical therapy** – a radiation oncologist or nuclear medicine physician prescribes a radioactive drug delivered into the veins to help kill prostate cancer cells.

**Brachytherapy** – a radiation oncologist surgically places high-energy (radiation) seeds, temporarily or permanently, through small tubes within the prostate.

**Surgery** – a urologist surgically removes the entire prostate.



**Active surveillance** – a physician monitors men with low-risk prostate cancer through periodic PSA tests, rectal exams, biopsies and imaging.

**Hormone therapy** – radiation oncologists, urologists or medical oncologists prescribe medicine to stop the production of hormones that help prostate cancer grow.

**Chemotherapy** – a medical oncologist prescribes medication as a pill or medicine delivered through veins to kill cancer cells.

Sometimes a combination of therapies is best to treat your cancer, such as hormonal therapy along with external beam radiation therapy or brachytherapy combined with external beam radiation therapy.

*Ask your doctor about the risks and benefits of all treatment options including active surveillance.*



## EXTERNAL BEAM RADIATION THERAPY

External beam radiation therapy (also called radiotherapy) involves a series of treatments to accurately deliver radiation to the prostate.

Before treatment begins, optional procedures may be done to minimize side effects, such as placing a spacer between the prostate and rectum, and to improve treatment accuracy, such as placing marker seeds (not radioactive) in the prostate. Your radiation oncologist will then develop a treatment plan using information from your biopsy, imaging and physical exam. A CT scan, also known as a planning scan, is done in the position you will be treated, often with a supportive device to keep you comfortably in the same position for treatment. This is often called a pre-treatment mapping or simulation. Sometimes you will be asked to have a comfortably full bladder and empty rectum to minimize side effects. Your treatment plan will include the prostate, but may also include the seminal vesicles (glands on the back of the prostate) and lymph nodes. Ask your doctor to explain what treatment area is appropriate for you.

With the planning scan, the prostate and normal tissues are identified to help create a treatment plan. These treatment plans focus radiation beams on the prostate while limiting radiation to healthy tissues around it, such as the bladder and rectum. Intensity modulated radiation therapy (IMRT) and image guided radiation therapy (IGRT) are treatment approaches that allow the radiation beams to treat the cancer and lessen the risk of side effects.

External beam radiation therapy can be delivered using a variety of techniques. With all external beam therapy, treatment is delivered in a series of daily sessions, Monday through Friday, for several weeks. Each treatment is non-invasive, painless and similar to a long X-ray. You may hear a noise but will feel nothing at the time of treatment.

Hypofractionated radiation therapy is a form of external beam treatment giving slightly higher doses over four to six weeks compared to a more traditional treatment time of seven to nine weeks. Studies have shown similar results between hypofractionated and traditional radiation regimens. Stereotactic body radiation therapy (SBRT, also known as stereotactic ablative radiotherapy (SABR)) is a technique using high-dose and high-precision treatment setup and imaging for the treatment of cancer. This is typically done in five or less treatments.

In most cases, external radiation is in the form of high-energy photons, or X-rays. In a few clinics around the country, proton beam therapy is used to treat prostate cancer. Proton therapy is a form of external beam radiation therapy that uses protons rather than photons to treat cancer cells. Protons may be considered for certain patients. Protons compared to photons in treating prostate cancer patients continues to be studied.

The length of your treatment will depend on your health and the type of radiation used.

## **PROSTATE BRACHYTHERAPY**

Brachytherapy involves treating the cancer by inserting radioactive sources directly into the prostate. Brachytherapy may be used to treat prostate cancer alone or may be combined with external beam radiation therapy and hormonal therapy.

1. Low-dose-rate (LDR) brachytherapy consists of inserting small metal “seeds” that are permanently placed directly into the prostate gland. This treatment is done as an outpatient procedure and requires anesthesia. The seeds are temporarily radioactive and deliver the radiation to the prostate over several months. After losing their radioactivity, the seeds remain in the prostate.

For the short time that the seeds are giving off larger amounts of radiation, men should avoid being in close proximity to children or pregnant women. Ask your radiation oncologist or oncology nurse for instructions about radiation safety and exposure for family members and pets.

2. High-dose-rate (HDR) brachytherapy delivers radiation to the prostate using an applicator. This treatment is done as an outpatient procedure and requires anesthesia. HDR brachytherapy is temporary and there is no radioactivity once the applicator is removed from your body. You will not need to take special precautions around others after treatment. Multiple HDR treatments may be needed to give an effective dose to treat the cancer.

Ask your doctor if brachytherapy is a treatment option for you.

## **HORMONE THERAPY**

Depending on your cancer, you may benefit from adding hormone therapy to your radiation treatment. Hormone therapy lowers testosterone production. Testosterone is a hormone that plays an important role in prostate cancer growth. Hormone therapy scheduling may vary. It can be used together with radiation therapy and/or after radiation therapy has been completed. Hormone therapy may be given by your radiation oncologist, medical oncologist or urologist.

The length of time you will receive hormone therapy can be months to years depending on your overall health, quality of life goals, cancer stage and the type of radiation used. Ask your doctor for more information.

## CARING FOR YOURSELF DURING TREATMENT

Cancer treatment can be difficult. You have many issues to cope with. Your oncology team, along with family and friends, are available to help.

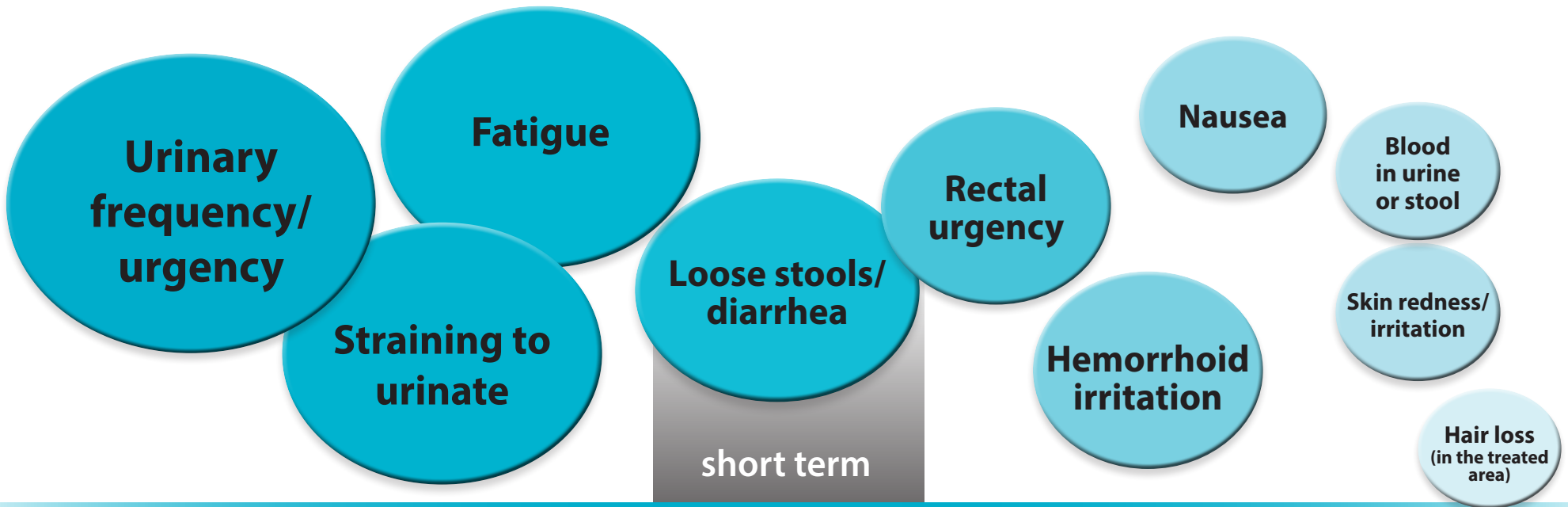
- Get plenty of rest during treatment, and don't be afraid to ask for help.
- Follow your doctor's orders. Ask questions if you are unsure about anything. There are no stupid questions.
- Tell your doctor about any medications, vitamins or supplements you are taking to make sure they are safe to use during radiation therapy.
- Eat a balanced diet.

## FACTS TO HELP PATIENTS MAKE AN INFORMED DECISION

Since surgery and radiation can both be equally effective treatments for prostate cancer, it is important to consider all of your treatment options. Ask your urologist about surgery and your radiation oncologist about radiation therapy. Learn

about the risks and benefits of both treatment options to decide what best meets your goals, balancing cure and quality of life.

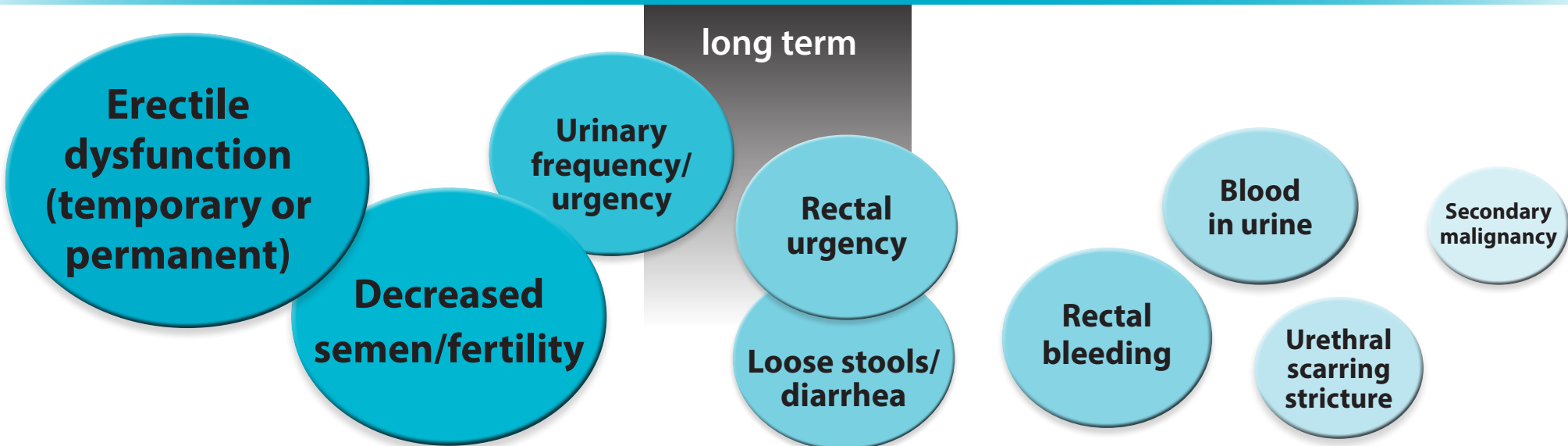




Side effects are usually temporary and usually go away shortly after treatment ends.

← more likely **possible side effects** less likely →

After the short-term side effects of radiation therapy resolve, others may become noticeable months or years later.



\*Larger bubbles show higher likelihood of occurrence. This list doesn't represent all of the possible side effects. Please talk to your doctors about your specific diagnosis.

## SUGGESTED QUESTIONS TO ASK YOUR TEAM

What is the stage of the cancer?

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What are my treatment options?

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Am I a candidate for brachytherapy?

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Am I a candidate for Active Surveillance?

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How many total radiation treatments will I receive?

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What are the risks, benefits and alternatives to the proposed treatment?

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How long will it take to get treatment started?

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Who can I talk to during the treatment if I am experiencing side effects?

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How do we determine if the treatment was effective and what is the likelihood of eliminating my cancer?

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What can I do to try to maintain my weight during treatment?

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What happens after treatment is complete? How will the cancer be monitored?

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## ABOUT THE RADIATION ONCOLOGY TEAM

Radiation Oncologists are doctors who oversee the care of each patient undergoing radiation treatment. Other members of the radiation oncology team include radiation therapists, dosimetrists, social workers and nutritionists. To learn more about the role these professionals have in your treatment, visit [www.rtanswers.org/treatmentteam](http://www.rtanswers.org/treatmentteam).





# I Have Cancer. Now What?

Cancer diagnosis is chaotic, unpredictable, messy. Your cancer treatment shouldn't be. [RTAnswers.org](https://www.rtananswers.org) provides detailed information and resources for cancer patients and their caregivers, including:

- Treatment information by disease site.
- Videos walking you through the radiation therapy treatment process.
- Stories from patients and caregivers sharing their experiences from diagnosis and treatment to survivorship.
- A "Find a Radiation Oncologist" portal where you can search by city, state and disease site specialty for a radiation oncologist near you.

## **THE AMERICAN SOCIETY FOR RADIATION ONCOLOGY**

(ASTRO) is the largest radiation oncology society in the world, with more than 10,000 members who specialize in treating patients with radiation therapies. As the leading organization in radiation oncology, biology and physics, ASTRO's mission is to advance the specialty of radiation oncology through promotion of equitable, high-quality care for people with cancer, cultivating and educating a diverse workforce, fostering research and innovation, and leading policy development and advocacy. Visit [www.astro.org](http://www.astro.org) for more information.

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