

Proton Therapy for Patients with Prostate Cancer

Talk to your doctor about how Proton Therapy can help you.

Precision Therapy.

Very low risk of long-term side effects.

Proton Therapy is an advanced form of radiation therapy that precisely targets the tumor utilizing proton particles. Proton particles stop inside the body and do not deposit radiation beyond the tumor they are targeting, causing less damage to healthy tissue. Proton therapy is effective in treating a broad range of tumors including brain, prostate, head and neck, central nervous system, lung, breast, sarcoma, gastrointestinal and many pediatric cancers.

Particularly effective in treating prostate cancer

Most men with prostate cancer are candidates for proton therapy, depending on the stage of the cancer and the general health of the patient. Prostate cancer can be treated with surgery, standard X-ray therapy, or radioactive seed implantation (brachytherapy). However, to minimize damage to the bladder and rectum, which are near the prostate, the total dose of radiation that can be delivered to the prostate cancer is limited. Studies have shown that treatment with proton therapy results in excellent rates of cancer control with very low rates of serious bowel or bladder complications.²

Compared to other forms of radiation therapy, proton therapy reduces the amount of radiation given to surrounding critical organs such as the rectum and bladder by as much 60%.¹ Men treated with proton therapy have a very low risk of long-term side effects.

Visit ProtonBenefits.com for more information.

Prostate Clinical Benefits

4.9% higher overall 5 year survival rate

35% less radiation to bladder and 59% less radiation to the rectum

Proton patients are almost twice as likely to report **treatment had NO IMPACT on their quality of life** compared to surgery, conventional radiation, and brachytherapy

Half as many incidences of long term (2+ years) moderate or severe bowel problems

42% reduction in relative risk of developing a secondary malignancy

Significantly fewer reports of gastrointestinal, genitourinary, endocrine, or "other" complications



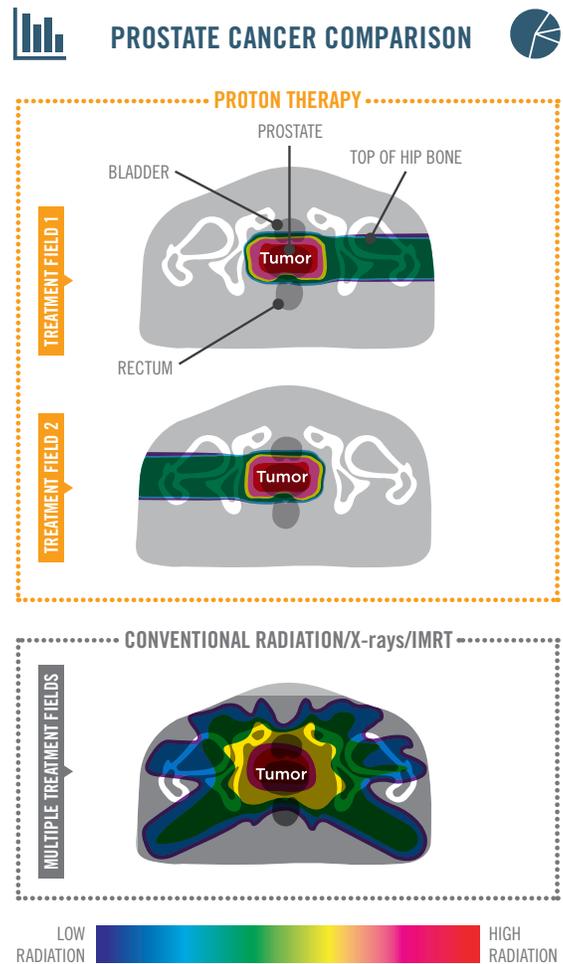
*References available upon request. Results from separate studies compared in some instances. The benefits of proton therapy for each individual patient will vary based on their individual diagnosis. A personal consultation with a proton-experienced radiation oncologist is recommended in all cases.

PROTON THERAPY BENEFITS

Prostate cancer treatment with protons compared to treatment with conventional radiation/X-rays/IMRT

With proton therapy, the rectum and bladder receive much less radiation compared to conventional radiation/X-rays/IMRT. Men treated with proton therapy have a very low risk of long-term side effects, such as incontinence, bowel damage and sexual function.

In the chart below, the grey/white areas indicate no radiation exposure, while the colored areas indicate radiation exposure.



¹ Vargas C, Fryer A, Mahajan C, et al. Dose-volume comparison of proton therapy and intensity-modulated radiotherapy for prostate cancer. *Int. J. Radiat. Oncol. Biol. Phys.* 2008; 70(3): 744-51

² Zietman AL, Bae K, Slater JD, et al. Randomized trial comparing conventional-dose with high dose conformal radiation therapy in early-stage adenocarcinoma of the prostate: long term results from proton radiation oncology group/american college of radiology 95-09. *J. Clin. Oncol.* 2010; 28(7): 1106-111

PROTON THERAPY:

Proven to Have **Fewer Side Effects** and **Higher Survival Rates**

New data released at the 2017 PTCOG conference further demonstrate that proton therapy can lead to better outcomes for many patients¹.

1. Abstract Presented at PTCOG-NA October 25, 2017 at National Conference in Chicago. <http://ptcog-na.org>

WHAT WERE THE FINDINGS?



DECREASED SIDE EFFECTS

Significantly **fewer patients** treated with **Proton Therapy** reported GI, GU, endocrine or “other” **complications** compared with IMRT.

Additionally, greater numbers of patients treated with IMRT developed a treatment related secondary malignancy within 5 years of treatment. A relative risk increase greater than 60%.



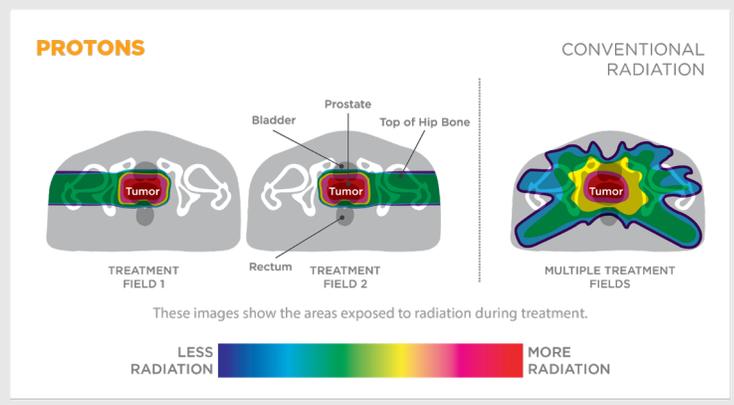
INCREASED SURVIVAL RATES

Proton Beam Therapy group’s 5-year Overall **Survival** was **93.25%** compared with 88.43% for IMRT. This difference was more significant for intermediate risk patients.

“ The data presented by Northwestern University shows that reducing radiation dose matters. With IMRT, there is unneeded radiation that is given to the bladder and bowel that, in this study, leads to an increase in side effects and treatment-related cancers, ”

**Dr. J. Ben Wilkinson, Medical Director
Provision CARES Proton Therapy Knoxville**

Prostate Cancer: Proton therapy delivers significantly less radiation to the bladder and rectum than conventional radiation, reducing the risk of short and long-term side effects and secondary disease.



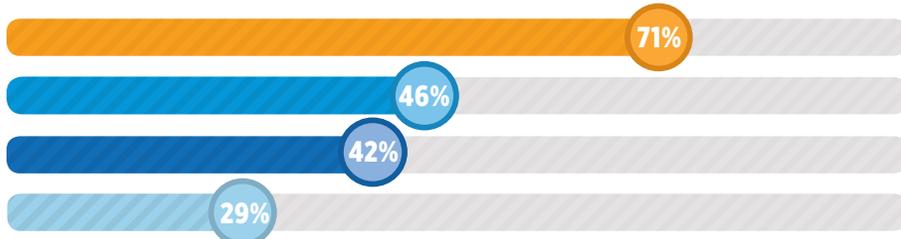
To learn more visit ProvisionHealthcare.com

PROSTATE CANCER PATIENTS RESPOND

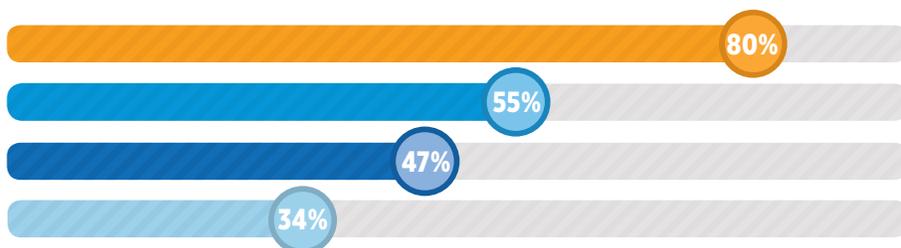
Men treated for prostate cancer using **proton therapy** reported **significantly better quality of life** than other therapy options.*

*The information below reflects the percentage of patients that reported their treatment did not interfere with the indicated lifestyle side effects.

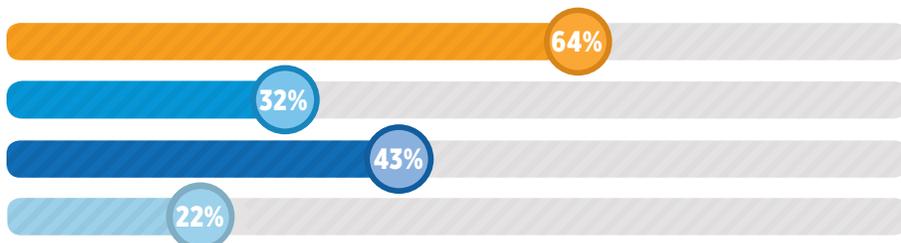
1. Overall Quality of Life After Treatment



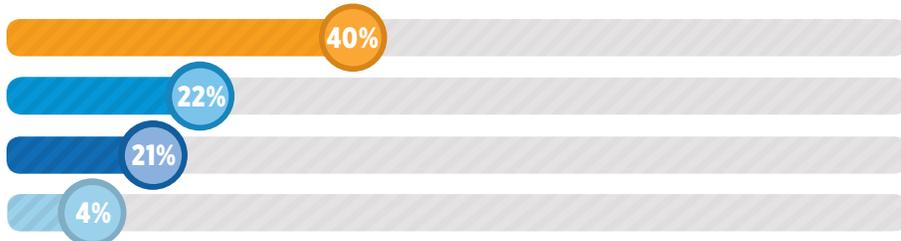
2. Remaining Active During Treatment



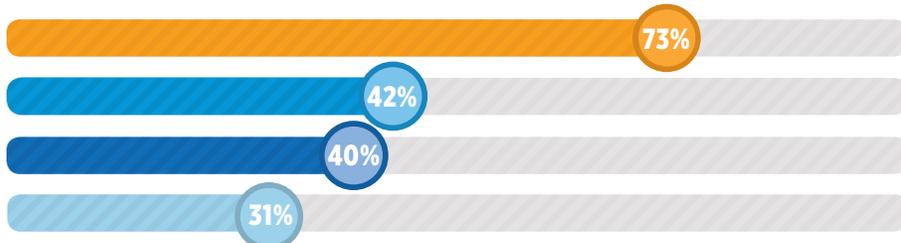
3. Ability to Control Urinary Function After Treatment



4. Maintaining Sexual Function After Treatment



5. Living Life the Way I Want to After Treatment



Key:

- Proton Therapy
- Brachytherapy
- Conventional Radiation
- Surgery

A national survey profiled 755 men, ages 50-75, at least 12 months after prostate cancer treatment. Patients who received proton therapy reported the best outcomes for overall quality of life, urinary function, sexual function, ability to remain active during treatment, and living life the way they wanted to after treatment. Notably, **more than 70% of proton therapy patients reported that treatment did not interfere at all with their overall quality of life.**

97% of proton therapy patients said they would recommend their treatment to other men with prostate cancer, significantly higher than the other treatment options.

Proton therapy is an advanced form of radiation therapy that uses a beam of high-energy protons to treat various forms of cancer. Unlike conventional radiation therapy, in which x-ray beams deposit most of their energy into the healthy tissue prior to entry and upon exit of the tumor site, the protons can be better controlled, allowing most of the energy to be deposited directly into the tumor and thus **reducing damage to nearby healthy tissue.**