

Prostate Cancer Questions?



We Have Answers

TerkOncology
& Center for Prostate Care

2019 Update

www.FloridaProstate.com

A Division of Florida Physician Specialists



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The New York Times: February 2017
**Dr. Terk and Dr. Cesaretti were named
Top Prostate Cancer Specialists in the Nation**


According the American Cancer Society, prostate cancer is now the most common cancer in men. When found early and properly treated, it can be highly curable with minimal side effects. In recent years there has been a tremendous amount of information regarding cancer screening and the various treatments for prostate cancer. This book presents straightforward and up to date information about prostate cancer from one of the top prostate cancer centers in the U.S., including:

- How to properly screen for prostate cancer and why screening saves lives
- Why VMAT image guided radiation and prostate seed implants are the safest and most effective treatments
- Why knowing the 10 year published cure rate with a treatment is so important
- Our recently published long-term 10 year cure rates of 98%, up to 45% better than proton beam radiation and surgery, with fewer side effects

At Terk Oncology's Center for Prostate Care, you have access to a world-renowned team dedicated to the treatment of all stages of prostate cancer, including the treatment of recurrent cancer following proton beam radiation, robotic surgery, and HIFU. Our physicians have treated more than 9,000 men with prostate cancer and have performed more than 5,000 prostate seed implants, making us one of the most experienced centers in the world. In addition to our innovative seed implant technique, our center offers the newest VMAT image guided radiation therapy, the most advanced technology for the non-surgical treatment of prostate cancer.

We are dedicated to providing you with the most state-of-the-art and successful treatment for all stages of prostate cancer. Our team has published hundreds of papers on our own prostate cancer research in major medical journals. Based on our experience and reputation, we have trained hundreds of doctors across the United States, Europe, Africa and Asia on the newest and most effective cancer treatments.

Once we have reviewed your records and given you a complete explanation of all the available treatment options, you will be able to decide which treatment is best for you. Our unmatched experience and commitment to excellence will allow you to feel confident that you have obtained the best possible care available anywhere in the world.



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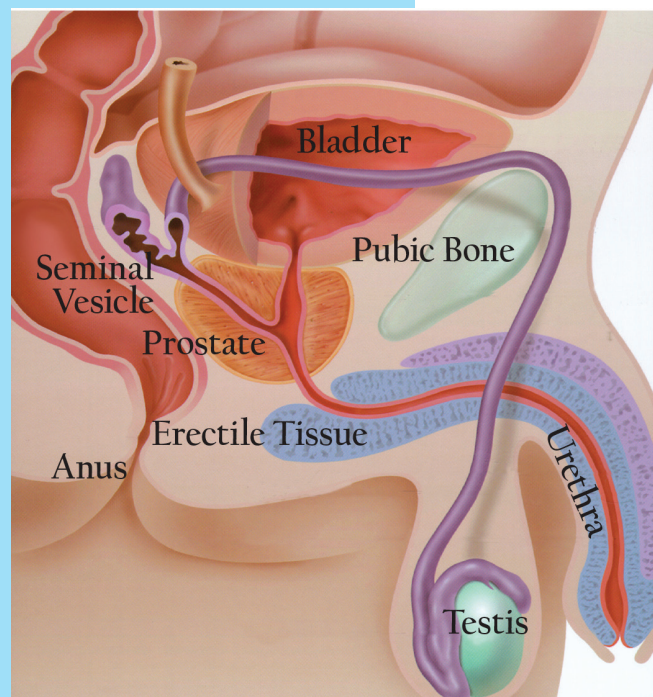
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98% Cured | **Terk Oncology's Center for Prostate Care achieves the best long-term Cure Rates⁴**





PROSTATE LOCATION AND FUNCTION

The prostate gland is a walnut-sized structure located deep inside the pelvis. It is situated just behind the pubic bone, between the bladder and the rectum, and is adjacent to the base of the penis.

Due to its location, one side of the prostate can normally be felt during a digital examination. The prostate surrounds part of the urethra, a tube that runs from the bladder to the tip of the penis. The prostate's primary function is to secrete a fluid that helps to transport sperm. As men age, their prostates typically enlarge in size, making urination more difficult and frequent.

CANCER SCREENING - SAVES LIVES!

The risk of developing prostate cancer increases as men age. Ultimately, 1 in 6 men will develop prostate cancer during his life-time. The largest study to date on cancer screening was recently published in the New England Journal of Medicine. An evaluation of 182,000 men showed that PSA screening reduced the death rate of prostate cancer by 21%.¹

The exact causes of prostate cancer are unknown. Men with a family history of cancer and African-American men are at an increased risk. As men continue to live longer and healthier lives, prostate cancer will likely become a more common problem.

PROSTATE CANCER SCREENING RECOMMENDATIONS

Men with a family history of prostate cancer Yearly, starting at age 40

African-American men Yearly, starting at age 40

All others Yearly, starting at age 50

PSA SCREENING REDUCES MORTALITY BY 21%

New England Journal of Medicine 2012¹

Early detection is the hallmark of successful treatment of prostate cancer. Usually there are no warning signs for prostate cancer. As the cancer progresses, symptoms can be very non-specific and might include a change in urinary or bowel habits or a new onset of bone pain. Regular physical exams and PSA blood tests aid in the early diagnosis of prostate cancer.

Prostate cancer screening saves lives!

WHAT IS A PSA BLOOD TEST?

PSA stands for Prostate Specific Antigen. It is a chemical produced only by prostate cells, both normal and cancerous. It is measured by a simple blood test. Your physician should carefully review your PSA level. In the past, a PSA of 4 was thought to be 'normal'. We now know that PSA depends on your age and the size of your prostate, amongst other factors. A PSA of 2 may be abnormal for a young man. As men age, the normal level for PSA increases. Your physician will be alerted if your PSA is above what is expected for your age or if it shows a rise from the prior year. Not all cancers can be found by PSA screening alone. It is important that you also have regular physical exams to feel for abnormal growths of the prostate.

WHAT DO I DO IF MY PSA OR PHYSICAL EXAM IS ABNORMAL?

If your physician detects an abnormal PSA or a lump on your prostate on exam, you will be referred to a Urologist for evaluation and possible biopsy. This is a simple procedure that can be done in a few minutes in their office. If the biopsy is positive, the cancer is assigned a Gleason score between 2 -10; with 2 being a slower growing type of cancer and 10 a more aggressive type.

WHAT SHOULD I DO IF I AM DIAGNOSED WITH PROSTATE CANCER?

Don't panic! Our recently published long-term study has shown that almost 100% of our patients with early stage disease were cured of their cancer. Upon meeting with us, our team of experts will carefully review your PSA and biopsy results. Simple tests such as an MRI and CT scan help us determine if the cancer has spread outside the prostate. We will then make sure that all of your treatment options are discussed in a caring, professional and unbiased manner. Together we can then determine which treatment will offer you the best possible chance for a cure.

TREATMENT OPTIONS

DO I HAVE ANY EFFECTIVE CHOICES FOR TREATMENT BESIDES SURGERY?

Yes. In past years, treatment for prostate cancer was typically a radical prostatectomy (surgical removal). Now there are several ways to safely and effectively treat prostate cancer that are even more effective and much less invasive. A recent 2007 consensus panel from the American Urological Association reviewed 1,400 research studies, concluding that both seed implants, and external radiation were effective treatments. Proton beam radiation, HIFU, high dose rate brachytherapy, and cryotherapy were not recommended as primary treatment due to either poor results or lack of the necessary long term data. Results from the Prostate Cancer Results Study Group published in 2012 showed that for all stages of prostate cancer, radiation results were superior to surgery.²

THE NATIONAL COMPREHENSIVE CANCER NETWORK (NCCN) DOES NOT RECOMMEND PROTON BEAM THERAPY FOR PROSTATE CANCER TREATMENT.

Although relatively new to Jacksonville, proton beam is an older technology actually in use since the 1950's. Recent studies have shown that men treated with protons have a higher rate of rectal complications and a higher rate of developing secondary (new) cancers, than men treated with seed implants or external radiation. In addition, there are no studies showing the long-term 10 year cure rates for proton radiation. As prostate cancer is often slow to recur, it is essential to know the 10 year cure rates after a treatment. In contrast, seed implants and external radiation have been extensively evaluated in hundreds of scientific papers in major peer reviewed medical journals. 20 year outcomes are known for seed implants and external radiation, compared to only 5 year results for proton beam radiation.

A review of current studies shows that patients treated with proton beam therapy suffer up to 45% higher prostate cancer recurrence rates, have an increased risk of developing radiation induced cancers, and have more long-term rectal complications, than men treated with seed implants. For these reasons, most major prostate cancer centers have decided not to pursue proton beam radiation and instead focus their research on more effective seed implant and VMAT programs.

PROSTATE SEED IMPLANT

Many men with prostate cancer opt for a seed implant as part of their treatment due to its superior long-term cure rates and lack of long term side effects. **Our own recently published long-term studies show that with a minimum follow-up of ten years, seed implant based therapy will cure 98% of men with early stage prostate cancer.**⁴

Prostate seed implantation is a simple one-time outpatient procedure that takes only about 45 minutes. Tiny radioactive seeds, each smaller than a grain of rice, are placed in the prostate. The seeds emit an intense amount of radiation to the cancer, with only minimal radiation outside the prostate, to areas such as the bladder and rectum. The seeds give off radiation only for a few months and then are permanently inactive. Cancer cells are selectively killed because they are much more sensitive to radiation than normal cells. The entire procedure is done through very thin needles, so there is no cutting or stitches required.

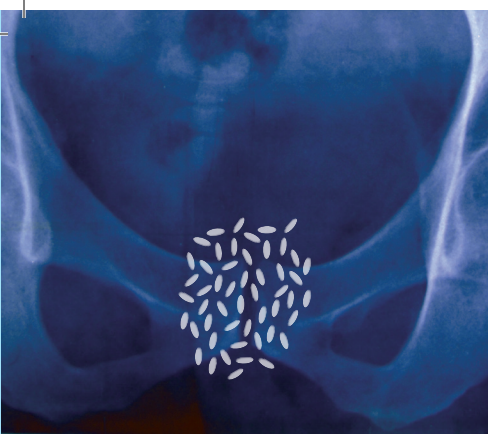
A light general anesthesia is used so there will be no discomfort. Using an ultrasound and advanced computers for guidance, a live picture of the prostate is obtained, and needles are accurately placed in the perineum. As the seeds are placed, the computer instantly calculates the doses of radiation delivered to help ensure a perfect implant. Most men experience only temporary side effects after the seed implant. Because there are no incisions, there is only minimal discomfort. Men typically return to their normal activities, such as work or playing golf, in only 1-2 days. The most common complaint is temporary urinary irritation for a few months. Medications can be given to help alleviate these symptoms.

Long-term side effects following a seed implant are quite uncommon. Unlike with surgery, 99% of our patients are able to control their bladder. In addition, up to 9 out of 10 men treated with a seed implant can preserve their ability to have erections.

During a prostate seed implant, tiny radioactive seeds, each smaller than a grain of rice, are placed in the prostate.



The National Comprehensive Cancer Network (NCCN) has stated that "Proton Therapy is NOT recommended for routine use at this time. Research has NOT shown proton beams to be the same or better for treating prostate cancer than conventional external beam."³



With our Intra-Operative Technique, the seeds are placed according to the prostate's exact position at the time of the procedure, not days or weeks before.

FOR MEN WHO CHOOSE SEED IMPLANTS, WHY IS TERK ONCOLOGY'S INTRA-OPERATIVE TECHNIQUE SO IMPORTANT?

To have the best possible results with prostate seed implant, it is essential that the prostate is adequately implanted with seeds and that sensitive areas outside the prostate are avoided. Our physicians helped pioneer the use of powerful computer software used during the seed implant procedure (intra-operatively) to instantly calculate the doses of radiation received by the prostate and surrounding areas.

Our revolutionary technique is a great improvement over the older Pre-Plan technique, where the needle and seed positions are determined before the actual implant procedure. This can lead to placement of seeds in the rectum, urethra or bladder, and a lack of seeds in areas with cancer. In contrast, with our Intra-Operative Technique, the seeds are placed according to the prostate's exact position at the time of the procedure, not days or weeks before. Computers calculate the radiation doses intra-operatively. Any movement or change of the prostate during the procedure is immediately taken into account, ensuring optimal seed placement. This results in minimal risk of seeds being too close to the bladder, rectum, or nerves, and minimal chances of seeds migrating outside the prostate.



TERK ONCOLOGY'S PUBLISHED 10-YR LONG-TERM RESULTS ⁴

Description	10-year cure rates
LOW RISK T1c-T2a, Gleason ≤6, and PSA <10	98%
INTERMEDIATE RISK T2b or Gleason 7 or PSA 10-20	94%
HIGH RISK: only 1 risk factor T2c-T3, Gleason 8-10, or PSA ≥20	88%

WHY IS THERE NO REAL CONCERN FOR SEED 'MIGRATION' ?

With our Intra-Operative seed implant technique, seeds are precisely placed in the prostate where they will not move. Research shows that seed migration occurs in less than one in two thousand seeds. ⁵ Based on our experience, the risk of seeds causing any serious or permanent damage to areas outside of the prostate is also extraordinarily low. Rectal and bladder damage are much more common with proton beam radiation.

Our physicians have more experience with state of the art techniques than any other center in the world.

VMAT offers faster treatment times and more effectively treats the cancer, not the surrounding healthy organs.



VMAT – THE NEWEST AND MOST PRECISE FORM OF RADIATION TREATMENT

External radiation delivered from a high energy X-ray machine (linear accelerator) has been effectively used to treat prostate cancer for over 30 years. There have been several recent major technological advances allowing cure rates that typically exceed those of surgery and proton beam therapy, with far fewer side effects. Unlike seed implantation, which is an invasive procedure and requires anesthesia to be administered in the hospital, VMAT is entirely non-invasive, and done as an outpatient in our modern office.

Volumetric Modulated Arc Therapy (VMAT) is the newest and most precise form of radiation therapy available. This state-of-the-art technique allows our team to deliver more tightly focused radiation treatments to your cancer than ever before. Our VMAT technology also greatly reduces treatment time from the typical 20-30 minutes seen with proton beam therapy or conventional radiation treatment, to only 1-2 minutes. In VMAT, as the linear accelerator rotates around you, radiation beams sweep in continuous uninterrupted arcs, tightly pin-pointed on the cancer. 3-dimensional CT imaging technology is incorporated into our actual treatment machine. This aids in the precision of the radiation, giving the doctor the ability to see the tumor at the time of treatment. This new technology allows the radiation oncologist more control to deliver a carefully targeted dose, so that only the tumor receives a high dose of radiation, not the surrounding healthy organs.

VMAT – THE NEWEST AND MOST PRECISE FORM OF RADIATION TREATMENT

Our VMAT technique combines volumetric modulated arc therapy with both the latest advances in both intensity modulated radiation therapy (IMRT) and Image Guided Radiation Therapy (IGRT). With IMRT, sophisticated computers modulate the intensity of the radiation beam, increasing it to areas where cancer cells are, and decreasing it to areas that need to be protected. This allows for maximum radiation to be delivered to the prostate and areas potentially harboring cancer cells, while minimizing radiation to the surrounding bladder and rectum. Patients with more intermediate to advanced stage prostate cancer have a high risk of having cancer outside the prostate, beyond a surgeon's reach.

At our Center for Prostate Care, we are able to use 2 simultaneous methods of IGRT to allow for the most precise treatment available. Both cone-beam CT scan and tracking of implanted gold fiducial markers are utilized for each daily treatment, allowing acquisition of a 3-dimensional image of the prostate and surrounding anatomy. Computers detect any slight change in position of the prostate that may result from movement or variations in bladder or rectal filling. The computer then makes 3-dimensional corrections to precisely target the treatment to the prostate's exact position that day. Changes as small as 1 millimeter are made to provide the greatest precision available.

THIS FULL 3D IMAGE GUIDANCE IS NOT POSSIBLE WITH PROTON THERAPY.

We are one of the only centers in the world using MRI treatment planning for prostate cancer. By utilizing a customized MRI scan, we can obtain the most accurate definition of important anatomy, such as the prostate, bladder, rectum and nerves that control erections. The information is entered into our computers and a customized treatment plan is created, tailored to fit each person's anatomy precisely. It further helps ensure that no known areas of cancer are missed, and allows for greater sparing of uninvolved areas from radiation.

Terk Oncology's team is among the most experienced in the world utilizing the newest technologies such as VMAT for the treatment of cancer.



HIGH DOSE EXTERNAL RADIATION OUTCOMES ⁶

Description	Success rates
LOW RISK	98% ⁶
INTERMEDIATE RISK	90% ⁶
HIGH RISK	88% ¹⁹

When it comes to curing cancer, experience matters!

VMAT is typically given for only 1-2 minutes a day, five days a week. VMAT is painless and non-invasive. The most commonly reported side effects are mild fatigue and urinary irritation. You will NOT develop any nausea, abdominal pain, hair loss, or skin burning. You will not have incontinence (i.e. not lose your ability to control your bowels or bladder). You will be able to continue working full-time and should enjoy your regular activities during treatment.

WHY IS VMAT TREATMENT SO MUCH BETTER THAN PROTONS?

- More sophisticated 3-d volumetric image guidance, instead of using only planar x-ray images as in proton therapy.
- Less rectal toxicity/side effects with treatment
- Improved dose conformality
- Smaller volume of normal tissue around the prostate treated to high doses
- Less uncertainty in dose deposition
- Less neutron contamination
- Superior clinical results
- Faster treatment time
- More conformal high dose radiation region to better spare radiation sensitive normal tissues surrounding the prostate

RADIOSURGERY OF THE PROSTATE

The newest form of stereotactic body radiotherapy (SBRT) is available at our center. We are happy to be able to offer this to select patients utilizing our Elekta Linear Accelerator, with its state of the art Agility treatment™. This is far newer and more precise than much older technology from prior decades, such as the Novalis™ or Cyberknife™. Recently published studies with SBRT are showing excellent results in eradicating prostate cancer in as little as one week.



YOUR PROSTATE CANCER TEAM

Terk Oncology’s Center for Prostate Care has physicians dedicated to the treatment of all stages of prostate cancer, with extensive research publications, lectures, and experience performing and teaching around the world. Support will be provided by a dedicated and experienced group of nurses, physicists, and technicians. Undergoing care by our team will allow you to feel confident that you have obtained the best possible care available anywhere in the world.

HORMONE THERAPY

Prostate cancer feeds on testosterone, the “male” hormone. A simple shot and/or pills can temporarily block testosterone. By cutting off the ‘food supply’ to the cancer, several beneficial effects can occur:

- The prostate can shrink up to 50% in size
- It usually becomes easier to urinate
- Cancer cells outside the prostate may actually die
- Cancer cells are more sensitive to radiation and are more likely killed

While hormone therapy alone will not typically kill the cancer, it has been shown to improve cure rates when combined with implants or VMAT in men with more advanced cancers. It also has the ability to make a seed implant possible in men with very large prostates that would otherwise be technically difficult to implant. Some common, but temporary side effects include hot flashes, fatigue, and loss of libido. Fortunately, most of these are temporary and treatable.

We have one of the world’s most experienced teams to quickly help you put prostate cancer behind you!



WHAT IS PROTON BEAM RADIATION?

Proton radiation is an older technology that has been in use since the 1950's. Rather than treating with photons, as occurs with VMAT, men are treated with a different type of radioactive particle called protons. Some patients have been interested in comparing proton radiation with newer and more precise forms of treatment, such as seed implants or VMAT. The safety and effectiveness of seed implants and radiation has been thoroughly studied in hundreds of scientific papers, with 20 year outcomes available.

There is very little published data on the cure rates with proton radiation, with no studies reporting outcomes beyond a mere 5 years after treatment.

A 2012 study in the Journal of the American Medical Association (JAMA) was the largest ever published. 12,000 men with prostate cancer were evaluated, with results showing that men treated with proton beam had the highest rate of rectal side effects, more so than even traditional, older forms of external radiation.⁷

A recent 2015 study from the University of Pennsylvania, published in the journal Cancer, evaluated approximately 400 men treated with proton therapy or IMRT.⁸ The authors concluded that those treated with protons did not have a significant reduction in side effects or improvement in cure rate, though men treated with protons had a 2% higher absolute likelihood of developing late intestinal toxicities.

A review of other studies reveals that patients treated with proton beam radiation suffer higher cancer recurrence rates, are more likely to develop long term complications such as rectal damage, and are at a greater risk of developing new cancers, than those treated with external radiation or seed implants.

The National Comprehensive Cancer Network (NCCN) 2014 Guidelines, which are used as a standard reference by most cancer specialists, stated that Proton Therapy is NOT recommended at this time. Research has NOT shown proton beams to be the same or better for treating prostate cancer than conventional external beam.³

PROTON BEAM RADIATION OUTCOMES⁹

Description	5-year cure rates
LOW RISK	79%
HIGH RISK	43%

WILL SEED IMPLANTS IMPROVE MY LIKELIHOOD OF BEING CURED COMPARED TO PROTON RADIATION?

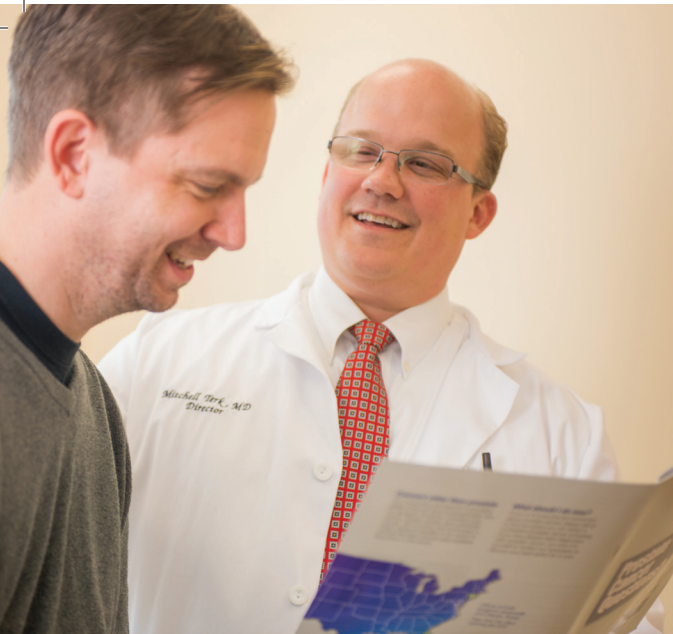
Cure rates for seed implants are 20% to 45% better than proton radiation. A recent study from the nation's leading proton center in Loma Linda, California reported the overall success rate with proton radiation was only 73%. For those with high risk disease, the success rate was only 43%.

This is in comparison to 98% success rates seen at 10 years with seed implants in early stage cancer, and up to 88% success rates in high risk disease.

WHY IS PROTON RADIATION MORE DANGEROUS THAN SEED IMPLANT OR VMAT?

Because the high doses of proton radiation are delivered externally, with less accurate methods of targeting the prostate than seed implants or VMAT, they cause far more side effects. A paper from Harvard's proton facility showed that following proton radiation, 41% of men had long-term rectal bleeding and 47% had long-term bleeding with urination.¹⁰ The risk of these side effects with seed implants is less than 5%.¹¹ A recent 2012 paper in JAMA studying 12,000 men showed proton therapy had the highest rate of rectal side effects.⁷

There is very little published data on the cure rates with proton radiation.



WHY DOES PROTON BEAM RADIATION SOMETIMES CAUSE OTHER CANCERS?

Of great concern, the pre-eminent radiation biologist, Dr. Eric Hall, reported that there is excessive production of contaminating neutrons in the patient during proton radiation.¹² Neutrons are dangerous particles that can damage normal organs. They are known to increase the likelihood of developing potentially life-threatening secondary cancers.

**ROBOTIC PROSTATECTOMY
(SURGICAL REMOVAL OF THE PROSTATE)**

A prostatectomy is a major operation that takes several hours. An incision is made in the lower abdomen to remove the prostate. Hospitalization is required for a few days, and all men require a catheter in the bladder for a few weeks. Robotic prostatectomy is done at some institutions. The surgeon guides robotic arms to help perform the operation. An incision and several puncture holes in the abdomen are still required. Several studies have however shown a higher risk of positive margins (leaving cancer behind) following robotic surgery, requiring additional treatment afterwards.¹³ A recent major study from Harvard showed that men who had robotic surgery actually had higher rates of incontinence (loss of urinary control) and impotence (loss of sexual function) than men treated with radical prostatectomy.¹⁴

Additional studies have shown that outcomes following robotic surgery are significantly worse if the surgeon has performed less than 250 of these procedures or does less than 50 a year.^{15,16} A prostatectomy can only cure men when the cancer is completely removed. If surgery leaves behind even a few microscopic cancer cells, these can later grow and ultimately spread.

LONG-TERM OUTCOMES WITH SURGERY ¹⁷	
Description	10-year cure rates
LOW RISK	80%
INTERMEDIATE HIGH RISK	55%
HIGH RISK	37%

WHY IS RADIATION FREQUENTLY NEEDED AFTER SURGERY (POST-PROSTATECTOMY RADIATION)?

Depending on their stage of disease at diagnosis, up to 40% of men who undergo prostatectomy will either have some cancer left behind (positive margins), or have disease spread beyond the prostate (extra-capsular disease). Several recent studies have shown that giving radiation to the prostate area following surgery has significantly improved the likelihood of long term cure without significantly increasing the side effects caused by the prostatectomy.

SALVAGE THERAPY

We can often succeed where others have already failed. We have successfully salvaged men that have recurred after prior proton therapy, surgery, cryotherapy and HIFU. Salvage therapy requires very special expertise in order to be done in a safe and effective manner. We have the largest published series in the world performing salvage prostate seed implants.



Giving radiation to the prostate area following surgery may significantly improve the likelihood of long term cure.

TREATMENT RESULTS

WHY ARE THE 10 YEAR LONG TERM RESULTS SO IMPORTANT?

As prostate cancer is often slow to recur, it is essential to know the 10 year cure rates after a treatment, not just the 5 year results. In contrast, seed implants and radiation have been extensively evaluated in hundreds of scientific papers in major peer reviewed medical journals. 20 year outcomes are known for seed implants, compared to only 5 year results for proton beam radiation.

WHAT IS EARLY-STAGE (LOW RISK) PROSTATE CANCER?

For early-stages, there may be a small risk of cancer being outside the prostate. This risk can be estimated following a review of your records. Several important criteria must all be met:

- PSA < 10 ng/ml on blood test
- No nodules, or at most a small nodule, felt on digital exam
- Gleason score < 7 on biopsy

outside the prostate. Most studies show cure rates from surgery in these high risk patients of only 30-40%.

These can include any of the following:

- PSA > 10
- Nodule occupying half or more of the prostate
- Gleason score > 6
- Cancer invading around nerves in the prostate (=perineural invasion)
- More than half of the prostate biopsies positive

THE IMPORTANCE OF NON-SURGICAL TREATMENT IN HIGH-RISK CANCER

For any treatment to be effective in intermediate to advanced stage cancer, it must be directed at both the prostate and the surrounding areas where cancer cells likely have spread. To accomplish this, VMAT may be given alone, or combined with a prostate seed implant.



LOW RISK DISEASE OUTCOMES

Treatment	Success rate
SEED IMPLANT	98%
HIGH DOSE EXTERNAL RADIATION	98%
SURGERY	80%
PROTON BEAM	79% (5 YRS)

HIGH RISK DISEASE OUTCOMES

Description	Success rate
SEED IMPLANT AND/OR VMAT	80-88%
SURGERY	37%
PROTON BEAM	43% (5 YRS)

INTERMEDIATE- HIGH RISK PROSTATE CANCER

Robotic or radical surgery is much less effective as the risk of cancer having spread beyond the prostate increases. This is because it is very difficult to completely remove cancer once it has grown beyond the confines of the prostate without damaging surrounding organs. Several factors identify men at a higher risk for having cancer

Unlike surgery, VMAT not only treats cancer in the prostate; it can also attack cancer cells outside the prostate. With combined treatment, four out of five men with more advanced cancer will be cured 10 years after treatment; success rates almost double that seen with proton radiation or surgery alone. In men with only 1 high-risk feature, our own published results showed an 88% cure rate at 10 yrs !⁴



FREQUENTLY ASKED QUESTIONS

Q: SHOULD I CONSIDER PROTON RADIATION?

A: Proton beam radiation is a less effective technology in use since the 1950's. Current studies show that patients treated with protons suffer up to 45% higher cancer recurrence rates than seed implant based therapies, have a higher risk of developing radiation induced cancers, and have higher rates of long-term complications, particularly damage to the rectum. For these reasons, most major prostate centers throughout the world have decided not to pursue less effective proton technology and instead focus their attentions on more successful VMAT or seed implant programs.

Q: HOW EXPERIENCED ARE THE PHYSICIANS WITH TERK ONCOLOGY'S CENTER FOR PROSTATE CARE?

A: Our physicians have treated more than 8,000 men with prostate cancer and performed more than 5,000 seed implants, making us one of the top centers in the entire world. We regularly train other doctors across the United States, Europe, Asia, and Africa on our external radiation and seed implant techniques. We have patented medical devices, published cancer research in major medical journals, and presented a multitude of seminars around the world. This allows us to offer our patients the best care available anywhere in the world.

Q: WHAT CAN I DO IF I WAS PREVIOUSLY TREATED WITH PROTON RADIATION AND NOW MY CANCER HAS RECURRED?

A: We are one of the only groups in the world experienced enough to offer salvage prostate seed implants to select men who failed prior proton radiation. At the time of consultation, we can recommend some simple tests to help determine if this is a safe and potentially effective option for you.

Q: I HAVE HEARD SOME PEOPLE SAY THAT THEY DO NOT THINK THE PSA BLOOD TEST IS IMPORTANT FOR CANCER SCREENING. WHAT DO YOU THINK?

A: Both the American Cancer Society and The American Urological Association strongly recommends that annual PSA blood tests and physical exams lead to detection of prostate cancer being diagnosed at an earlier, more curable stage, and thus, saves lives. A recent large study of 162,000 men showed PSA screening reduced prostate cancer deaths by 21%.¹

Q: DO YOU PARTICIPATE IN RESEARCH ON PROSTATE CANCER?

A: Yes. We participate in both national and local studies allowing us to offer the newest available treatment. In addition, all patients treated with seed implants are tracked in a computerized database. All of our treatments are carefully analyzed to ensure the best quality and results.

Q: WHAT EXACTLY IS CRYOTHERAPY?

A: Cryotherapy is a rarely used treatment where under anesthesia, multiple needles are inserted through the perineum into the prostate. Very cold gases are then passed through the needles, creating ice balls that freeze the prostate. Cryotherapy has generally been used in the past to treat recurrent cancers. At this time, it is not recommended by the NCCN for the primary initial treatment of prostate cancer, as there is minimal long-term data evaluating its effectiveness. Impotence and incontinence rates can be quite high, similar to those seen with radical prostatectomy (prostate removal surgery).





Q: WHAT ABOUT HIFU (HIGH INTENSITY FOCUSED ULTRASOUND) TREATMENT?

A: HIFU is not approved by the F.D.A. and is thus NOT allowed to be performed in the United States! Some men have been travelling to the Caribbean for this treatment. HIFU is associated with the absorption of ultrasound energy into the prostate and surrounding tissues to cause the heating of cells. Unfortunately, there is no difference in the damage caused by heat to cancer cells compared to the surrounding normal cells. Because there is no therapeutic ratio with this modality, there is a greater risk of it damaging areas around the prostate, such as the rectum, urethra and nerves. Several studies show HIFU has very low published success rates, as much as 65% less than seen with seed implants or external radiation. A recent European study showed the 5 year success rate for early stage prostate cancer was only 30% with HIFU.¹⁸ In contrast, VMAT and seed implants have fortunately been shown to offer excellent long-term cure rates with minimal side effects.

Q: HOW DOES RADIATION KILL CANCER CELLS?

A: Cancer cells are selectively killed because they are much more sensitive to radiation damage than normal cells. This damage removes a cancer cell's ability to multiply and leads to its death.

Q: HOW LONG WILL I BE OUT OF WORK AFTER HAVING A PROSTATE SEED IMPLANT?

A: Most men can return to their normal activities within 1-2 days.

Q: SINCE I HAVE RADIOACTIVE SEEDS IN MY PROSTATE, AM I A RISK TO OTHER PEOPLE?

A: No. The amount of radiation given off outside the body is negligible. In fact, the total exposure is equivalent to a single trip on an airplane from New York to Los Angeles. For peace of mind, we recommend that you avoid close contact with pregnant women and refrain from holding young children on your lap for 1-2 months afterwards.

Q: HOW DO I KNOW IF I WAS CURED BY A PROSTATECTOMY?

A: The answer is quite simple. A PSA blood test done a few months after surgery should reflect an undetectable PSA. If this is not the case, you may have some cancer cells left behind that should be irradiated. In this circumstance, we may recommend supplemental radiation.

Q: CAN I HAVE SURGERY IF THE CANCER REGROWS IN THE PROSTATE AFTER RADIATION?

A: Yes, however, it is very unusual for it to regrow within the treated area.

Q: ARE ALL MEN WITH PROSTATE CANCER ELIGIBLE FOR VMAT RADIATION OR SEED IMPLANT?

A: We believe that all men without evidence of metastasis (cancer spread to other organs) have a very good chance to be cured of their cancer. Most men are eligible for seed implants with or without supplemental VMAT radiation. We have protocols to treat men with both early and advanced stage disease. We recommend that all men diagnosed with prostate cancer consult with us before making a decision regarding their treatment. We will review your medical history and discuss the pros and cons of all treatment options and how each could affect your quality of life. At our Center for Prostate Care we will take the time to help men and their families learn the facts and feel comfortable with their treatment decision.





Mitchell Terk, M.D.

Awards / Recognitions

NY Times Top Prostate Cancer Specialist: 2017

NY Times Top Doctor: 2016

NY Times Top Cancer Specialist 2016

Best Doctors Award
2015, 2014, 2013, 2012, 2011, 2010

Top 10 Radiation Oncologists in the State of Florida
2015, 2014, 2013, 2012

Patients' Choice Award
2014, 2013, 2012, 2011

Compassionate Doctor Award
2014, 2013, 2012, 2011

Top Doctor Award: 2016, 2015, 2014

On-Time Doctor Award: 2014

AVVO Superb Rated Doctor: 2012

Ranked among the top physicians in the nation based on patient reviews

Named one of the best physicians in Jacksonville by Jacksonville Magazine for several years

PHYSICIAN BIOS

DR. MITCHELL TERK was born in New York City, and raised in the metropolitan area. He graduated Phi Beta Kappa from Emory University with a degree in Psychology. He attained his medical degree from the Mount Sinai School of Medicine in New York, and completed his radiation oncology training at Mount Sinai Hospital in 1997, with a special focus on prostate seed implants, radiosurgery, and the treatment of prostate, breast, lung and gastro-intestinal cancer.

Dr. Terk moved to Jacksonville in 1997, to join his family who had relocated here several years earlier. He initially directed the prostate cancer, Gamma Knife and Novalis radiosurgery programs at Baptist's Cancer Center before opening his private facility. Over the past 18 years, he has trained hundreds of physicians across the United States, Europe, Asia and Africa on the newest prostate cancer treatment techniques. In addition to his extensive publications on prostate cancer, Dr. Terk has published research on breast, gynecological, and gastrointestinal cancers.

Dr.Terk is internationally renowned for developing one of the largest and most successful prostate cancer programs in the world. For the past 7 years, Drs. Terk and Cesaretti have directed an international prostate cancer conference where renowned speakers from across the world meet to exchange ideas and share their experiences with the communities' practitioners. In recent years, Dr. Terk has also served as co-director of quality assurance for a recent NIH funded study on genetics and prostate cancer.

In 2014, Drs. Terk and Cesaretti opened their own private cancer center, Terk Oncology. At their spa like facility, patients and their families receive an unmatched level of personal care and attention. Every aspect of their new cancer center was designed to improve upon patients' experiences. The newest and most state of the art technology is available for the treatment of all cancer types, with innovations not available at other area facilities. Dr. Terk greatly enjoys private practice for the freedom it affords him to get to know his patients and to personally attend to their care and well-being. With over 8,000 patients treated and hundreds of research papers published, his team's exceptional quality of care and unmatched long-term outcomes have made Terk Oncology a destination for cancer patients from all over the world.

In his spare time, Dr. Terk enjoys spending time with his wife Nadine Terk, a renowned painter, and his rescue dogs. His interests include the arts, restoring antique automobiles and travel. He was elected a member to the Explorers Club in 1991, and to the board of the Amelia Island Concours d' Elegance in 2015.



Jamie Cesaretti, M.D., M.S.

Awards / Recognitions

NY Times Top Prostate Cancer Specialist: 2017

NY Times Top Doctor: 2016

NY Times Top Cancer Specialist 2016

Best Doctors Award
2015, 2014, 2013, 2012, 2011, 2010

Patients' Choice Award
2015, 2014, 2013, 2012, 2011, 2010 & 2009

Compassionate Doctor Award
2014, 2012, 2011 & 2010

Top Doctor Award: 2016, 2015

On-Time Doctor Award: 2014

AVVO Superb Rated Doctor: 2012

Ranked among the top physicians in the nation based on patient reviews

Named one of the best physicians in the region by both Orlando Magazine and Orlando Style Magazine for several years

DR. JAMIE CESARETTI was born and raised in Missouri. He graduated from Columbia University in New York with a degree in History. He earned a master's degree in clinical research from New York University, obtained his medical degree from the State University of New York at Stony Brook, and did his residency training in radiation oncology at the Mount Sinai School of Medicine. He remained as faculty at Mount Sinai for four years, during which time he not only treated prostate cancer, but also ran the lung cancer and GI cancer services at the university's cancer center. He has been in private practice in Florida for several years, where he and his long-time colleague, Dr. Terk treat approximately 500 new patients a year with the latest technology available. He has been awarded both federal and private grants to study the impact of radiation therapy on people cured for prostate cancer, lung cancer, breast cancer and head and neck cancer. The awards include a large grant from the Department of Defense, the American Cancer Society, the National Institutes of Health, and the American Society of Therapeutic Radiology and Oncology.

Dr. Cesaretti has a special interest in the application of both stereotactic body radiosurgery and prostate brachytherapy. He is a member of the Children's Oncology Group, the Annual Meeting Subcommittee of the American Society of Therapeutic Radiology and Oncology, and the American Brachytherapy Society. He is frequently invited to give lectures in Japan, South Africa, Spain, Italy, Germany, Portugal, and throughout the United States about how to successfully cure cancer using advanced radiation techniques. Dr. Cesaretti has authored countless articles, written several protocols, and contributed the prostate brachytherapy chapter to the most recent edition of the Johns Hopkins textbook on the treatment of prostate cancer. In addition, at the 2009 World Brachytherapy Conference he served as a course instructor for the prostate seed implant procedure and was also recently invited to give a lecture at the inaugural prostate brachytherapy conference at the MD Anderson Cancer Center in Houston in 2011.

Dr. Cesaretti and Dr. Terk continue to carry out cancer center funded projects with various investigators around the country on topics such as exploring the genomic link between radiation for both breast and prostate cancer, the outcomes of men treated with the best radiation techniques possible for prostate cancer, and the social and interpersonal implications of cancer treatment on personal relationships and individual identity.

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NOTES

This image shows a full page of blank, lined paper. It features approximately 20 evenly spaced horizontal blue lines across its entire width. The lines are thin and consistent in color, set against a plain white background. There are no margins, text, or other markings present on the page.



7017 AC Skinner Parkway
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The New York Times : February 2017

Dr. Terk and Dr. Cesaretti were named Top Prostate Cancer Specialists in the Nation

WHAT SHOULD I DO NOW?

If you or a loved one are concerned about prostate or other cancers, please call us to find out where you can obtain convenient cancer screening. If you have already been diagnosed with cancer, you owe it to yourself to contact our specialists to discuss your best option for a cure.

Our physicians are experts in providing state-of-the-art and compassionate care for all types of cancer, including lung cancer, breast cancer, brain cancer, radiosurgery and gastro-intestinal cancer. We conduct and participate in major research studies in our quest to provide the best cancer care available anywhere in the world.



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