Choosing Your Prostate Cancer Care

Through a multidisciplinary approach, Cleveland Clinic Florida specialists in the Cancer Institute collaborate with urologists in the Department of Urology and the Glickman Urological & Kidney Institute in Ohio to explore all medical and surgical options to ensure that our prostate treatment program will result in a successful outcome for each patient.

At Cleveland Clinic Florida, doctors are experts in diagnosing, staging and treating prostate cancer. Treatment options depend on many variables including the type, stage and aggressiveness of the cancer as well as the age of the patient.

Among the options offered to patients is robotic prostatectomy in Cleveland Clinic Florida’s new, state-of-the-art operating room equipped with magnified 3D video projection and Varian Edge stereotactic radiosurgery in the new Maroone Cancer Center. The operating room is the first in Florida and the second in the nation to combine state-of-the-art magnified video projection with a 3-D robotic surgical system. Our Varian Edge radiosurgical suite is the first hospital-based program in the Southeastern United States.

Please use this guide as a resource as you examine your treatment options. Remember, it is your right as a patient to ask questions, and to seek a second opinion.

Cleveland Clinic Florida prostate cancer specialists tailor prostate cancer treatment plans to their patients’ needs, taking into account the type of cancer, the age of the individual, the degree to which the cancer has spread and the general health of the patient.

This guide provides an overview of the prostate cancer treatment options offered at Cleveland Clinic Florida.
Prostate Cancer

Prostate cancer is the most common cancer in men, and the second leading cause of cancer death among men in the U.S. Every year, about 185,000 new cases of prostate cancer will be diagnosed in the United States. About one in six men will be diagnosed with prostate cancer during his lifetime, but only one in 35 will die of it. More than two million men alive in the United States today have been diagnosed with prostate cancer at some point.

Prostate cancer is a malignant tumor that usually begins in the outer part of the prostate. In most men, the cancer grows very slowly. In fact, many men with the disease will never know they had the condition. Early prostate cancer is confined to the prostate gland itself, and the majority of patients with this type of cancer can live for years with no problems.

Prostate cancer is characterized by both “grade” and “stage.” The size and extent of the tumor determine its stage. Early stage prostate cancer, Stages T1 and T2, are limited to the prostate gland. Stage T3 prostate cancer has advanced to tissue immediately outside the gland. Stage T4 prostate cancer has spread to other parts of the body.

What if prostate cancer is diagnosed?
Fortunately, most prostate cancers have not spread at the time they are diagnosed, and the cancer is most often confined to the prostate gland.

To help predict the aggressiveness of the prostate cancer, the physician will look at PSA (a protein excreted by the prostate gland) levels before a biopsy and will calculate the patient’s “Gleason Score.” The Gleason Score ranges from two to 10, with two representing the least aggressive form (confined to the gland) and 10 representing the most aggressive form of cancer (highest risk of spreading outside the gland).

From the PSA levels and the Gleason Score, a treatment plan is devised. For men with a low risk of the cancer having spread outside the gland, staging studies such as bone scans and computed tomography scans are not needed. Men with cancer with a higher likelihood of spreading may require these staging studies to determine where the cancer may have spread.

Only a few centers around the world offer Varian Edge technology. Cleveland Clinic Florida is the first hospital-based program to offer it in the Southeastern United States. Our Florida radiation oncology team first used the Varian Edge at Cleveland Clinic in Ohio in May 2014, the second Edge installed worldwide. Now, that team has brought this experience to Florida opening our Varian Edge in March 2015.

Cleveland Clinic Florida surgeons played a key role in the development of robotic radical prostatectomy.
Dr. Alok Shrivastava is co-author of the first research publication on robotic radical prostatectomies and one of the first surgeons in the world to perform this procedure.
Treatment Options for Early Stage Disease

WATCHFUL WAITING or ACTIVE SURVEILLANCE

Watchful waiting, now more commonly called “active surveillance with selective delayed intervention,” requires no treatment for a discovered prostate cancer until your doctor detects signs that the cancer is growing more aggressively. This option is reserved for patients who have a cancer that is confined to the prostate gland and that is defined as low to medium in aggressiveness. It is most often offered as an option to older men who are in poor health because it avoids the risks and side effects of treatment. Most of these men will die of other causes before the cancer becomes a problem. Active surveillance for younger men who want to avoid the side effects of treatment or postpone is controversial.

What are the risks of active surveillance?

There is a chance that the slow-growing cancer could suddenly speed up in growth and spread beyond its original site or no longer be curable. Treatment also is riskier in older patients, increasing the chance of side effects and lengthening the recovery period. Worry about having cancer and knowing that it isn't being treated may become emotionally overwhelming.

What are the benefits of active surveillance?

There is a good chance that a prostate cancer patient may never develop symptoms or require treatment. Even if the cancer grows, most prostate cancers grow very slowly. Newer treatments may be developed while cancer is under surveillance. Research has shown that at least for the first eight years, the life expectancy of men who choose this option may be no different than those who choose to treat their cancer aggressively. The risk of impotence and incontinence associated with treatment also is avoided with active surveillance. However, if the stage progresses in younger men during surveillance, then the nerve sparing prostatectomy may not remain an option.

CLINICAL TRIALS

The Cleveland Clinic Florida cancer research staff is dedicated to providing patients innovative therapies through clinical research trials which include new targeted agents and therapies. Cancer specialists from the Departments of Hematology and Oncology serve as principal investigators for the trials, working closely with the research staff and collaborating with the world-renowned Taussig Cancer Institute at Cleveland Clinic in Ohio. Cleveland Clinic Florida also participates in many clinical trials with the National Cancer Institute. For more information about our clinical trials, please visit www.clevelandclinicflorida.org/cancerresearch or contact the Clinical Research Supervisor, Jessica Woodring at woodrij@ccf.org or 954.659.5538.

“Recently, there are new treatments approved for care for patients with advanced prostate cancer who previously had been treated with hormonal treatment.”

Bruno Bastos, MD, Department of Solid Tumor Oncology, Cleveland Clinic Florida
RADIATION THERAPY

Radiation therapy is the use of high-energy X-rays, electron beams or radioactive isotopes to kill cancer cells and shrink tumors. Radiation ionizes or damages the chromosomes in the cell so that they cannot multiply. Radiation can be produced from a machine outside the body (external radiation) or by putting materials that produce radiation (radioisotopes) through thin plastic tubes into the area where the cancer cells are found (internal radiation).

Radiation therapy can be precisely delivered to the tumor cells to minimize the damage to the surrounding normal tissues. Some of the healthy cells surrounding the tumor will become damaged from the radiation but the body is able to repair many of the healthy cells and restore them to their proper function. Successful radiation therapy depends on precise delivery of the radiation dose to the cancer while avoiding the healthy tissues.

Cleveland Clinic radiation oncologists have three techniques to treat prostate cancer successfully – Edge radiosurgery, intensity modulated radiation therapy (IMRT) using VMAT, and prostate seed brachytherapy.

EDGE RADIOSURGERY

Cleveland Clinic Florida has very recently acquired some exciting new technology that helps us deliver radiation therapy more accurately, precisely and quickly. It is called the Varian Edge radiosurgical suite. Only a few centers around the world offer Varian Edge technology. Many patients only need to come for five outpatient treatments with the Varian Edge, significantly fewer visits than required with traditional radiation technologies.

Who is eligible for Edge Radiosurgery?

Patients with clinically localized prostate cancer, stage T1a-T3b, without nodal or distant spread of disease are eligible for Edge Radiosurgery,

What are the side effects of Edge Radiosurgery?

Side effects of Edge Radiosurgery are similar to those seen in other types of radiation therapy. These include changes in urinary and bowel frequency and urgency during and shortly after treatment. Significant long-term effects on urinary and bowel function are rare with modern techniques (<3%). Men may have issues with erectile dysfunction years after radiation but most men recover function with use of medications.

What are the benefits of Edge Radiosurgery?

Edge radiosurgery can significantly decrease the length of treatment for prostate cancer. The entire course of five treatments is completed typically within ten days.

INTENSITY MODULATED RADIATION THERAPY (IMRT)

Intensity modulated radiation therapy or IMRT is the most common form of radiation therapy for prostate cancer. Before treatment begins, a CT simulation and detailed treatment planning are performed. Radiation oncologists, medical physicists, and dosimetrists work together to develop a highly conformal IMRT plan (i.e., dose painting) which maximizes the dose to the prostate cancer and minimizes the dose to the surrounding healthy tissue. During the treatment, the patient is positioned on a robotic table and a daily CT scan for image-guidance (IGRT) is used to precisely align the radiation beams to the prostate. The radiation treatment itself lasts only a few minutes and is generally given five times a week for five to eight weeks.
Who is eligible for IMRT?
Patients with clinically localized prostate cancer, stage T1a-T4, and patients with limited lymph node spread are eligible for IMRT.

What are the benefits of IMRT
The combination of IMRT and IGRT minimizes damage to nearby normal tissues while delivering high dose of radiation to the tumor. Compared with surgery, incontinence is less common and preservation of sexual function slightly higher. Our Cleveland Clinic Outcomes Book shows cure rates with radiation for prostate cancer as defined by PSA at 10 years are identical to surgery. For high risk disease, your physician may add hormone therapy for 6-24 months to supplement radiation therapy.

What are the side effects of IMRT?
Side effects of IMRT include changes in urinary and bowel frequency and urgency during and shortly after treatment. Significant long-term effects on urinary and bowel function are rare with modern techniques (<3%). Men may have issues with erectile dysfunction years after radiation but most men recover function with use of medications.

BRACHYTHERAPY
In this form of radiation therapy, radioactive pellets – each the size of a grain of rice – are implanted into the prostate. The number of pellets implanted (up to 200) depends on the size and location of the cancer. The implant procedure takes about one hour and is done on an outpatient basis. Placement of the radioactive pellets inside the prostate minimizes the radioactive exposure of the surrounding normal tissues.

Who is eligible for brachytherapy?
Patients with low to intermediate risk cancers that have not spread outside the prostate gland.

What are the risks of brachytherapy?
Brachytherapy may cause more acute urinary irritation and retention than other forms of radiation. Some patients (one in 10) need a catheter at times to help them urinate while the radioactive pellets remain most active but this is rarely needed for more than a few weeks. Also, despite a low risk, because pregnant women and small children are more susceptible to the effects of radiation, patients undergoing brachytherapy are advised to minimize extended contact with these types of individuals for the first few months after therapy.

What are the benefits of brachytherapy?
Cleveland Clinic Florida began its prostate brachytherapy program in 1996. Our cure rates, as defined by PSA at 10 years, are identical to surgery for low risk cancers.

What about follow-up care?
After radiation therapy sessions are complete, patients will visit the doctor for periodic follow-up exams and PSA testing.
Surgery

Complete removal of the prostate — radical prostatectomy — is one of the most common treatments for prostate cancer.

What should a prostate cancer patient know about surgery?
The best indicator of surgical outcomes is the experience of the surgeon, not the particular technique used. Cleveland Clinic surgeons have a large experience with all methods of prostatectomy, and many new approaches have been developed here. Whether a patient has an open, laparoscopic or robotic prostatectomy, pain and recovery time are similar. Patients should learn their surgeon’s level of experience when examining treatment options.

What are the risks involved with surgery?
Radical prostatectomy can potentially damage the nerves for erectile function which may result in impotence. It may also weaken the muscles that keep you dry, resulting in urinary incontinence. Most of the surgical procedures for prostate cancer are done in ways that attempt to spare the nerves that control erections. These nerve-sparing surgeries reduce, but do not eliminate, the risk of incontinence and impotence. Most patients participate in Cleveland Clinic Florida’s Post-prostatectomy Rehabilitation Program to help reduce or avoid these potential side effects.

Radical Retropubic Prostatectomy
Another surgical prostate cancer treatment, the open radical prostatectomy removes the entire prostate with an incision in the lower abdomen. Since the prostate wraps around the urethra, once it is removed the surgeon must reconnect the bladder with the urethra.

Robot-Assisted Surgery
Robot-assisted surgery, a type of minimally invasive surgery (MIS), uses robotic equipment to imitate surgical movements. MIS procedures allow surgeons to operate through small ports rather than large incisions, resulting in shorter recovery times, fewer complications and reduced hospital stays. Surgical robotics combines minimally invasive techniques with highly advanced clinical technology.

How does the new technology assist the surgeon?
The 3-D vision system magnifies the surgical field up to 15 times and improves the surgeon’s ability to perform precise dissection of tissue, thereby reducing blood loss. Robot arms remain steady at all times and robot wrists make it easier for surgeons to manipulate tissue and work from all kinds of angles and positions they would have difficulty reaching otherwise.

What happens after surgery?
Following surgery, patients typically stay one or two days in the hospital. During this time, the staff checks patients daily and provides detailed post-operative instructions at discharge. Patients are able to continue follow-up either at Cleveland Clinic or with their local physician.

Surgery for More Advanced Disease
Traditional treatment for high grade or locally advanced prostate cancer (Gleason Score eight or above) or tumors that have minimal spread beyond the prostate gland (clinical stage T3) has been a combination of hormones and high-dose external beam radiation. While this remains a good choice for many men, especially if they are older or have associated medical issues, Cleveland Clinic surgeons have gained substantial experience with surgery for more advanced cancer in the past 10 years. Potential advantages of surgery include the ability to perform an extended lymph node dissection, which can yield important information about prognosis and may be curative in men with minimal disease in the lymph nodes; complete pathologic staging of the removed prostate, allowing an informed decision based on the potential benefits of post-surgical (adjuvant) radiation; avoiding or delaying the need for hormone therapy and avoiding the potential late side effects of external radiation. Some men may be eligible for participation in clinical trials of medication given prior to surgery.
CRYOTHERAPY

In this treatment, four to eight small needle-shaped probes are inserted into the prostate in order to freeze the gland to temperatures lethal to a prostate cancer. This minimally invasive, incision-free procedure is performed either as an outpatient or one-night hospital admission. With this treatment, patients recover in a matter of days and usually experience minimal after effects.

Cleveland Clinic urologists have extensive experience in using cryotherapy for treatment of prostate cancer both as initial therapy and for recurrence of cancer following radiation therapy. This treatment can be used in three ways:

• for treatment of the entire prostate upon first diagnosis of prostate cancer
• for “salvage” therapy to treat cancer that has recurred in the prostate following prior therapy such as radiation or brachytherapy (seeds)
• for treatment of just the affected portion of the prostate, called “focal therapy”

Focal therapy can be used in select men whose cancer is small enough that it may be controlled with less widespread freezing.

How does cryotherapy work?
Cryosurgeons use 3-mm or smaller diameter cryoprobes (needles) supercooled with argon gas, inserted through the skin into the prostate under ultrasound guidance. The target tissue is repeatedly frozen to – 40 degrees Celsius, resulting in tumor destruction.

What are the risks associated with cryotherapy?
As with any prostate cancer therapy, cryotherapy can cause side effects or damage to adjacent organs. Damage to the urethra is minimized by the use of a urethral warming catheter that circulates warm fluid through its chambers. Damage is also minimized by precise monitoring of temperature using probes placed near vital areas.

How is the procedure performed?
Primary Cryotherapy. Four or more cryoprobes are placed into position. Freezing begins slowly under ultrasound and computer monitoring. When the ice ball reaches a lethal chill, the argon is turned off and helium is turned on to thaw the gland. The process is repeated as soon as it is thawed, and the entire procedure is completed within two hours. Following surgery most men are permitted to return home within 24 hours, usually on the day of the procedure. A catheter may remain in place for seven to 10 days.

Salvage Cryotherapy. Although external beam radiation and brachytherapy are highly effective, some patients will experience recurrence of cancer following treatment. Primary and focal cryotherapy, described above, can be used to treat patients whose cancer recurrence is limited to the prostate.

In addition to urethral slough, incontinence and impotence can occur after cryotherapy. A very rare complication is a fistula, a hole that develops between the urethra and rectum and that requires surgical repair. These complications are more common for salvage cryotherapy.
“Our number one priority is to assure successful surgical outcomes while maintaining the quality of life for our patients after surgery. Our urological surgeons are among the most experienced in the world and our state-of-the-art Post-Prostatectomy Rehabilitation Program is designed specifically to offer a multi-disciplinary approach to improving quality of life after prostate cancer surgery.”

Lawrence Hakim, MD, Chairman, Department of Urology, Cleveland Clinic Florida

Post-Prostatectomy Rehabilitation Program at Cleveland Clinic Florida’s Center for Men’s Health

Advances in research and technology have contributed to the high cure rates associated with radical prostatectomy and radiation therapy for localized prostate cancer. However, some men may experience a change in their sexual function or urinary control following prostate cancer therapy. While in many of these men the effects are only temporary, they can have a negative impact on intimacy and quality of life.

At Cleveland Clinic Florida’s Center for Men’s Health, we offer the region’s only state-of-the-art “Post-Prostatectomy Rehabilitation Program,” designed specifically to offer a multi-disciplinary approach to improving quality of life after prostate cancer surgery. Our program combines the expertise of world-renown urologic surgeons, endocrinologists, psychologists and physical therapists, and offers comprehensive diagnostic testing and clinical treatments for the patient and his partner.

Through experience with thousands of patients, our physicians and nurses have a keen understanding of the various secondary physical and emotional factors often associated with prostate cancer. We understand that the evaluation process should be individualized for each man and his partner, and that successful management demands that all of these factors be addressed simultaneously, preferably in the setting of the couple. For many of our patients, the unique program begins before he undergoes surgery in order to best define the optimal management strategies and to assure the best possible long-term outcomes and quality of life.
Treatment Options for Metastatic Disease

HORMONE THERAPY

Hormone therapy is a prostate cancer treatment that alters the body’s hormone balance to prevent certain cancers from growing. This may be accomplished with drugs that alter the way hormones work or with surgery that removes hormone-producing organs such as the testes. Hormone therapies can’t kill prostate cancer but can be given alone or in combination with other forms of treatment in the hopes of improving the quality of life, extending survival or both. Research on the value and effects of hormonal therapies is ongoing. The most common form of hormone therapy is drug therapy. Drugs such as triptorelin (Trelstar®), leuprolide (Lupron®, Eligard®, Vantas®) and goserelin (Zoladex®) block the effect of testosterone, the male sex hormone. By blocking testosterone, the rate of growth of the cancer is slowed. Another class of drugs, the antiandrogens flutamide (Eulexin®), bicalutamide (Casodex®) and nilutamide (Nilandron®), work by preventing the body – and thus the cancer cells – from using testosterone in selected patients.

What are the risks of hormone therapy?
Hormone therapies are associated with many side effects including lowered libido, impotence, hot flashes, weight gain, breast tenderness and enlargement, loss of muscle and bone mass, nausea, diarrhea, fatigue and liver damage. Hormone therapy has been associated with increased risk of metabolic syndrome, diabetes, reduction in HDL or “good” cholesterol, and cardiovascular disease. While it’s possible that hormones may delay death, they cannot prevent it. Eventually, advanced prostate cancer can become resistant to hormone therapy and that therapy no longer works. Fortunately, this is a rare occurrence with current highly successful diagnostic and treatment strategies.

What are the benefits of hormone therapy?
Hormone therapy can shrink tumors, thus reducing symptoms and pain, and possibly extending the lives of men with prostate cancer. It can also shrink the prostate and improve the outcomes with cryoablation or radiation therapy.

When is hormone treatment used for prostate cancer?
Hormone treatment does not cure cancer. The purpose of hormone therapy is first to delay the progression of the cancer, and second to increase survival while maximizing quality of life. If the patient doesn’t respond to initial hormone treatment, the doctor might try other hormonal methods before recommending another form of treatment.

Who is a candidate for hormone treatment?
Hormone treatment can be used in men with various degrees of prostate cancer. For example, it is often used in men after surgery for better results, as well as in men
Prostate Cancer Support Services

A new diagnosis of Prostate cancer can be overwhelming. Prostate Cancer and its treatment can create unique challenges for the patient, his family and friends. Cleveland Clinic Florida offers support and navigation to assist with the emotional, social, and physical impact of a Prostate cancer diagnosis. We provide individual and family counseling in a caring environment from initial diagnosis and surgery through follow up treatments when necessary. We also offer creative programs for group support and encourage an environment of community involvement to help patients adjust to a prostate cancer diagnosis.

Cleveland Clinic Florida facilitates a monthly American Cancer Society “Man to Man” program. The “Man to Man” group participates annually in local “Relay for Life” programs in the community. We also support the wellness community “Gilda’s Club” and offer “I Can Cope” classes in conjunction with the American Cancer Society, including dietary workshops and complimentary therapy classes.

We offer referrals to the “4th Angel Patient Mentor Program,” through the Scott Hamilton Foundation. This is Peer Support Program to put patients in touch with other patients who have been through a prostate cancer diagnosis and treatment. Several of our prostate cancer patients have also been trained as peer counselors.

In line with the Cleveland Clinic mission, we provide community outreach to educate about prostate cancer and encourage yearly screening. Our specialists offer educational lectures and screenings throughout the year. Annually we have a prostate cancer health education table during September which is National Prostate Cancer Awareness Month. Our table is manned not only by health care professionals but with Prostate cancer survivors from our “Man to Man” group. Educational materials are provided on prostate screening as well as information when dealing with a Prostate Cancer diagnosis.

For more information about our programs, visit www.clevelandclinic.org/flsupportservices or email our Licensed Clinical Social Worker - Oncology, Cara Kondaki, LCSW, ACNSW, CBPN-IC, at kondakc@ccf.org.
Contacting
Cleveland Clinic Florida

Still have questions about prostate cancer?
Still have questions about prostate cancer? If after reviewing this guide you have additional questions, Cleveland Clinic Florida’s Cancer Institute can help. Oncology clinical nurse specialists and their staff can provide information and answer questions about cancer. Our specialists are available 8:30 a.m. to 4:30 p.m., Monday through Friday. Please call 954.659.5412.

Ready to schedule an appointment with a specialist?
If you would like to set up a consultation with a Cleveland Clinic Florida specialist, please call the Appointment Center at 877.463.2010.

Locations
Prostate cancer care available at the following locations:
Cleveland Clinic Florida
2950 Cleveland Clinic Blvd.
Weston, FL 33331

Cleveland Clinic Florida
CityPlace Tower
525 Okeechobee Blvd.
West Palm Beach, FL 33401

Prostate Specialists

Urology
Barbara Ercole, MD
Urologist

William Gans, MD
Urologist

Lawrence Hakim, MD
Chairman, Department of Urology and Head, Section of Sexual Dysfunction

Richard J. Macchia, MD
Urologist

Nicolas Muruve, MD
Urologist, Fellowship Program Director, Urologic Oncology

Alok Shrivastava, MD
Head, Section of Robotic and Urologic Oncology

Oncology
Bruno Bastos, MD
Solid Tumor Oncologist

Timmy Nguyen, MD
Solid Tumor Oncologist

John Greskovich, MD
Director, Radiation Oncology

Marc Apple, MD
Radiation Oncologist

Mihir Naik, DO
Radiation Oncologist

For more information about our staff, including complete profiles, visit clevelandclinicflorida.org
Cleveland Clinic Florida

About Cleveland Clinic Florida

Cleveland Clinic Florida, with locations in Weston, West Palm Beach, Atlantis, Palm Beach Gardens and Parkland, is a not-for-profit, multi-specialty, academic medical center that integrates clinical and hospital care with research and education. Cleveland Clinic Florida has 240 physicians with expertise in 35 specialties. The medical campus is fully integrated and includes diagnostic centers, outpatient surgery and a 24-hour emergency department located in the state-of-the-art hospital. Cleveland Clinic Florida ranked third among the 66 best hospitals in the Miami-Fort Lauderdale metro area and ninth in Florida in *US News & World Report*’s 2015-2016 ranking of Best Hospitals metro area rankings. Cleveland Clinic Florida is an integral part of Cleveland Clinic Ohio, where providing outstanding patient care is based upon the principles of cooperation, compassion and innovation. Physicians at Cleveland Clinic are experts in the treatment of complex conditions that are difficult to diagnose.

For more information about Cleveland Clinic Florida, visit [clevelandclinicflorida.org](http://www.clevelandclinicflorida.org).