

# PROSTATE CANCER: A Success Story

Prostate cancer is the most common cancer in human beings. That is, even though prostate cancer occurs only in men, the number of men with prostate cancer exceeds the combined numbers of men and women with any other type of cancer. For example, there are more men with prostate cancer than the combined number of men and women with lung cancer or colon cancer. There are more men with prostate cancer than women with breast cancer. Prostate cancer is the second most common cause of cancer death in men. Therefore, not only is prostate cancer extremely common, it is a fatal illness for thousands of American men yearly.

... [the] inaccurate notion that prostate cancer is a harmless old man's disease has been dispelled ...

The formerly popular but inaccurate notion that prostate cancer is a harmless old man's disease has been dispelled, at least for the majority of enlightened physicians. There were two main reasons for the old erroneous view of prostate cancer. First, as late as the mid 20th-century, the life span of the average American man was significantly shorter than it is presently. Many men with prostate cancer died at a younger age of heart disease.

Secondly, prostate cancer screening methods including PSA blood testing now allow the diagnosis of prostate cancer 4-5 years earlier than before. Therefore, physicians recognized that prostate cancer often grows slowly. Recognition of this fact may have given rise to the false impression that treatment might not be required. At first glance, this information might seem to support the false conclusion that prostate cancer is a harmless disease. However, when the facts are examined more closely another reality becomes clear.

Contrary to the notion that prostate cancer is harmless, the above two reasons support the very logical opposite conclusion that prostate cancer indeed is a dangerous disease. Men now live longer, thanks to advances in medicine such as cardiac surgery, cardiac stents, cholesterol medications, other cancer treatments, antibiotics and the like. Since men now live longer they now have both a greater chance of developing prostate cancer, as well as a greater chance of suffering the ill effects of the disease, including death from prostate cancer. In the time after the widespread use of effective treatment for heart disease and before prostate cancer screening became widely practiced, the population aged while the complications of prostate cancer became more evident. However, prostate cancer screening efforts, including PSA testing, now allow the detection of prostate cancer at an earlier stage thus allowing for cure of prostate cancer using modern techniques.

Therefore, the notion that prostate cancer screening has shown prostate cancer to be a benign disease is absolutely false. To the contrary, cancer detection through prostate cancer screening allows the detection of an earlier stage of cancer at an earlier point in the lives of men who, because of advances in this and other fields of medicine, now have a longer life expectancies. Obviously, detection of cancer at an early stage increases the odds of curing cancer with treatment. Therefore, the preponderance of evidence suggests that without prostate cancer screening, the harmful effects of prostate cancer should increase as men live longer. However, thanks to prostate cancer screening efforts, the disease is now commonly detected early and cured with treatment.

## ... prostate cancer screening and early treatment save lives!

These facts have been borne out by several observations including published prostate cancer screening studies demonstrating a decreased incidence of advanced prostate cancer, confirming the early detection theory, and decreased mortality rates (decreased death rates from prostate cancer). Additionally, population based studies have demonstrated decreased mortality rates from prostate cancer in large groups of men who have undergone screening. While the cynic presumes that men should not be treated for prostate cancer, enlightened physicians look at this data from recent randomized clinical trials and see that prostate cancer is a malignant condition and prostate cancer screening and early treatment save lives!

## ... multiple studies examining the quality of life after prostate cancer treatment indicate excellent results of treatment.

Cynics also formerly complained that prostate cancer screening should not be performed because the early detection of prostate cancer resulted in too many men undergoing unnecessary cancer treatment. Skeptics have implied that the treatment for prostate cancer was worse than the cancer itself. The facts do not bear this out. In fact, multiple studies examining the quality of life after prostate cancer treatment indicate excellent results of treatment. The studies indicate that there is little if any quality of life change after treatment. Additionally, most men emotionally benefit from treatment by knowing that they no longer have cancer! In recent years as prostate cancer has become diagnosed earlier in the course of the disease, the complication rates of treatment have likewise decreased. The ultimate proof of the benefit of early cancer detection and treatment is a decreased complication rate and death rate from prostate cancer, combined with preserved quality of life after treatment. These are the facts!

## ... selenium and vitamin E supplementation may be beneficial in preventing prostate cancer.

The incidence of prostate cancer diagnosis is about one of every one hundred men in their 40s and 50's and about one of every eight men in their 60s and 70s. There is a greater likelihood of being diagnosed with prostate cancer in men with family histories of prostate cancer. For a man having two relatives with prostate cancer, the risk of being diagnosed with prostate cancer is about five times the risk of the average man. Clearly, there is a genetic predisposition for the development of prostate cancer and prostate cancer runs in families. Additionally, African-American men may have a increased incidence of prostate cancer. High-fat diets and diets low in the mineral selenium may contribute to the development of prostate cancer. Some studies have also suggested that selenium and vitamin E supplementation may be beneficial in preventing prostate cancer.

Prostate specific antigen (PSA) is a protein enzyme found in the prostate, in urine and in the blood stream of men with prostate glands. As the name implies, PSA is prostate specific but not specific for prostate cancer. Testing prostate and urinary PSA has not proven useful. However, studies have shown that bloodstream PSA is often elevated in men with prostate cancer. Doctors have more experience with the use of this blood test than with the use of any other cancer detecting blood test. PSA is used both for prostate cancer screening and prostate cancer follow-up testing. In fact, when men undergo prostate cancer screening including PSA testing in successive years, detected cancers are usually smaller and more amenable to treatment for cure.

... a man with an elevated PSA is twice as likely to have cancer as a woman with an abnormal mammogram.

PSA is an effective screening tool for prostate cancer. In fact, a man with an elevated PSA is twice as likely to have cancer as a woman with an abnormal mammogram. On average, PSA allows the detection of prostate cancer some 4-5 years before the cancer could otherwise have been detected. When men are tested at the recommended ages for cancer screening, PSA testing often allows the detection of prostate cancer while the cancer is still confined to the prostate gland. At this early stage, prostate cancer is more often curable. Without PSA testing, however, prostate cancer is often detected only after it has spread beyond the confines of the prostate, making cure of the cancer practically impossible.

Many urology specialists believe that normal PSA values depend on the age of the patient. Commonly used abnormal PSA ranges are as follows: (1) men in their 40s --  $> 2.5$ , (2) men in their 50s --  $> 3.5$ , (3) men 60 or older --  $> 4.0$ . Some say that men 70 or older may have PSA values up to 6.5. Other experts feel that no man should have a serum PSA  $> 2.5$ . Obviously, there is no exact range of normal that perfectly discriminates between a man who has prostate cancer and a man who does not.

... a better way of using PSA to screen for prostate cancer is ... PSA velocity.

A better way of using PSA to screen for prostate cancer is monitoring of repeated PSA blood tests perhaps every 6, 12 or 24 months (depending on the clinical situation) so that new PSA values may be compared with established PSA values for the same patient over time. This form of assessment is sometimes called PSA velocity. Determination of the rate of increase in serum PSA may be an even more useful means of early detection of prostate cancer. Using PSA velocity assessment prostate biopsies may be used to detect prostate cancer even when the total PSA value is in the normal range. Some 25 percent of prostate cancers are detected when the total PSA value is normal.

Another effective method for PSA prostate cancer screening is the determination of a portion of total blood PSA that is not protein-bound. This so-called "free" PSA ratio ideally should be greater than 25 percent in men with total PSA values between 4 and 10. Determination of free PSA ratio may be best suited for men with elevated total PSA values having undergone prior negative prostate biopsies. In such cases, an abnormal free PSA ratio may guide the urologist to perform additional biopsies. Interestingly, it has been shown that decreasing free PSA is the first sign of prostate cancer, occurring up to 5 years before the total PSA increases.

PSA is not a perfect test for the detection of prostate cancer. There are no perfect tests in medicine. Some men with elevated PSA values may not have prostate cancer. Likewise, some men with normal PSA values actually harbor prostate cancer. Approximately 25 percent of men who are diagnosed with prostate cancer have PSA levels in the normal range. In these cases, prostate cancer is detected by digital rectal examination of the prostate, by removal of a portion of the prostate during surgery for prostate enlargement, by monitoring of PSA velocity or by other methods.

An even more established method of PSA utilization is for the follow-up in patients after treatment for prostate cancer. PSA levels guide clinical decision-making after every form of treatment. In general,

PSA levels accurately reflect the status of the cancer. Additional methods of cancer monitoring include bone and Prostatecint scanning for metastatic disease.

When there is a suspicion of prostate cancer, men generally undergo transrectal ultrasound guided needle biopsies of the prostate. This is a procedure performed in the urologist's office. Because procedure is anxiety provoking and uncomfortable, sedation and pain medications are usually used. With adequate premedication and communication on the part of the urologist performing the examination, most patients have no complaints concerning the procedure. Ultrasonography allows visualization of the prostate such that biopsies may be directed into specific areas of the prostate which most commonly harbor the cancer and areas of the prostate which demonstrate visible abnormalities on the ultrasound image.

**At the Urology Center, our physicians *personally* perform both the ultrasound examination and the biopsies. There is no substitute for personal involvement [by the urologist] with this extremely important process.**

A great deal of experience in ultrasound imaging of the prostate is necessary to positively diagnose or exclude the presence of prostate cancer. At some urology clinics, the ultrasound examination is relegated to a technician. In those circumstances, the urologist may come into the ultrasound room briefly, only to oversee the short portion of the procedure when the actual biopsies are performed. In these circumstances, when the urologist has not performed the ultrasound examination, error may be introduced into the process. That is, prostate cancer may be missed. At the Urology Center, our physicians *personally* perform both the ultrasound examination and the biopsies. No technician is involved. We have performed prostate biopsies on thousands of patients. There is no substitute for personal involvement with this extremely important process.

The prognosis and treatment options for prostate cancer depend on the stage and grade of the cancer. Therefore, once prostate cancer is diagnosed, the tumor must be staged. Prostate cancer staging may involve bone scanning, CT scanning, additional blood testing, and lymph node dissection. Prostate cancer commonly first spreads to large glands near the prostate called the seminal vesicles. The seminal vesicles may be biopsied using transrectal ultrasonography. Prostate cancer also commonly spreads to lymph nodes within the pelvis. CT scanning can detect enlargement of these lymph nodes after which CT guided needle biopsies may prove the presence of cancer within the lymph nodes.

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However, the lymph nodes may contain cancer even if the lymph nodes are not enlarged on a CT scan. In such cases, lymph node biopsy may be necessary, either by means of open surgical removal of the lymph nodes or by laparoscopic lymph node dissection. The need for these tests must be determined after careful analysis by and urologist who has knowledge of current prostate cancer evaluation and management methods, as well as experience with these methods. Laparoscopic pelvic lymph node resection is commonly performed in limited circumstances when there is significant suspicion for

cancer involvement of the pelvic lymph nodes. Laparoscopy involves placement of thin instruments through the abdominal wall in order to perform operative procedures without the need for large skin incisions. Laparoscopic pelvic lymph node resection allows for the accurate determination of the presence or absence of prostate cancer within the pelvic lymph nodes, without the morbidity associated with a large surgical skin incision. Physicians at the Urology Center are experienced with laparoscopic pelvic lymph node surgery and the appropriate indications to use this specialized diagnostic tool.

Once prostate cancer has been accurately diagnosed and staged, treatment may begin. The choice of treatment greatly depends upon the stage and grade of the cancer and personal choices of the patient. When prostate cancer has escaped the prostate gland and spread beyond the prostate, it is presently considered incurable. However, multiple treatment options exist that may delay the progression of the cancer for many years in many such cases. In these cases treatment options include simple observation without treatment, hormonal ablation and chemotherapy. Chemotherapy for prostate cancer is an old idea but until recently, chemotherapy has not proven beneficial. Chemotherapy is now generally reserved for advanced cases of prostate cancer which no longer respond to other treatments. On the other hand, hormonal therapy is the standard of care for advanced prostate cancer. The risks and potential benefits of each of these forms of treatment must be carefully weighed.

## The primary issue ... is whether or not hormonal therapy should be started immediately or ... postponed until later in the course of the disease.

In most prostate cancers, the vitality of the majority of cancer cells is dependent on stimulation by male hormones (androgens) which are produced in the testicles (testosterone) and, to a lesser degree, in the adrenal glands. The primary issue to be considered in cases where patients have decided against undergoing potentially curative cancer treatment, is whether or not hormonal therapy should be started immediately or whether hormonal therapy should be postponed until later in the course of the disease.

At first glance, even the question of delaying treatment might seem irrational. However, hormonal therapy may have significant side effects and the benefits of early treatment versus later treatment has not been established with absolute certainty. Just within the last several years, information has come to the forefront indicating that early hormonal therapy may delay the progression of prostate cancer and may increase survival time. Again, the question is whether or not the side effects of hormonal therapy are worth the potential benefit of increased survival time. Side effects of hormonal therapy may include impotence, decreased libido, gastrointestinal upset, breast swelling and tenderness, hot flashes, hair loss, deterioration of muscle mass and osteoporosis. Thus, patients with prostate cancer not confined to the prostate must individually decide whether or not they will undergo hormonal therapy early or later in the course of the disease.

Patients with prostate cancer not confined to the prostate must also decide which type of hormonal therapy they will use. Three broad hormonal therapy options are surgical hormonal therapy vs. medical hormonal therapy vs. combined surgical and medical hormonal therapy. Testosterone is a male hormone produced primarily by the testicles. A much smaller amount of male hormone is produced in the adrenal glands. Surgical removal of the testicles, (orchiectomy), significantly reduces the available testosterone. Likewise, use of luteinizing hormone releasing hormone (LHRH) agonist medications such as leuprolide (Lupron and Viadur) and goserelin (Zoladex) reduce testosterone to levels as low as levels produced by surgical orchiectomy. Therefore, the standard choices, surgical

orchiectomy, leuprolide and goserelin are thought to be nearly equivalent with regard to their effects on testosterone, their effects on prostate cancer and their side effects. However, leuprolide and goserelin are reversible treatments, whereas surgical orchiectomy is not reversible obviously.

Another question to be answered in patients considering hormonal therapy for prostate cancer not confined to the prostate gland concerns whether or not to use medications called antiandrogens, that block the effects of androgens produced in the adrenal glands. Without the use of the antiandrogen medications in addition to goserelin, leuprolide or orchiectomy, the adrenal glands continue to produce male hormone. Even this small amount of androgen may allow growth stimulation of prostate cancer cells. There are several categories of medications which may block the effects of adrenal androgen hormones and testicular hormone (testosterone). In the United States, the primary antiandrogen medications used for this purpose are flutamide (Eulexin) and bicalutamide (Casodex). Neither of these medications decrease male hormone levels. Instead, they prevent male hormone from entering prostate cancer (and other) cells, thus preventing androgen stimulation of prostate cancer.

**... there has been a great deal of disagreement among physicians and scientists as to whether the addition of antiandrogens provides significant benefits ...**

In the past there has been a great deal of disagreement among physicians and scientists as to whether the addition of antiandrogens provides significant benefits to prostate cancer patients. Some studies have shown a benefit in increased survival of patients using these medications along with standard hormonal treatments (like orchiectomy or leuprolide/goserelin). Other studies have shown little if any benefit; however, until recently most studies have only looked at patients with more advanced cancer. A recent very large clinical trial of prostate cancer patients showed that the addition of bicalutamide to standard hormonal treatments reduced the risk of cancer progression (spread) by 42 percent. Whether or not this will result in a survival benefit (fewer deaths from prostate cancer) is presently unknown.

Another question concerns whether or not antiandrogens like flutamide or bicalutamide should be used alone, without the standard hormonal treatments like surgical orchiectomy, leuprolide and goserelin. Of course the main reason that this question has been raised is the fact that antiandrogen medications have less deleterious effects with regard to sexual dysfunction (loss of libido and erectile dysfunction). Recently, a relatively small study of patients of about 500 prostate cancer patients showed promising results with the use of bicalutamide alone. The study showed that bicalutamide 150 mg/day alone was as good as surgical orchiectomy alone in patients with locally advanced prostate cancer, in terms of mortality and progression of disease.

In the recent clinical study and other studies mild breast enlargement and pain were common side effects of bicalutamide. Hot flashes are common with leuprolide, goserelin surgical orchiectomy. However, overall, the group of patients using bicalutamide alone seemed to have a better quality of life, including better sexual function, as compared to the group of patients having undergone orchiectomy. Low dose radiation treatment to the breast tissue is unquestionably helpful in preventing painful breast swelling in patients using bicalutamide and flutamide. However, the radiation must be given before treatment is started.

**... most any form of hormonal therapy may cause osteoporosis.**

It appears that most any form of hormonal therapy may cause osteoporosis. Until recently this problem was not well recognized or at least not well-publicized. Now that many patients are using hormonal therapy early on in the course of prostate cancer disease, many doctors have become concerned about the longtime negative effects of hormonal therapy, including the long term effects on bone. Several new medications have been developed to combat this problem. Men on long-term hormonal therapy may be monitored for osteoporosis using bone densitometry tests.

For men with clinically localized prostate cancer and a life expectancy of at least ten years potentially curative treatment options should be considered. Three broad categories of potentially curative treatment include surgery, radiation therapy and cryotherapy. Cryotherapy ablation of the prostate implies freezing of the prostate gland. Cryotherapy has been used for many years for the treatment of prostate cancer but recent advances in the technique make cryotherapy an option for some patients. Presently, many urologists feel that cryotherapy may be considered for patients who would otherwise undergo radiation therapy.

## At one time ... [radiation therapy] was the most popular form of treatment.

Radiation therapy has been used for many years for the treatment of prostate cancer. At one time it was the most popular form of treatment. The basic types of radiation therapy are external beam radiation therapy, brachytherapy ("seeds") and combined external beam and brachytherapy. External beam radiation therapy involves radiation delivered from outside the body. This treatment has been used for many years but, as for every other treatment for prostate cancer, refinements of technique have decreased its complications. Like external beam radiation, brachytherapy has also been used for many years. The technique involves placement of radioactive "seeds" into the prostate gland. Just as for most other treatments for prostate cancer, refinements of technique have improved its results and decreased its complications.

Potential complications of radiation therapy include urinary incontinence, rectal irritation, bladder irritation, urinating difficulties, gastrointestinal side effects, urethral scarring, impotence, bloody urine and others. However, the most disturbing complication of radiation therapy (or any therapy for that matter) treatment failure with persistent or progressive prostate cancer, even after treatment. While some studies reveal excellent early results of radiation therapy treatment, others show treatment failure and persistent or progressive prostate cancer in up to 50-75 percent of cases. As with every other treatment, the results largely depend on the grade and stage of the cancer at the time treatment is initiated. Once again, prostate cancer screening is important.

Surgical treatment of prostate cancer entails removal of the entire prostate gland and the glands near the prostate the seminal vesicles. The prostate may be approached in several ways: through the lower abdominal wall (radical retropubic prostatectomy), through the perineum between the scrotum and anal opening (radical perineal prostatectomy) or by placement of thin telescopic instruments through the abdominal wall (laparoscopic radical prostatectomy). Each variation offers potential advantages for certain patients. Likewise, each surgical variation has disadvantages and potential complications. For example, while some surgeons feel that perineal prostatectomy allows a speedy recovery, some urologists feel that they can not effectively remove all of the cancer in or around the prostate using this approach. Furthermore, it is not possible to assess the pelvic lymph nodes and remove them when performing a perineal prostatectomy.

Laparoscopic prostatectomy has the potential advantage of a quick recovery and this approach also allow for assessment of the pelvic lymph nodes. However, laparoscopic prostatectomy has its own potential problems, not the least of which is increased length of time of the operation, thereby exposing the patient to additional anesthesia. Furthermore, some laparoscopic surgical cases are unsuccessful, at which time the patient must additionally undergo the standard open surgical incision. Furthermore there are no long term reports concerning success rates of this type of surgery. Surgeons at the Urology Center do perform laparoscopy but we feel that laparoscopic radical prostatectomy cannot be considered the surgical standard of care at the present time.

## The surgeons at the Urology Center ... have performed hundreds of these [radical prostatectomy] procedures with excellent results.

The surgeons at the Urology Center generally perform prostate cancer surgery by means of the radical retropubic prostatectomy. We have performed hundreds of these procedures with excellent results. With the patient completely asleep, a short skin opening is made just above the pubic bone, allowing the operating surgeons to evaluate all of the structures which may contain cancer and require removal, including the pelvic lymph nodes, the prostate and the seminal vesicles. Lymph node removal decisions are made based upon PSA levels, the pathological grade of the prostate cancer, the volume of the cancer the direct assessment of the pelvic lymph nodes at the time of surgery. Commonly, pelvic lymph node removal is not required thereby decreasing the surgical complication rate. Specifically, the potential complication of the development of a collection of lymph fluid within the pelvis (lymphocele formation) may be largely avoided.

Many urologists feel that the radical retropubic approach offers the best visualization of the prostate and seminal vesicles, potentially allowing more efficient removal of all the cancer. For many reasons, the radical retropubic prostatectomy is the procedure of choice for the majority of urologic surgeons. Of course, the choice of the operative approach depends upon the personal experience of the operating surgeons and the Urology Center surgeons have a large experience with radical retropubic prostatectomy. No matter the surgical approach, when prostate cancers are detected in men who have followed the guidelines for prostate cancer screening, radical prostatectomy results in cure of the prostate cancer in the majority of cases.

## ... patients undergoing radical retropubic prostatectomy may expect a two night hospital stay with only minor postoperative discomfort.

Our patients undergoing radical retropubic prostatectomy may expect a two night hospital stay with only minor postoperative discomfort. Approximately 90 percent of patients go home from the hospital on the second postoperative day. Occasionally, patients may choose to go home only after one night in the hospital and occasionally an older patient may stay longer. The secret to speedy recovery after surgery of this type is thorough preoperative education (concerning what to expect during the brief hospitalization) and excellent pain control with an early return to physical activity. In fact, most patients are up and out of bed or walking just several hour after surgery!

One of two contemporary methods of postoperative pain relief are used. Most commonly patients use a patient controlled analgesia (PCA) device which allows the delivery of pain medication with the press of a button. This is totally controlled by the patient. Alternatively, some patients choose an

epidural anesthetic which entails placement of a small catheter around the nerves in the lower part of the back. The catheter is placed at the time of surgery but postoperatively pain medication is continuously delivered to the lower part of the back. This generally results in the total absence of pain after the surgery. Of course, eventually the PCA or epidural must be discontinued. Most patients thereafter experience some relatively mild soreness which is easily controlled using a non-narcotic oral medication, sometimes supplemented with a mild oral narcotic type medication. In either case, patients are generally eating and walking the halls of the hospital no later than the morning of the day following surgery.

Without a doubt the most common grievance patients have with prostate surgery relates to wearing of a the catheter in the bladder. Catheter discomfort can be managed with special medications and irritation improves with time. While some men experience painful bladder spasms, other patients have no complaints with regard to the catheter. Unfortunately, no matter which surgical technique is used, wearing a catheter after the surgery is absolutely mandatory. However, using the radical retropubic technique, patients generally only have to use the catheter about ten days. However we have known other physicians to keep the catheter in place routinely for three-six weeks. Obviously, patients go home with the catheter and later have it removed in the doctors office or by a home health care nurse.

## **Absolutely every form of prostate cancer treatment has been linked to the development of erectile dysfunction (ED).**

All prostate cancer treatments have side effects. There is no known prostate cancer treatment which does not cause sexual dysfunction. Absolutely every form of prostate cancer treatment has been linked to the development of erectile dysfunction (ED). Patients may expect erectile dysfunction in up to 50 percent of the cases after radiation therapy and in up to 100 percent the cases after cryotherapy, standard hormonal therapy and prostate cancer surgery.

## **In our experience approximately 50 percent of patients undergoing the nerve sparing procedure may continue to have normal erections after surgery.**

Any type of prostate cancer surgery can cause erectile dysfunction. However, in selected cases, sexual function may be preserved by a surgeon experienced in the procedure known as nerve sparing radical prostatectomy. Using this procedure, tiny nerves which run directly around the prostate and seminal vesicles may be preserved during surgery, allowing patients to continue to have penile erections postoperatively. In our experience approximately 50 percent of patients undergoing the nerve sparing procedure may continue to have normal erections after surgery. Otherwise, patients commonly require Viagra or other methods of erectile dysfunction treatment after surgery. Furthermore, of patients who do develop ED after surgery, a greater percentage of those patients having undergone a nerve sparing radical prostatectomy may respond to Viagra, as opposed to those having a standard non-nerve sparing surgery.

**... be wary of surgeons who claim that they "always" perform nerve-sparing radical prostate cancer surgery ...**

Patients should be wary of surgeons who claim that they "always" perform nerve-sparing radical prostate cancer surgery or that they will decide whether or not to perform a nerve sparing procedure only during an operation. A nerve-sparing procedure cannot and should not be performed in a very considerable number of men with prostate cancer. Reasons include high grade cancer, locally advanced stage of cancer, patients with ED or marginal erectile function, unwillingness on the part of the patient to accept a low risk of incomplete removal of all of the cancer and, last but not least, the location of the cancer within the prostate. Some urologists haphazardly label the small pieces of tissue removed from the prostate during the prostate biopsy session such that no one can tell the exact spot that the cancer is located within the gland. This may limit that urologist's ability to guide patients with regard to making decisions concerning whether or not to recommend a nerve-sparing surgery.

Also, be cautious of surgeons who tell their patients the a decision concerning a nerve sparing procedure will be made based solely on findings during surgery. Generally, the decision can be made well before the operation, although in uncommon cases the decision to perform a nerve-sparing procedure may be changed due to adverse findings at the time of the operation. In summary, be cautious of any surgeon who claims that he or she performs nerve sparing radical prostatectomy procedures, yet fails to completely map-out the entire prostate when performing prostate biopsies. If mapping of the prostate is properly done, the results are recorded on the report from the pathologist who interpreted the biopsy results.

Many patients who decide not to undergo a nerve-sparing procedure ultimately opt to undergo placement of a four-piece inflatable penile prosthesis. In fact, the reservoir portion of a penile prosthesis can be safely placed at the time of the radical retropubic prostatectomy, without making any additional skin incision. This may not be the case with other forms of prostate cancer surgery. Of course there are many other methods of ED treatment, but beyond Viagra, there are none with satisfaction rates as high as a four-piece inflatable penile prosthesis. (Please visit our [Male Urology and Erectile Dysfunction Center of Excellence](#) for additional information.)

Additionally, prostate cancer surgery, radiation and cryotherapy may also result in urinary incontinence, accidental leakage of urine. Of these treatments, prostate cancer surgery more commonly results and urinary incontinence. Some studies have reported incontinence in the majority of men undergoing prostate cancer surgery. However, most reports indicate that less than two percent have incontinence severe enough to undergo corrective surgery. The younger the patient the less the chance of incontinence. Incontinence may be treated with medication, exercises, behavioral techniques, biofeedback training and surgery. Surgical treatments are reserved for severe cases. This treatment may entail cystoscopy with injection of a bulking agents such as collagen within the walls of the urethra. Pubourethral sling surgery is an effective alternative. However, the most effective way to manage postoperative stress urinary incontinence in men having undergone prostate cancer surgery is placement of an artificial urinary sphincter (AUS).

**... the most effective way to manage postoperative stress urinary incontinence ... [is] an artificial urinary sphincter (AUS).**

The artificial urinary sphincter involves placement of a tiny donut-like fluid filled cuff device around the urethra. The cuff is connected to a tiny pump located within the scrotum. By squeezing the pump several times, fluid is transferred from the cuff to a fluid reservoir deflating the cuff, thereby allowing the urine to pass through the urethra. Normal voiding of urine results. Fluid then automatically refills

the cuff, occluding the urethra, preventing unwanted urine leakage. The results of the artificial urinary sphincter procedure are excellent, with most patients reporting complete dryness or drastic improvement.

In summary, rapid progress is being made with regard to the diagnosis and treatment prostate cancer. Additionally, studies are ongoing investigating methods of prostate cancer prevention. Worldwide, more men than ever are undergoing prostate cancer screening. Prostate cancer screening is resulting in earlier detection of prostate cancer at the stage when the cancer may be treated for cure. In fact, there are clear indications that the mortality rate from prostate cancer is decreasing. Early indications strongly suggest that this progress is the result of a combination of prostate cancer screening with early detection and treatment. Furthermore, the complications of prostate cancer treatment are clearly decreasing with refinements of medication, radiation therapy, cryotherapy and surgical techniques. While every form of prostate cancer treatment has been associated with the development of erectile dysfunction, this problem is readily treatable such that no man should have to live with this problem. The physicians at the Urology Center not only have extensive experience with the evaluation and treatment prostate cancer, but they also have experience with the prevention and management of male incontinence and erectile dysfunction concerns.

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