



## *Prostate Cancer Beyond Surgery*

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Several new studies highlight the multi-modality treatments of prostate cancer. The two mainstream treatments of prostate cancer with curative intent has been with radical prostatectomy (RRP) and radiation. With the newest technology, surgery has evolved to laparoscopic daVinci RRP and radiation has been refined with Image guided radiotherapy (essentially guiding the radiation to only those areas needed). When surgery fails, and there are positive margins, there is a recent study out of Belgium which showed that immediate adjuvant radiation improved biochemical disease free survival (recurrence as measured by PSA) to 90% versus 70% when radiation was

used in a delayed fashion in those specimens with high risk features. However, there are side effects of over-treatment that need to be considered.

On the other hand, radiation can be combined with androgen ablation to treat locally advanced prostate cancer. The newest studies show that survival can be improved by combining androgen ablation (hormonal therapy) with radiation for 3 years (survival up to 58% versus 40%). There was a similar message by another study showing that 6 months of hormonal therapy was inferior to continuing hormonal therapy for 3 years. Of course, there are side effects of hormonal therapy being loss of

sexual function, libido, hot flashes, loss of bone density, cardiovascular risks, etc.

Lastly, if prostate cancer becomes metastatic, androgen blockade is used to control it until it becomes resistant. Several chemotherapy agents (mitoxantrone, docetaxel) have been used. More recently, a new clusterin expression inhibitor OGX-011 is under investigation. The combination of OGX-011 with Doxetaxel and Prednisone is prolonging median survival to almost 24 months.

New research sheds light on the use of multiple modalities to treat prostate cancer

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Dr. Vi Hua, M.D.

## Single Port Laparoscopy/ Single Incision Surgery

With newer technologies using fiber optics, laparoscopy has improved to single port access (SPA) surgery, also known as laparo endoscopic single-site surgery (LESS), single incision laparoscopic surgery (SILS) or one port umbilical surgery (OPUS) or single port incisionless conventional equipment-utilizing surgery (SPICES). These techniques, pioneered at the Cleveland Clinic, are advanced minimally-invasive laparoscopic procedures done through a single port, through the navel using equipment that can allow the camera and the laparoscopic instruments to deflect inside the body. These techniques are not for every patient, and selection is integral to their success. For very small procedures involving the kidney that do not need a lot of manipulation or dissection (such as

cryoablation of an anterior renal tumor, cyst decortication, nephrectomy for atrophic small kidneys), these techniques, in certain individuals, are ideal. The benefit from single port surgery is faster recovery with only a single small periumbilical incision. These pioneering techniques or applications of laparoscopy is likely a prelude to future robotic surgery, as instruments are becoming smaller and smaller. There are now 2 mm laparoscopic ports with 2 mm “needlescopes” that have been used in cholecystectomy. When closed, these 2 mm ports result in incisional scars that are barely

visible.

Single port laparoscopic surgery is a prelude likely leading to robotic laparoscopic applications



The SILS port from Covidien Healthcare allows placement of the 2 instruments adjacent to the camera to facilitate single port laparoscopic surgery



## New Frontiers in Testosterone Replacement Therapy

Over the last 2 decades, there has been growing awareness of the impact of testosterone deficiency (TD) on men’s health. This includes body composition (reduced muscle mass and increased body fat), bone density, mood, and quality of life. New evidence suggests that TD may be related to several key medical conditions such as diabetes, obesity, and metabolic syndrome, and may even be associated with reduced longevity. These new data make it more important than ever to be aware of TD, to

diagnose it when suggestive symptoms are present, and to initiate testosterone replacement therapy (TRT) when indicated. Until recently, physicians have been taught that TRT could cause prostate cancer (Pca) or exacerbate the progression of the disease. The origin of the fear that higher testosterone levels will stimulate more rapid Pca growth arose in 1941 with the work of Huggins et. al., who demonstrated that castration caused Pca to regress. However, recent longitudinal

studies have consistently failed to show any relationship between TRT and Pca risk. In 2008, a landmark article (Nat’l Cancer Inst. 2008; 110:170:183) was published that represented a collaborative global analysis of pooled data from 18 longitudinal studies involving more than 3000 men with Pca. No relationship between Pca and serum concentrations of testosterone was found. Men with the highest testosterone concentrations turned out to have no greater risk of developing Pca than



men with the lowest concentrations.

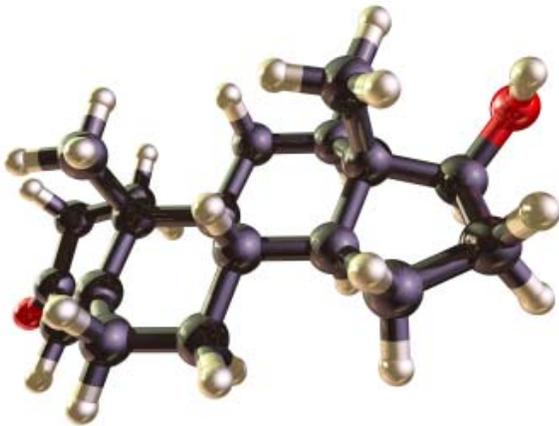
In a similar fashion to PCa, recent studies have failed to demonstrate a relationship between TRT and urinary symptoms and function. A theoretical concern is that TRT would increase prostate size, thereby leading to or exacerbating urinary symptoms. Ultrasound studies of prostate volume in patients with TD on TRT did demonstrate an initial “catch-up” growth in the first 3 to 6 months of therapy; however, there was little or no change in urine flow rates, episodes of urinary retention, post-void residuals (volume

retical. It should be noted that biopsy guidelines for patients on TRT are currently being studied and to date there is no general consensus.

Several publications over the last few years have challenged the mainstream by failing to demonstrate any negative outcomes in men who received TRT despite a prior history of PCa. There are now several reports of TRT after radical prostatectomy (surgery) or brachytherapy (seed implantation) without any signs of PSA elevations, and a recent report noted a decline in PSA after 2 years of TRT in a man with untreated PCa undergoing

higher grade (more aggressive) PCa, greater risk for recurrence after surgery, and lower survival rates. Lastly, it is very important to consider a patient’s testosterone level when interpreting PSA for prostate cancer screening. It has been shown that men with low testosterone levels and normal PSA have higher prostate cancer detection rates than would be expected. In other words, a normal PSA level in the setting of a low testosterone level must be interpreted with caution.

Overall, new data support the concept that the risks of TRT are not as worrisome as once believed, especially with PCa. Clearly, more research will need to be done to be conclusive. At the current time, TRT is safe with appropriate medical monitoring. Laboratory monitoring of patients on TRT should include Total Testosterone, PSA, and Hematocrit. Testosterone levels should be monitored 2-3 months after initiation of TRT with a goal towards a therapeutic level about mid-normal or high normal. PSA and digital rectal exam (DRE) should be checked every 3 months for the first year and then annually thereafter. Any increase in PSA  $>0.5\text{ng/ml}$  in the first 6 months of TRT or abnormality on DRE deserves further evaluation. Finally, a hemoglobin or hematocrit level should be checked at baseline, at 3 months into therapy, and annually thereafter.



left behind after voiding) or voiding symptoms. Furthermore, most human studies have shown just small increases in PSA in patients on TRT. Although the PSA may increase slightly during the first 3-6 months of therapy, it has been recommended to perform a prostate biopsy if the PSA increases by  $>0.5\text{ ng/ml}$  in the first 6 months. This is based on the concept that TRT does not cause PCa, rather, it can increase PSA expression by prostate cells. As a result, it has been stated that TRT could act like a provocative test to diagnose prostate cancer; however, this concept is still theo-

“active surveillance” (observation only). Although the number of treated men in these studies is small, the results do suggest that higher testosterone cannot be nearly as risky as once believed.

On the other hand, several studies have shown a troublesome association between PCa and low testosterone levels. One such study reveals that the lower the testosterone level, the greater the risk of a positive biopsy. Furthermore, other studies seem to indicate that low testosterone levels may predispose a patient to



*Dr. Shawn D. Blick, M.D.  
President and Founder*

**Any increase in PSA  $>0.5\text{ng/ml}$  in the first 6 months of TRT or abnormality on DRE deserves further evaluation**



Dr. Rabul Thaly, M.D.  
Fellowship-trained Urologist in  
Robotic Laparoscopy

## daVinci Robotic Partial Nephrectomy

Robotic partial nephrectomy may be a beneficial surgical alternative for patients with kidney cancer. Robotic partial nephrectomy offers outcomes similar to traditional open and standard laparoscopic surgery, with reduced tissue trauma and risk of infection, less visible scarring and the potential for quicker recovery. Delicate, precise and rapid robotic suturing means kidneys spend less time diverted from the blood supply, which can contribute to preserved kidney function.

In a robotic partial nephrectomy, the surgeon precisely identifies and removes portions of cancerous kidney tumors as well as surrounding healthy tissue through small (1- to 2-centimeter) abdominal incisions called ports (portals or keyholes).

Surgeons take advantage of the improved precision made possible by the computer-enhanced robotic system to perform complex procedures that can be challenging when performed using traditional surgical techniques.

During the procedure, the surgeon directs the movement of the surgical instruments from a remote console a short distance from the patient and operating table, while a surgical team stands by to assist. The surgeon sees a magnified, three-dimensional view of the surgical area on a video monitor. The enhanced image provides greater visual detail than traditional open surgery.

Another member of the surgical team stands at the operating table, closely monitoring the patient and the robot-controlled laparoscopic instruments. The assisting surgical team inserts the instruments through the abdominal incision

ports and attaches the instruments to the system's robotic arms.

The surgeon sits at the console, directing the surgical instru-

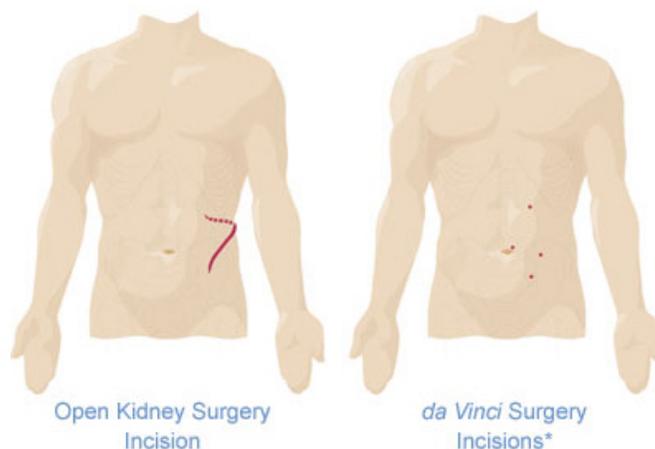


ments using two hand-and-finger control devices. The robotic system scales down the surgeon's hand motions, so larger original movements translate into a precise adjustment at the instrument's tip. The controls filter out minor tremors inherent to any human hand motion.

Robotic partial nephrectomy, laparoscopic partial nephrectomy, and traditional open surgery yield similar long-term outcomes. However, the much smaller incisions in robotic and laparoscopic surgery can mean less post-operative pain, tissue trauma, and blood loss and a faster return to normal activities. You can expect one to three days of hospital recovery following robotic laparoscopic surgery, as opposed to tradi-

tional open surgery, which usually requires a stay of up to five days.

The precision and dexterity afforded by the da Vinci Surgical System's advanced instrumentation facilitates a minimally invasive approach for treating kidney cancer.



*Use of prophylactic antibiotics in children with vesico-ureteral reflux (VUR)*



ther resolved or was repaired or the child advanced to an age greater than 5 years. Several studies have been published with the following findings

► Prophylactic antibiotics did not decrease the incidence of recurrent urinary tract infections (UTIs)

► Specifically, Prophylactic antibiotics did not decrease recurrent UTI in patients with low grade (I-III) vesicoureteral reflux (VUR)

► Children on prophylactic antibiotics who did develop a UTI were more likely to have

resistant organism on urine culture.

Does this mean that we should discontinue prophylactic antibiotics in all children with VUR? I would be cautious with this approach. There have been several criticisms to these studies, namely that children have not been tested to know if they are truly compliant on prophylactic antibiotics. We know that up to 70% of parents are non-compliant with long term antibiotics. A well designed placebo controlled double blinded study (RIVUR study) is currently underway and should provide better answers in the near future. In the meantime, Antibiotics should be discontinued on a case by case basis with well informed



*Dr. Ben O. Donovan, MD  
Fellowship-trained Pediatric Urologist*

Over the last couple of years there has been much debate over the effectiveness and need for prophylactic antibiotics for children that are diagnosed with VUR. Historically, children have been placed on a low dose prophylactic antibiotic once identified to have VUR, They stayed on these antibiotics until the reflux ei-

**Prophylactic antibiotics did not decrease recurrent UTIs in patients with low grade (I-III) vesicoureteral reflux (VUR)**



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Doctor & Patient  
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## Shockwave Lithotripsy-What is ESWL



Extracorporeal Shockwave Lithotripsy or ESWL is presently the least invasive procedure available to treat kidney and ureteral stones. An estimated 10 million Americans are diagnosed with Urinary tract stones each year. Of these patients, at least one million are treated with ESWL every year in the United States.

A German company called Dornier MedTech Systems first introduced ESWL in 1983. The first commercial lithotripter known as the HM-3, used a large tub filled with water as a medium for the shock waves. This is why many patients are familiar with the “water tub” for the treatment of kidney stones. The HM-3 is still in use in a few locations but has largely been replaced by mobile, second and third generation lithotripters. These newer units utilize a fluid filled therapy head. This therapy head is pushed against the patient’s skin coupled with an acoustic gel to conduct the shockwave energy. The newer units have smaller focal areas of energy delivery and thus, are more precise in delivering the shockwaves for stone fragmentation. It is believed that this limits the

risk of injury to adjacent tissues and results in less pain during and after treatment.

Not all stones are amenable to ESWL treatment and often other treatment methods such as ureteroscopy or percutaneous nephrolithotomy must be utilized. It is generally felt that ESWL is most effective for stones between the size of 4mm to 2cm, and stones that are located in the kidney or the upper ureter. Treatment of stones in the mid and lower ureter can be performed but with lower success rates than endoscopic treatment. It is crucial that the stone can be seen on fluoroscopic or x-ray imaging in order for the shockwave energy to be accurately localized on the stone(s). Many stones are visible on CT scan imaging, but are difficult to locate on plain x-ray. In these cases other treatment options must be utilized. In addition, certain types of stones are very hard and will not successfully fragment with ESWL or will need several treatments.

Not all patients are candidates for ESWL. The treatment is considered not safe for patients with untreated urinary tract infections, bleeding disorders, renal or aortic aneurysms, or patients who are pregnant. All patients who are taking anticoagulant medication must discontinue these medications prior to treatment so their blood clotting parameters are normal. This includes common over-the-counter medications such as Aspirin and Ibuprofen. Other patient factors may decrease the effectiveness of ESWL such as morbid obesity, and orthopedic or spinal deformities that prevent proper patient positioning.

The procedure requires deep sedation or general anesthesia and typically takes 45 to 60 minutes to perform. As with any procedure there are potential risks that must be fully understood by any patient considering ESWL. The most common complications following treatment include pain at the treatment site, blood in the urine, urinary tract infection, and pain with passage of stone fragments. On rare occasions, endoscopic procedures are required to treat patients who become obstructed with fragments that will not pass naturally. Repeat treatment with ESWL may also be necessary to fully fragment larger or harder stones. More serious complications such as bleeding around the kidney can occur but are rare with proper patient screening. The overall complication rate from ESWL is considered to be around 5-20%. This is comparable to other more invasive kidney stone treatments. With proper patient selection ESWL is a safe, minimally invasive, and effective treatment option for urinary tract stones.



Dr. Lynn W. Blunt, M.D.



## Bladder Infections – What a Woman Should Know

Approximately 1 in 3 women experience urinary infections by early adulthood. Most people know the basic symptoms that go along with a bladder infection—burning with urination and running back and forth to the bathroom far too often. Sometimes, there can be lower back pain or lower abdominal pain; however, add a fever or severe pain in the upper back and now you most likely have a kidney infection. The distinction is important since bladder infections don't damage the kidneys, but kidney infections can.

There are some common and some uncommon scenarios that can accompany bladder infections. For many women, sexual activity is the main culprit with infections starting when a woman becomes sexually active—“Honeymoon cystitis” if you will. In general, the problem is that bacteria at the vaginal opening are massaged upward into the bladder during intercourse and once they are there, they set up shop and start multiplying. Soon thereafter, the symptoms of infection begin. The simplest way to prevent this problem is to wash them out right after intercourse—in other words, urinating immediately after sexual activity.

Contrary to popular belief, the direction in which you wipe after urination does not make any difference in terms of bladder infections. Nor can you get a bladder infection by sitting on a public toilet. It's actually quite difficult to empty the bladder normally when you are crouching and tensing up the lower abdomen and pelvis. So, ladies, sit down! As long as you spend 20 seconds washing

your hands after using the restroom, you won't take anything home with you. One easy way to make sure you have rinsed your hands for long enough is to run through the alphabet while you are at the sink.

There are other factors that can increase the risk of infection. Constipation and infrequent urination are two behavioral issues that can generally be improved by changing the diet, drinking more fluids, and becoming more aware of bowel and bladder habits. Spermicides and diaphragms are also associated with higher risk of urinary tract infections.

In postmenopausal women, lack of estrogen creates changes in the vagina that can increase the risk of bladder infections. Local estrogen use (i.e. application of estrogen cream to the opening of the vagina) has been shown to decrease the risk of infection after menopause.

Other less common problems that can be associated with infections include not emptying the bladder completely or kidney stones. Your local friendly urologist is equipped to deal with either problem. And, yes, it's possible to have stones in the kidneys and not know about it. They don't cause pain unless they are blocking some part of the urinary system.

So what about cranberry juice? It's hard to say. There was a single study that showed a decreased rate of bladder infections in women who were drinking a combination of cranberry and ligoonberry juice. Certainly, it's not harmful except in large quantities, so if you like cranberry juice, go ahead and drink it. There is

conflicting evidence on cranberry in supplement form and it may not be worth the expense.

Many women, despite their best efforts, will still be plagued with recurrent episodes of bladder infections. Most of the time this is due to bad luck—most women with recurrent bladder infections have more pathogenic bacteria in the vaginal area than do women who do not get bladder infections. There are some genetic factors as well in terms of allowing these more nasty types of bacteria to live in the vaginal area. For most of these women, antibiotic prophylaxis is the treatment of choice. There is some work underway using vaginal vaccines in women with recurrent bladder infections and the preliminary data is promising.

Boring as it may sound, eating a healthy diet and maintaining good bowel and bladder habits are the most important factors in preventing urinary infections. If you do develop symptoms of a bladder infection, notify your doctor since an untreated bladder infection can turn into a kidney infection. If the symptoms don't go away with the medication prescribed, you might need a different antibiotic or you might need further urine testing. If you have a high fever and severe back pain—the urgent care or the ER should be your next stop if your doctor can't see you right away. Early treatment is the best way to keep your body as healthy as possible.



Dr. Elizabeth Kornfield, MD

**So what about cranberry juice? It's hard to say. There was a single study that showed a decreased rate of bladder infections in women who were drinking a combination of cranberry and ligoonberry juice**

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*Dr. Jonathan Agins, M.D.*

### *What's New in Stress Incontinence*

The Renessa Procedure is a safe in-office procedure that has changed the way that we can treat incontinence, or the inability to control your urine. Using a local anesthetic, your Urologist places a small probe in the urethra, the tube that carries the urine out of the bladder. The probe gently heats up and denatures the collagen in your tissues. When the treated area cools, the tissue is firmer and increases resistance to the involuntary loss of urine during coughing, laughing, sneezing, lifting, and other physical activities such as exercise. The Renessa Procedure takes less

than fifteen minutes. It is a single treatment that is incredibly safe. There are no incisions, bandages, or dressings, and offers rapid recovery with minimal limitations. Ask your doctor if the Renessa Procedure can help you.

**Renessa is a safe in-office procedure to treat urinary stress incontinence**