

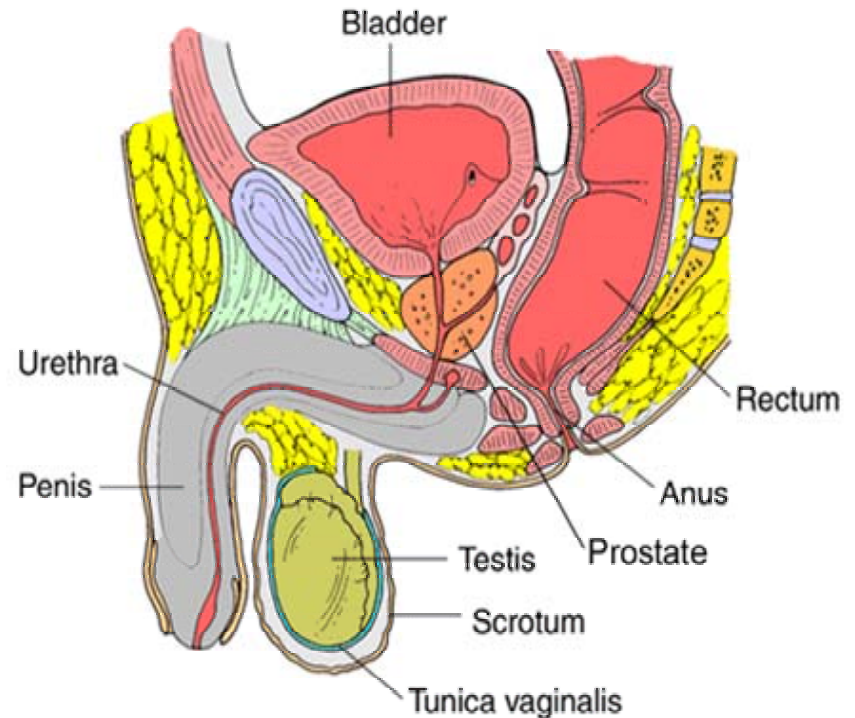
Prostate Cancer Patient Education Seminar



Know your options

What is the prostate?

- Male sexual gland
- Adds nutrients and fluids for sperm
- This fluid is added to sperm during ejaculation
- Urethra (urine channel) runs through the middle of the prostate



What is prostate cancer?

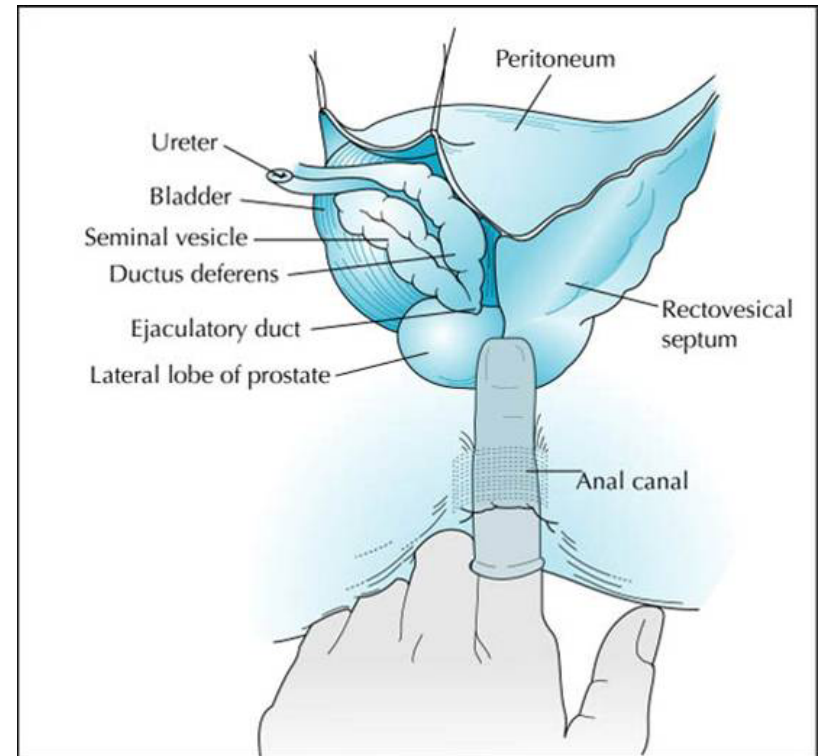
- Abnormal cells growing out of control
- Spreads and invades local tissues
- Prostate Cancer
 - Begins with a small tumor in the gland
 - First spreads to the local lymph nodes
 - Then spreads to the bony skeleton and other areas of the body

Prostate Cancer Facts

- **Prostate cancer**
 - Leading type of cancer in men
 - Second leading cause of death in American males.
 - Over 40,000 deaths each year in U.S.
- **Early Detection**
 - Best prognosis is early detection
 - Recent data on lower mortality rates of prostate cancer
 - Affords patients many options for treatment

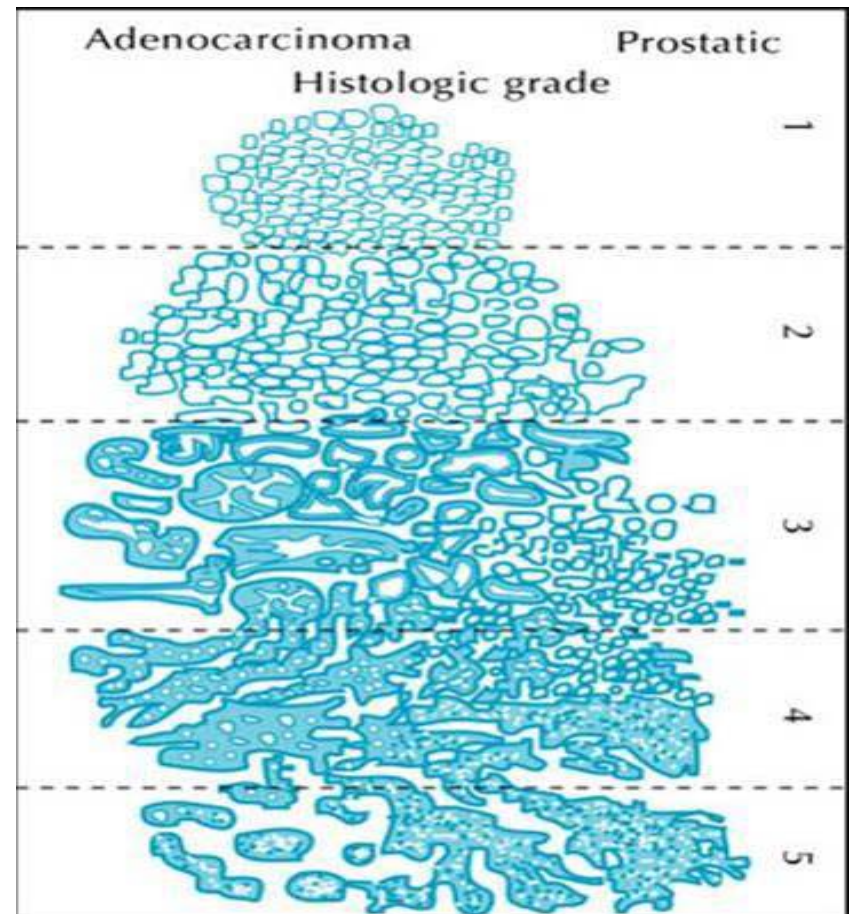
Early Detection

- Digital Rectal exam (DRE)
- Prostate Specific Antigen blood test (PSA)
- Any abnormality in the PSA or DRE will require
 - Biopsy of the prostate
 - Ultrasound guided
 - Usually performed in the office
 - Short procedure



Biopsy results

- Prostate cancer graded on appearance of cancer cells
- Gleason grading system
 - Gleason grade ranges from 1 (least aggressive) to 5 (most aggressive)
- Gleason score (2-10)
 - Most common cell grade (first) added to second most common cell grade
 - i.e Gleason 7 (3+4)

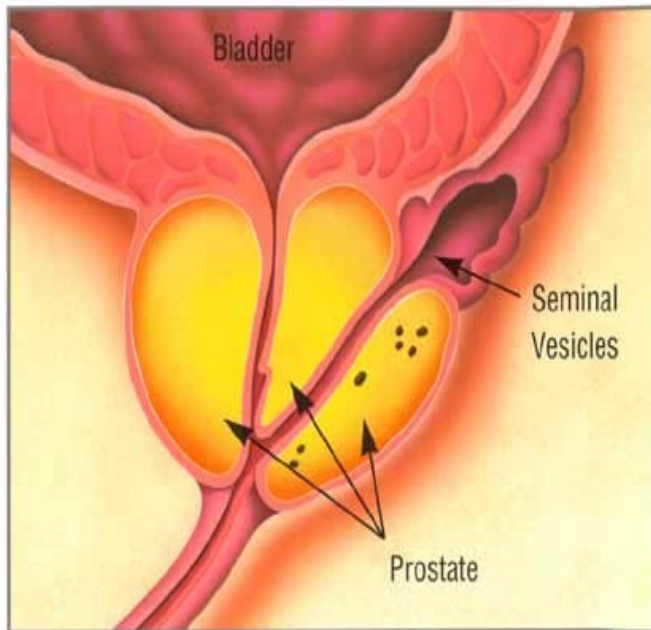


Staging of Prostate Cancer

- PSA
- Digital Rectal Exam
- Trans Rectal Ultrasound
- Gleason Score
- Bone Scan
- +/- CT scan or MRI
- Biopsy and TNM staging system
 - Tumor, Nodes, Metastases

Prostate Cancer T1 disease

STAGE I

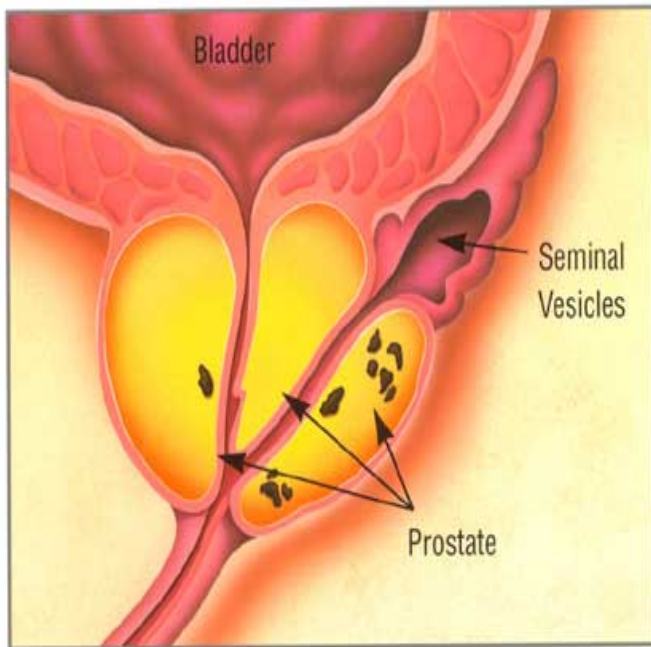


- ◆ Tumor not detectable by imaging or clinical exam
- ◆ Low-grade tumor
- ◆ Less than 5% of tissue specimen

- Cannot be felt
- T1a - cancer found in $\leq 5\%$ TURP specimen
- T1b - cancer found in $\geq 5\%$ TURP specimen
- T1c - cancer found as a result of PSA elevation only

Prostate Cancer T2

STAGE II



◆ Tumor not detectable by imaging or clinical exam

- May be found in one or more lobes by needle biopsy

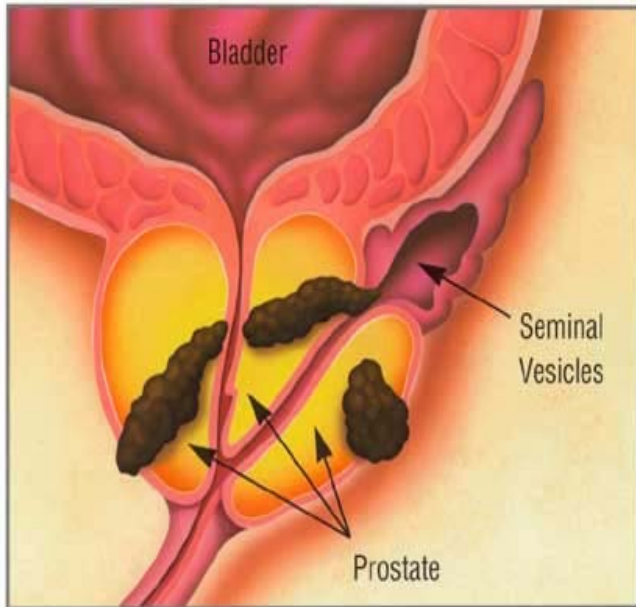
◆ Moderate/high grade tumor

◆ More than 5% of tissue specimen

- Can be felt during DRE (digital rectal exam)
- T2a - felt on one side of prostate
- T2b - felt on both sides of prostate

Prostate Cancer T3

STAGE III



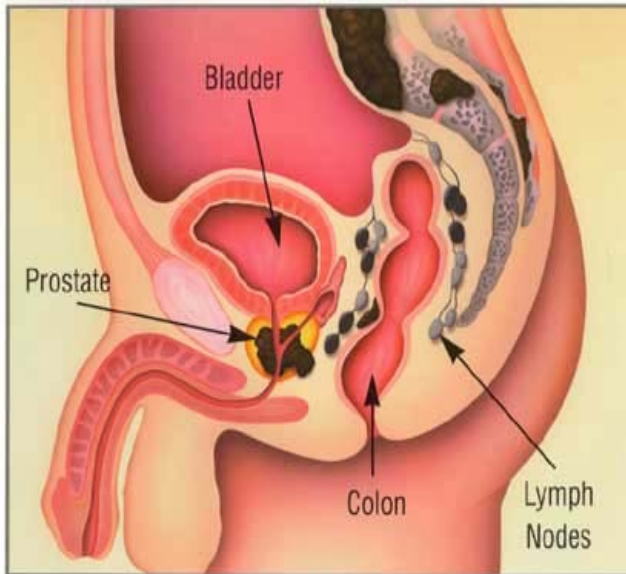
- ◆ Tumor extends beyond prostate capsule
 - May invade seminal vesicles

- ◆ Any grade tumor

- Has spread beyond the prostate
- T3a - extra capsular extension
- T3b - tumor invades seminal vesicle(s)

Prostate Cancer T4

STAGE IV



◆ Tumor is fixed or invades adjacent structures other than seminal vesicles

- Neck of bladder,
external sphincter,
rectum, muscles,
pelvic wall

◆ Tumor of any size with lymph node spread and/or distant metastases

◆ Any grade tumor

- Cancer has invaded local organs
- Bladder invasion
- Invasion into surrounding pelvic side wall
- May cause pain in joints and back

Treatment Options

Dependent upon.....

- Stage of disease
- Patient's age and health
- Patient's personal preference

Treatment Options (Early Diagnosis)

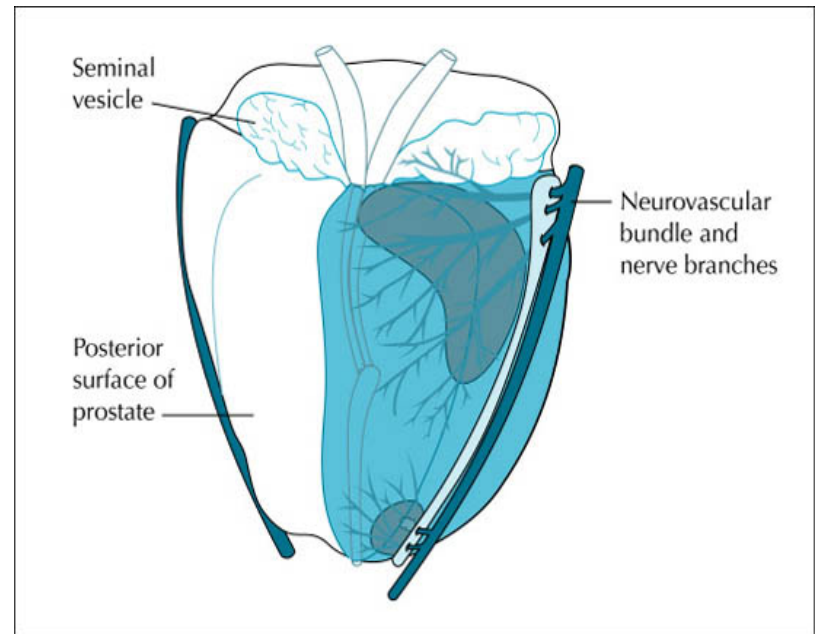
- Watchful waiting
- External Beam Radiation Therapy
- Brachytherapy (Radioactive seeds)
- Cryosurgery (Freezing prostate)
- Surgery (Radical Prostatectomy)
 - Open Surgery
 - Conventional Laparoscopic Surgery
 - *da Vinci*[™] Prostatectomy (Robotic-Assisted Surgery)

Goals of Radical Prostatectomy

- Remove the prostate and cancer
- High cure rates for localized disease
- Preserve urinary function
- Preserve erectile function
- Analyze the prostate after surgery to assess risk of recurrence of cancer

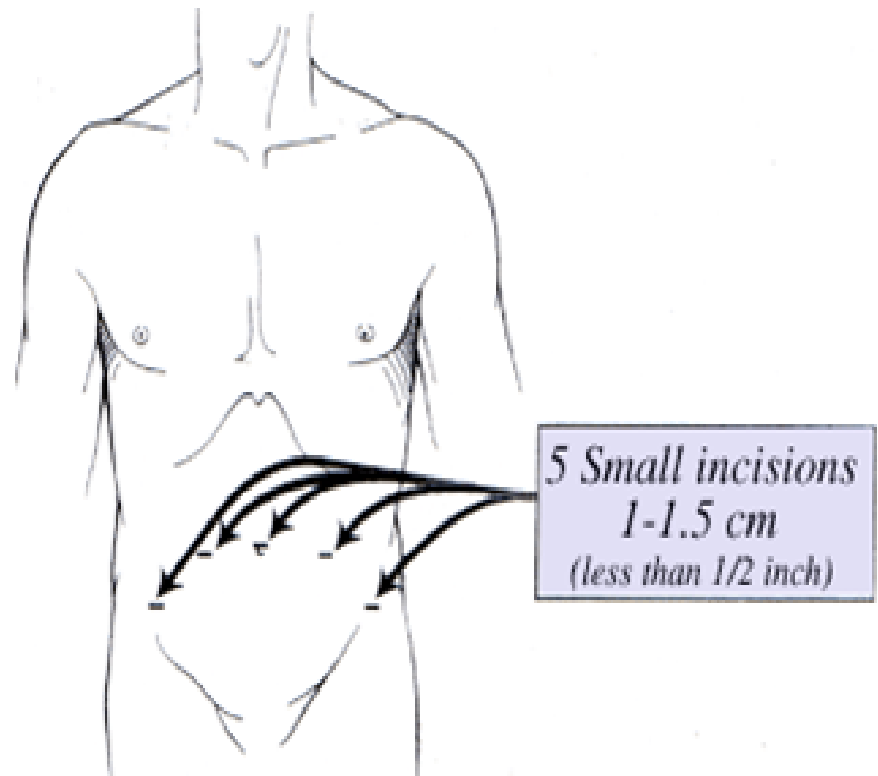
Nerve-sparing Prostatectomy

- Preserve nerves responsible for erections
- Nerves run alongside prostate
- The *da Vinci*[®] System permits surgeon to spare nerves
 - Superior Visualization
 - High Resolution 3-D Image
 - *EndoWrist*[®] Instruments



Laparoscopic Surgery

- Minimally invasive surgery
- Ability to operate through small keyhole incisions
- Camera and instruments fit through the keyhole incisions
- Better visualization than open surgery



Conventional Laparoscopic Surgery Drawbacks

- 2-D flat image video
- Rigid instruments - chopsticks
- Instruments controlled at a distance - fulcrum effect
- Decreases your surgeon's precision, dexterity and control
- Higher surgeon fatigue
- Makes complex operations more difficult

How can we overcome these drawbacks?

- Provide a high resolution 3-D color image
- Interpose a computer between the surgeon's hand and the instrument tip
- Increase the surgeon's dexterity for the difficult aspects of the procedure
 - Sparing the nerves to preserve erectile function
 - Preserving continence
 - Preserving quality of life

What is the *da Vinci*® Surgical System?



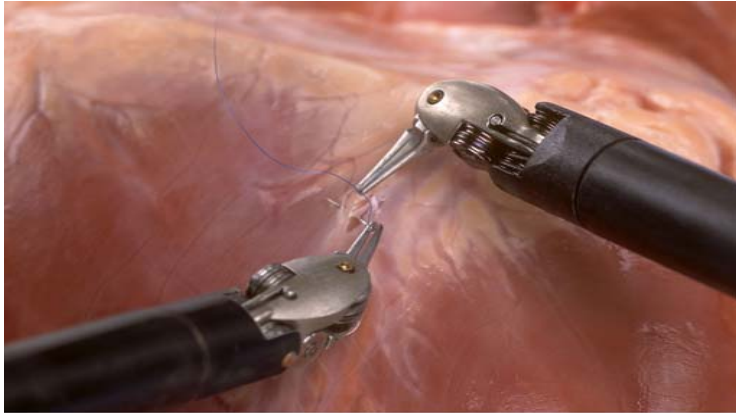
- Powered by state-of-the-art robotic technology
- Surgeon is in control and operates at the console
- Assistant surgeon is next to the patient

Vision System



- Surgeon is immersed in 3-Dimensional image of the surgical field

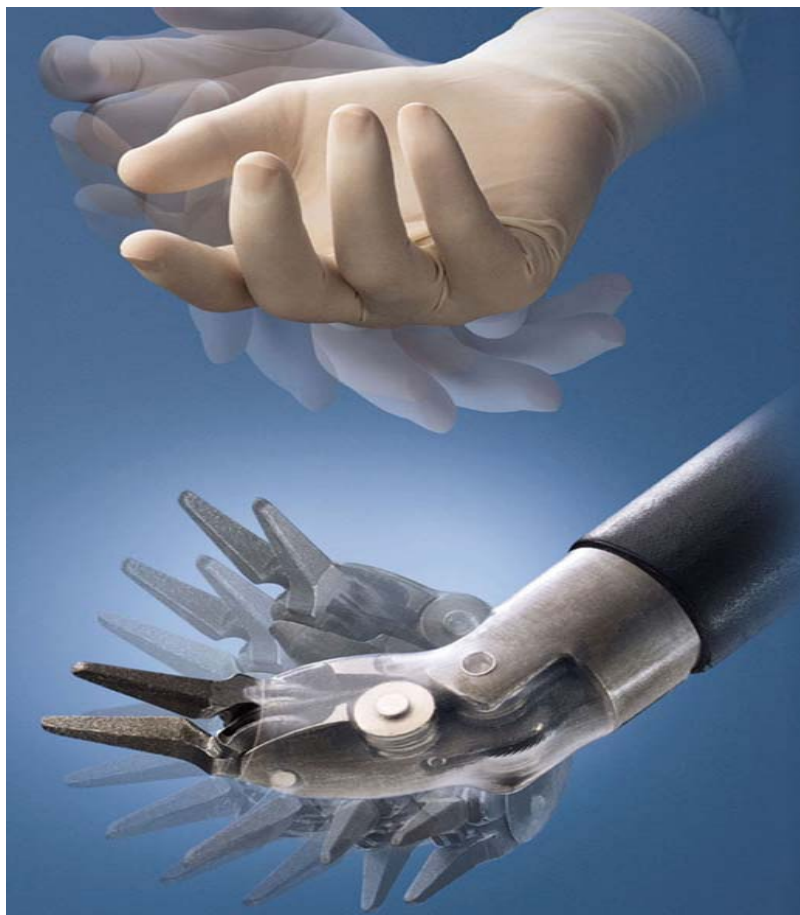
The Surgeon Directs The Instruments



- The surgeon's hands are placed in special devices called masters that direct the precise instrument movements



Wrist and Finger Movement



- Traditional laparoscopic instruments are straight and do not bend
- *EndoWrist*[®] Instruments move like a human wrist
 - Allows increased dexterity, maneuverability, and precision

Small Instruments through Keyhole Incisions

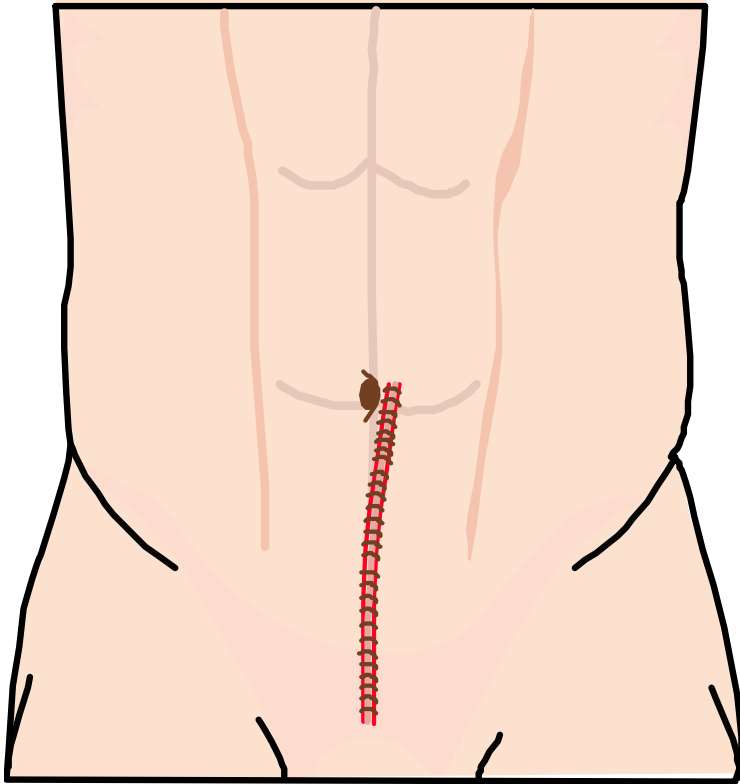


- *da Vinci*[®] Surgical System *EndoWrist*[®] Instruments are small and are able to fit through keyhole incisions
- A wide range of instruments are available

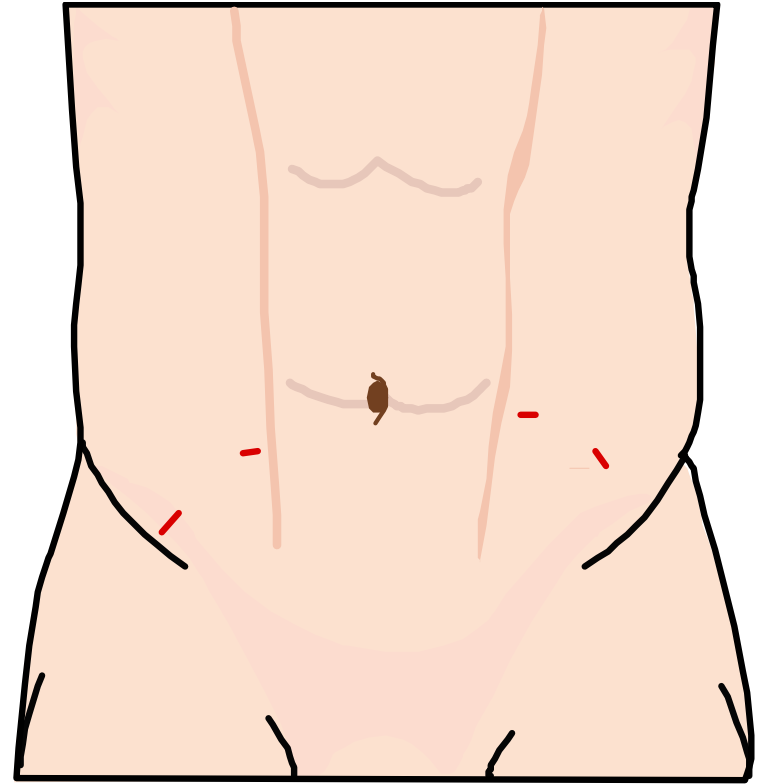
Benefits of *da Vinci*[™] Prostatectomy

- Decreased blood loss
- Shortened length of hospital stay
- Decreased postoperative pain
- Less scarring
- Shorter urinary catheter time
- Faster return to regular activities
- Anticipation of improved potency and continence

Robotic-Assisted Surgery Access



Open Surgical Incision



da Vinci[™] Prostatectomy Incision

Compare the Benefits and Decide What's Best for You

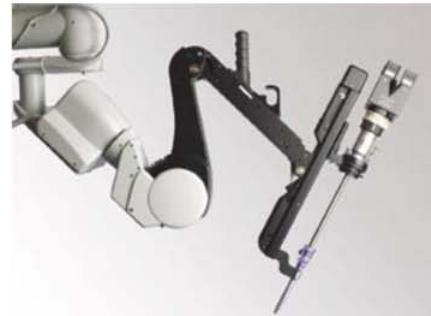
- **Open Procedure**

- Long Incisions
- Hospital Stay of 3.5 days
- Blood Loss 900ml
- Catheter removal 14 to 21 days

- **Robotic-Assisted Procedure**

- 5 or 6 small keyhole incisions
- Hospital stay of 1.2 days
- Blood Loss 153 ml
- Catheter days 5 to 7 days

da Vinci™ Prostatectomy



Changing the Experience of Prostate Surgery

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