Healthy Arizona
WORKSITES
A PUBLIC HEALTH INITIATIVE

HEALTHY ARIZONA WORKSITES PROGRAM (HAWP) PRESENTS:

PREVENTION AND SCREENING FOR PROSTATE HEALTH

Presented by:

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Prevention and Screening for Prostate Health

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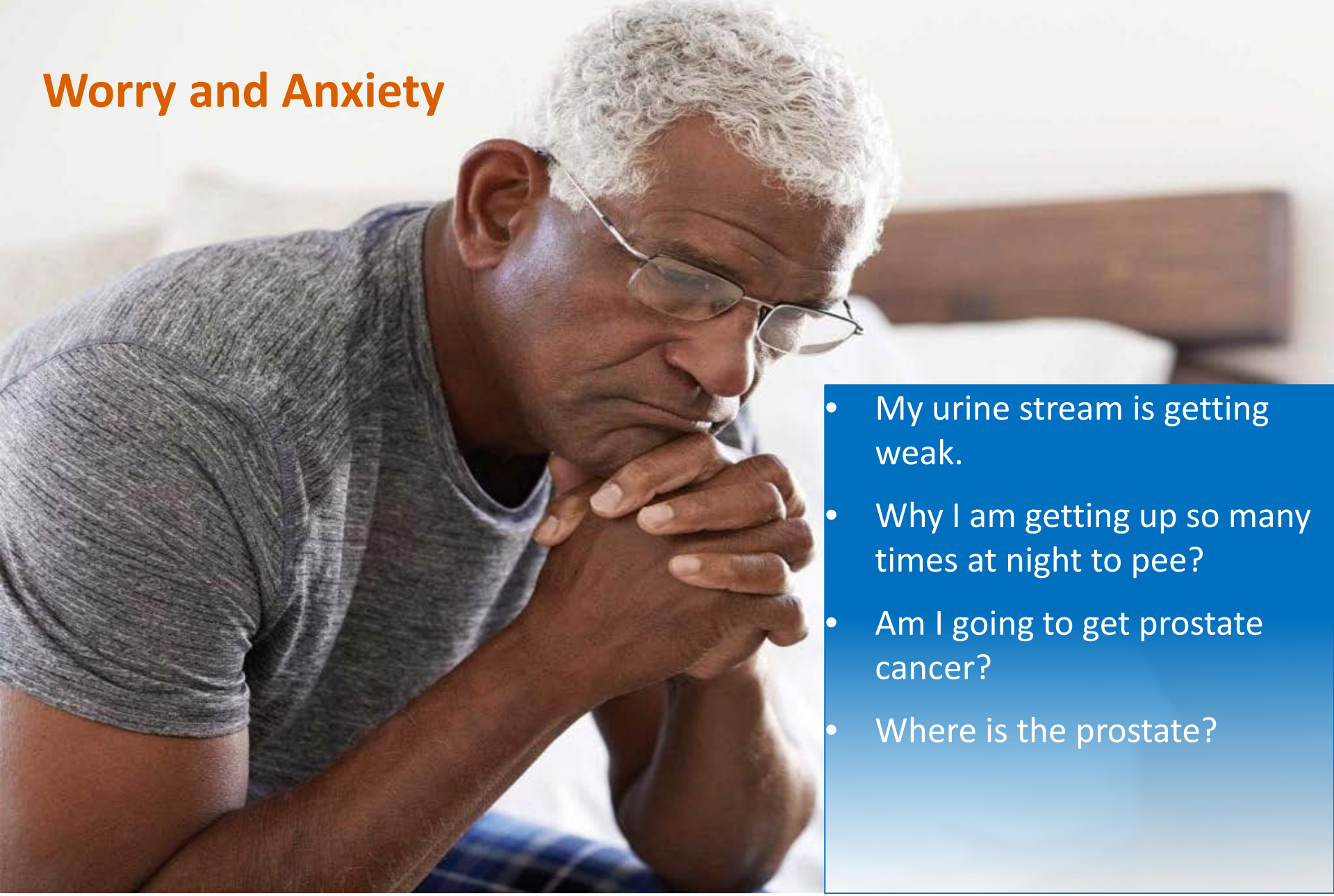
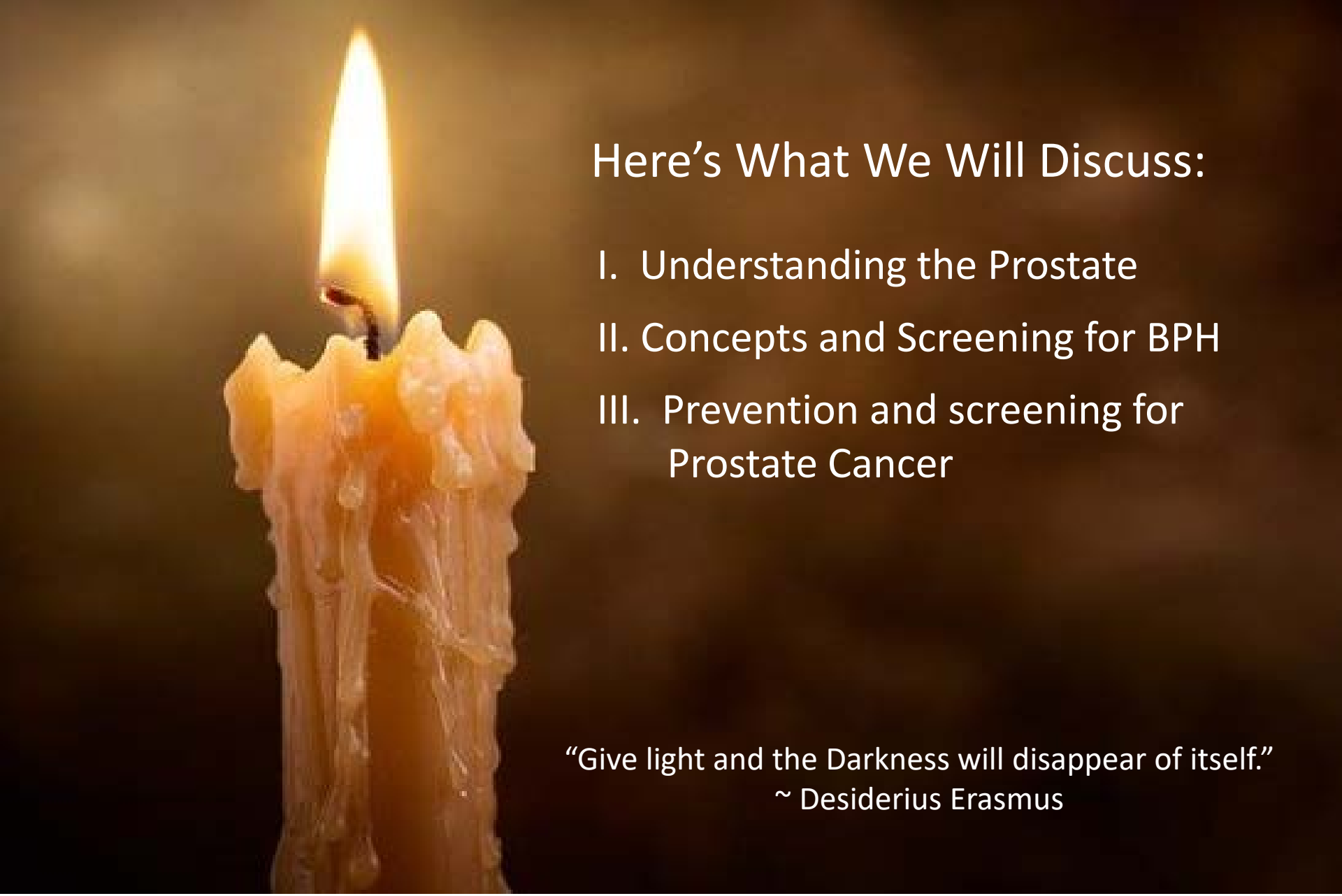
Worry and Anxiety



- My urine stream is getting weak.
- Why I am getting up so many times at night to pee?
- Am I going to get prostate cancer?
- Where is the prostate?



Here's What We Will Discuss:

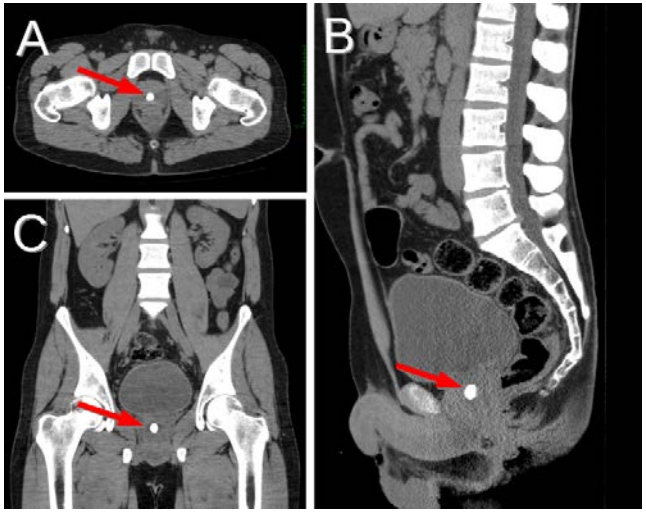
I. Understanding the Prostate

II. Concepts and Screening for BPH

III. Prevention and screening for Prostate Cancer

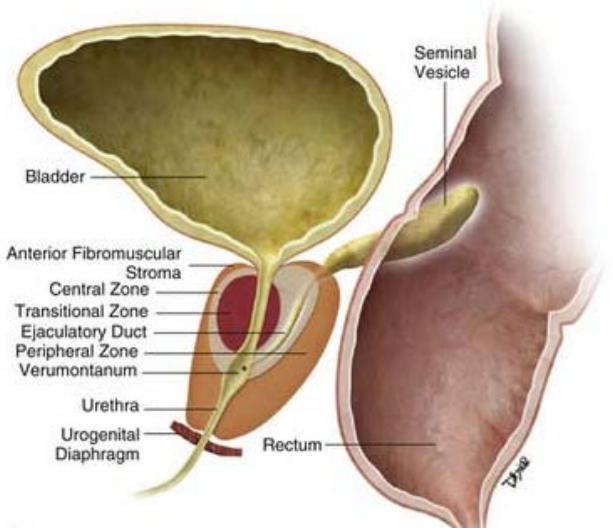
"Give light and the Darkness will disappear of itself."
~ Desiderius Erasmus

Understanding the Prostate
Where is it?



Anatomy:

- A gland between the bladder and penis
- Urethra goes through the center of the prostate
- Sits on the rectum



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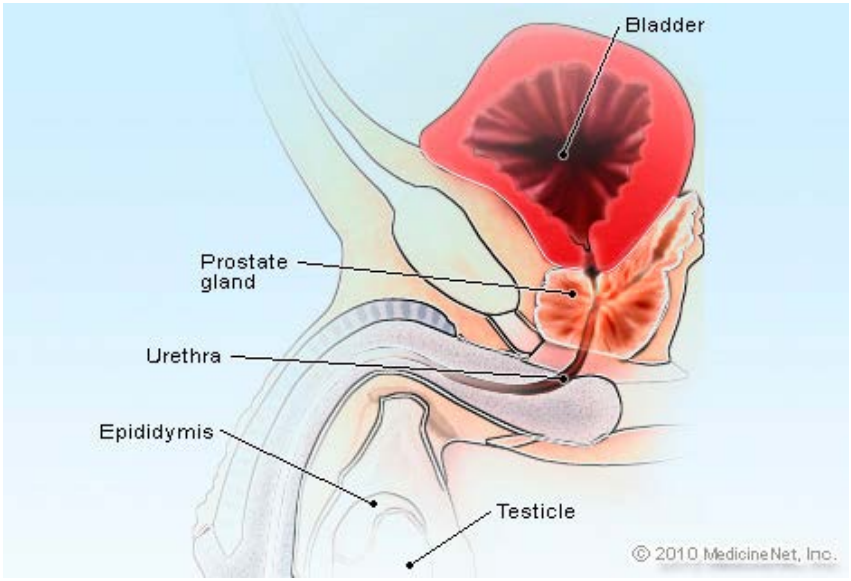
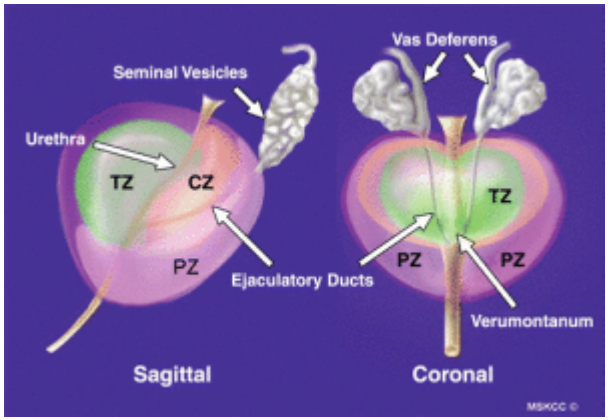
Understanding the Prostate
What does it do?

Physiology:

- Has muscular component
  - Adds to urinary control/blockage in men
- Has a glandular component
  - Produces a portion of the semen
  - Receives the ejaculatory ducts
  - Attached to the seminal vesicles





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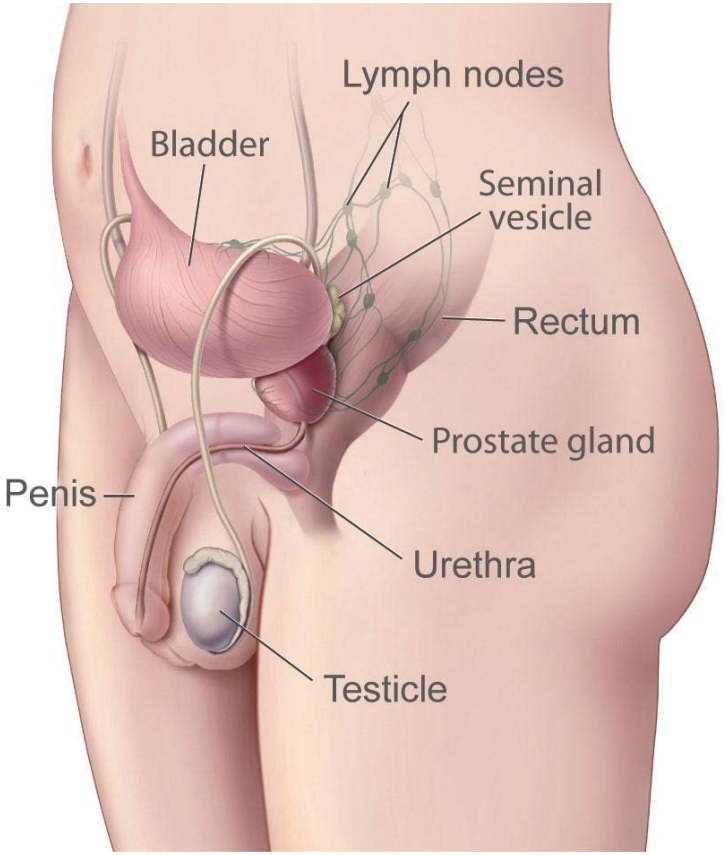
Understanding the Prostate

Development:

- Sexual organ
  - Formed in fetal development
  - Needs testosterone to grow and develop fully
- Size of a walnut in young adults
- Continues to grow with continued testosterone stimulation



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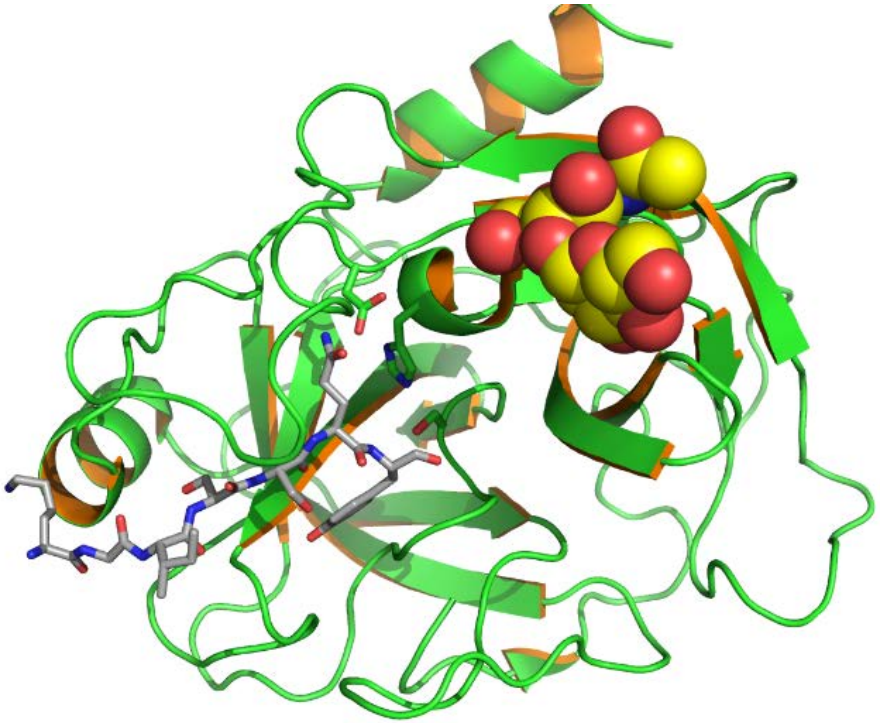
Understanding the Prostate

Common Medical Significance

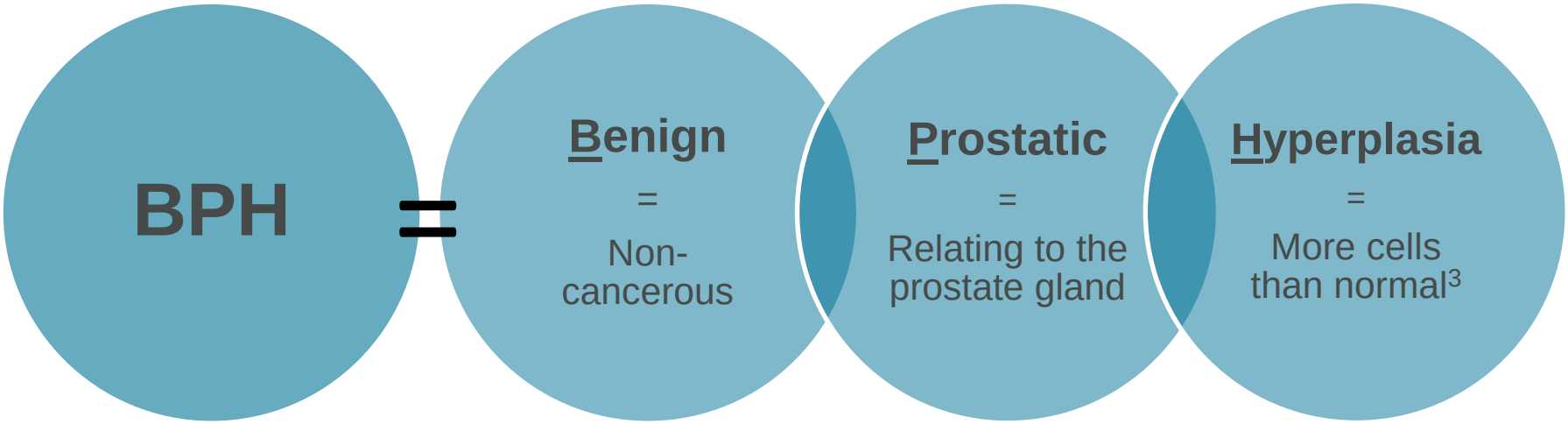
- Enlarged prostate (BPH)
- Prostate cancer
- Inflammation (Prostatitis)

PSA

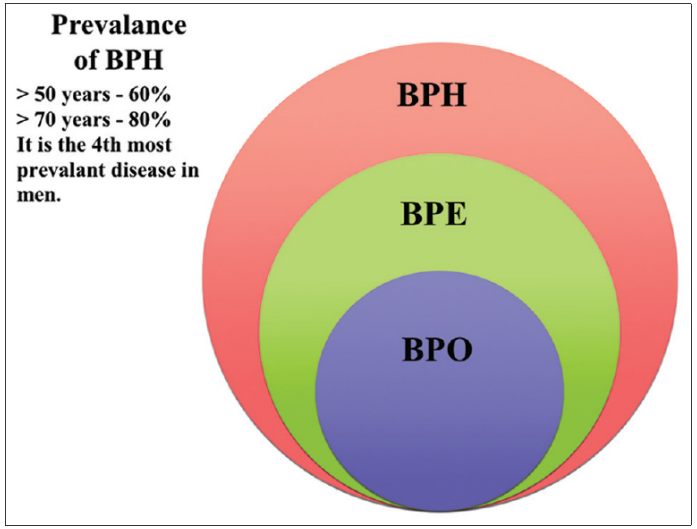
- PSA (prostate specific antigen)
  - PSA is an enzyme which is produced by the prostate, leaked into the blood stream
  - Detected by a routine (non-fasting) blood test
  - Can be elevated
    - Prostate cancer
    - BPH
    - Prostatitis
    - Idiopathic/Aging



Enlarged Prostate (BPH)



- Very Common
  - Starts at age 40-45
  - Age 60: 60%
  - Age 80: 80%



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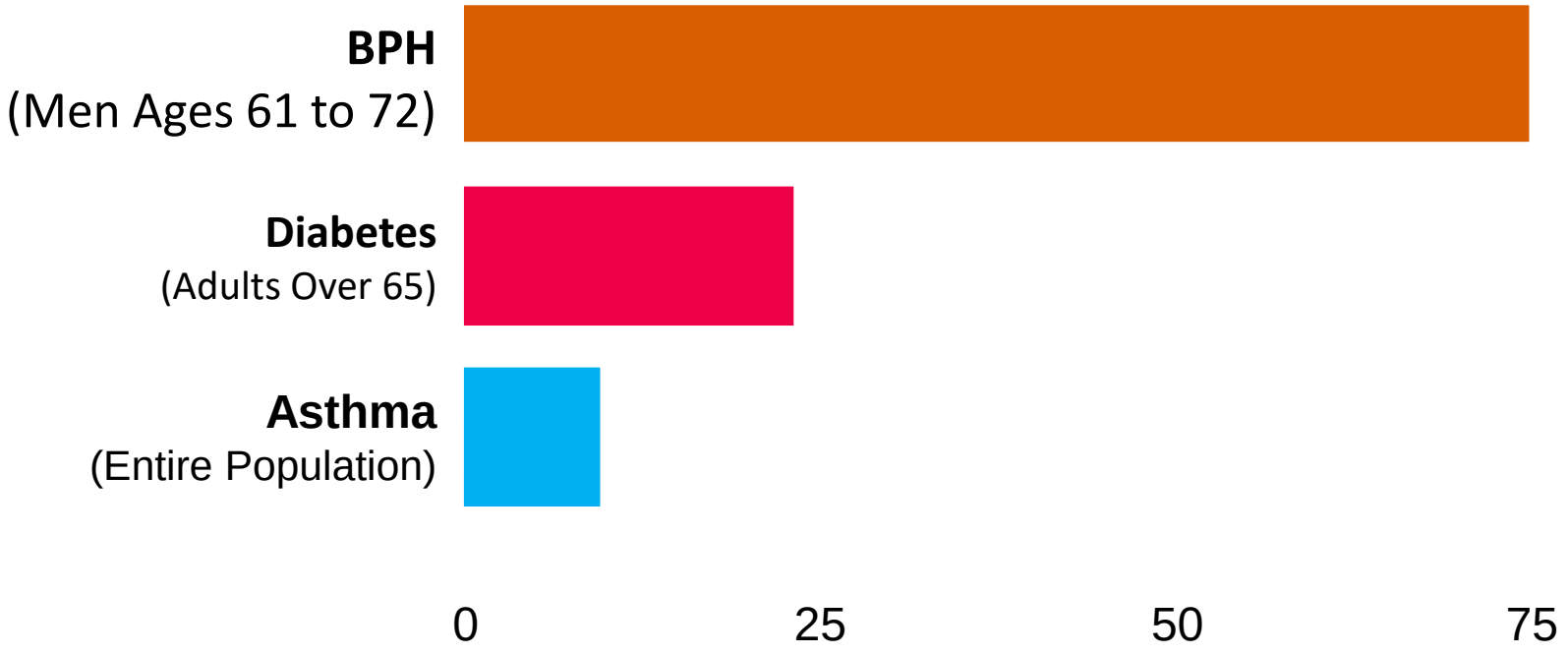
Prevalence of BPH Versus Other Common Conditions



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BPH Changes

Testosterone

↓

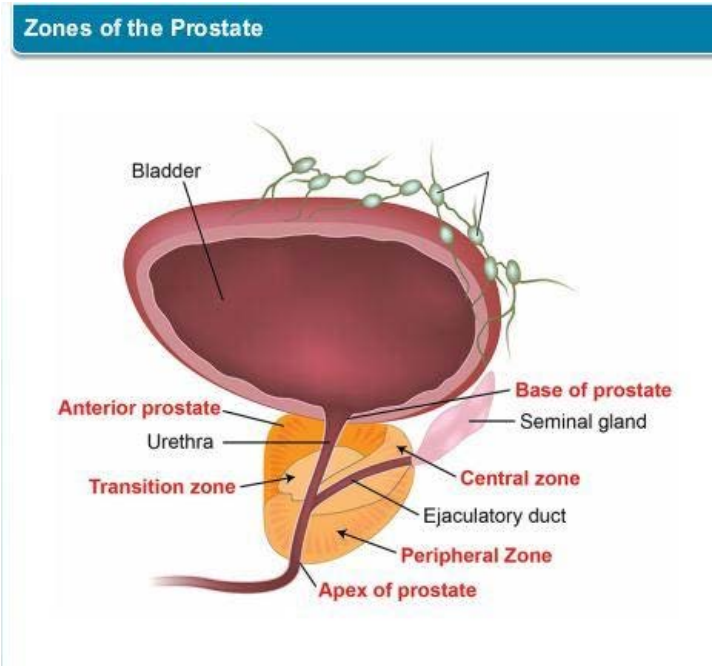
Stimulation of prostate growth

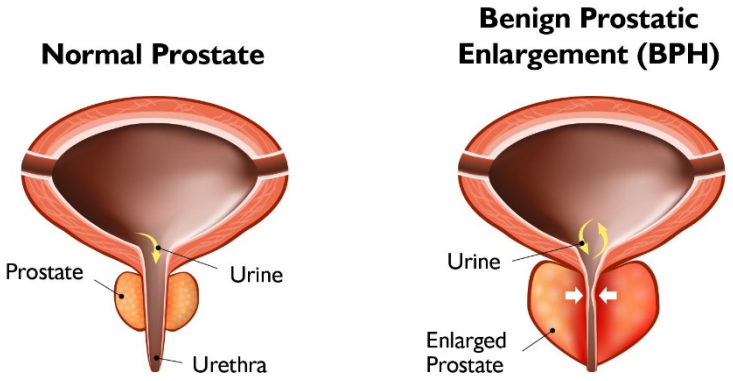
↓

Transitional zone gets large

↓

Narrowing of the prostatic urethra





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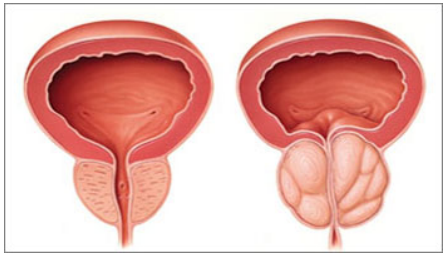
Understanding BPH (bladder squeeze vs outlet)

Weakened Bladder squeeze

- Overstretched bladder
  - Bad voiding habits
  - diabetes
- Late stage BPH
- Nerve dysfunction
  - Surgery
  - diabetes



Outlet obstruction

- BPH
  - Increases with aging
- Bladder stones
- Stricture (scar tissue)
- Medications
  - Allergy medications
- Neurologic disorders
  - Parkinson's Disease, others

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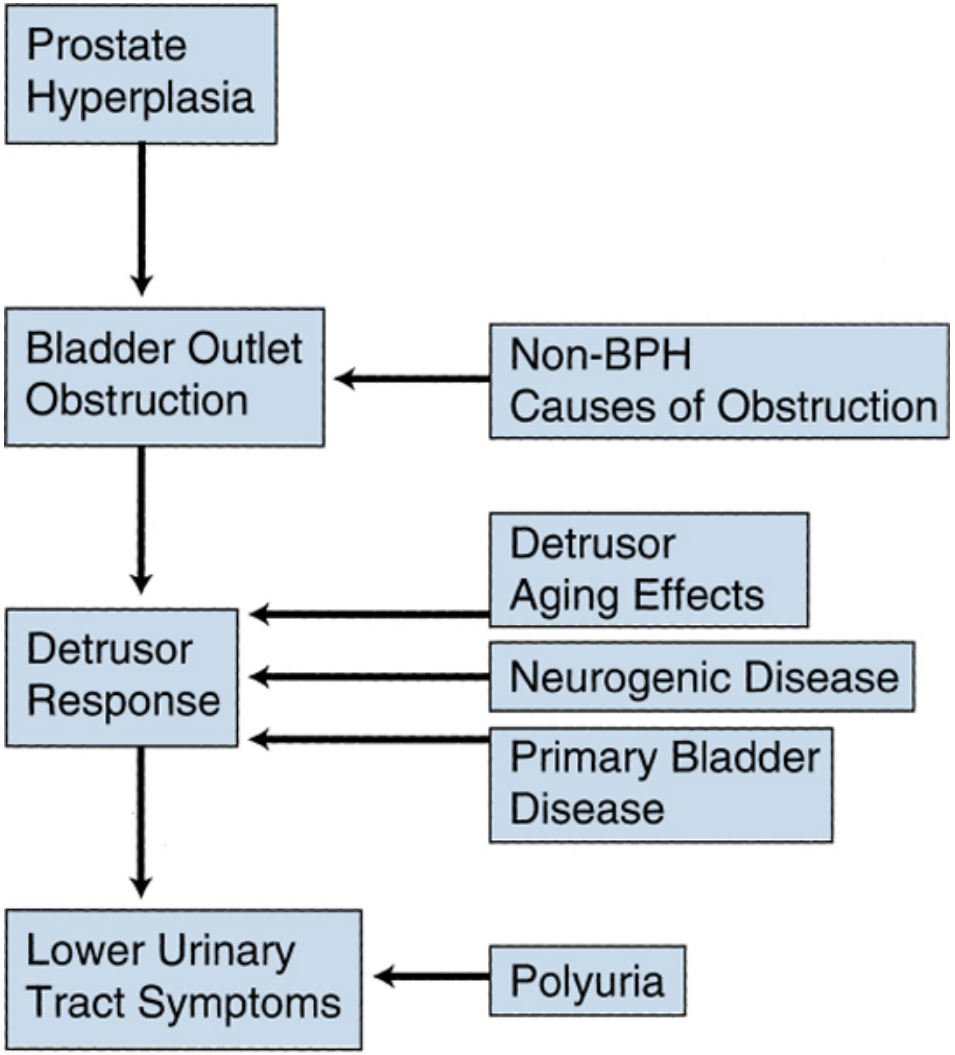
BPH/LUTS Pathophysiology



Symptoms of Prostate Enlargement

Common Early Symptoms

- Weak urine stream
- Nighttime urination
- Frequent or urgent urination
- Starting and stopping of urination
- Hesitancy of stream
- Sensation of incomplete bladder emptying
- Painful or burning urination

Other Factors

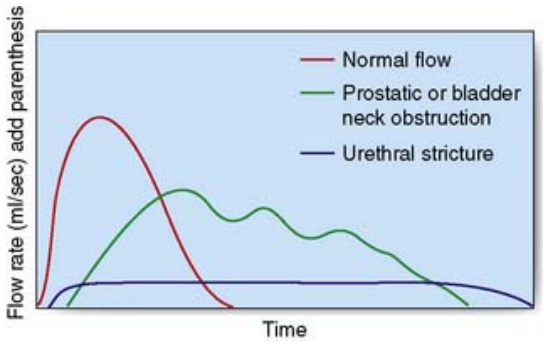
- Varies with the severity of disease
- Each patient experiences symptoms differently
- Symptoms can worsen without treatment

Late Stage Problems

- Urinary retention (unable to pee)
  - Needing foley catheter
  - Kidney failure
- Bladder stones
- UTI

BPH Workup

- IPSS
- Urinalysis
- PSA blood test
- Uroflow and post-void residual



International Prostate Symptom Score (I-PSS)

Patient Name: _____ **Date of birth:** _____ **Date completed** _____

In the past month:	Not at All	Less than 1 in 5 Times	Less than Half the Time	About Half the Time	More than Half the Time	Almost Always	Your score
1. Incomplete Emptying How often have you had the sensation of not emptying your bladder?	0	1	2	3	4	5	
2. Frequency How often have you had to urinate less than every two hours?	0	1	2	3	4	5	
3. Intermittency How often have you found you stopped and started again several times when you urinated?	0	1	2	3	4	5	
4. Urgency How often have you found it difficult to postpone urination?	0	1	2	3	4	5	
5. Weak Stream How often have you had a weak urinary stream?	0	1	2	3	4	5	
6. Straining How often have you had to strain to start urination?	0	1	2	3	4	5	
	None	**1 Time**	**2 Times**	**3 Times**	**4 Times**	**5 Times**	
7. Nocturia How many times did you typically get up at night to urinate?	0	1	2	3	4	5	
Total I-PSS Score							

Score: 1-7: *Mild* 8-19: *Moderate* 20-35: *Severe*

Quality of Life Due to Urinary Symptoms	Delighted	Pleased	Mostly Satisfied	Mixed	Mostly Dissatisfied	Unhappy	Terrible
If you were to spend the rest of your life with your urinary condition just the way it is now, how would you feel about that?	**0**	**1**	**2**	**3**	**4**	**5**	**6**

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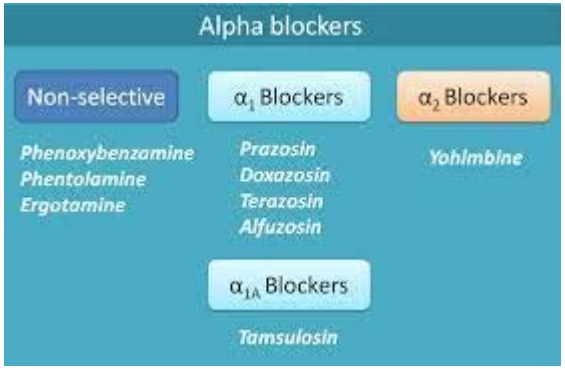
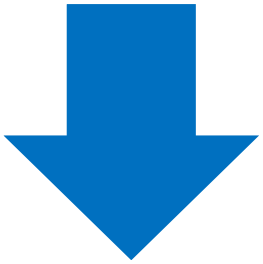
BPH Treatments

- Geared to Quality of Life
- Designed to decrease the outflow obstruction
- Medications
  - Alpha blockers (decrease muscle tone in prostate)
    - Flomax, Uroxatral, Hytrin
  - 5 alpha reductase inhibitors (decrease intra-prostatic testosterone)
    - Proscar, Avodart





Decrease resistance to flow

Maximize bladder strength

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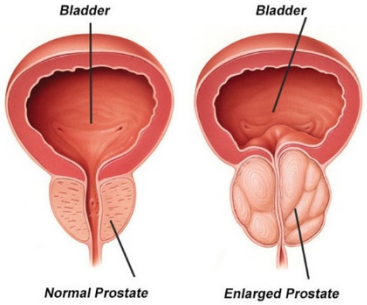
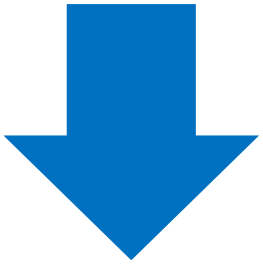
BPH Treatments

Designed to decrease the outflow obstruction

- Surgery
  - Urolift
  - Rezum
  - TURP





Decrease resistance to flow

Maximize bladder strength

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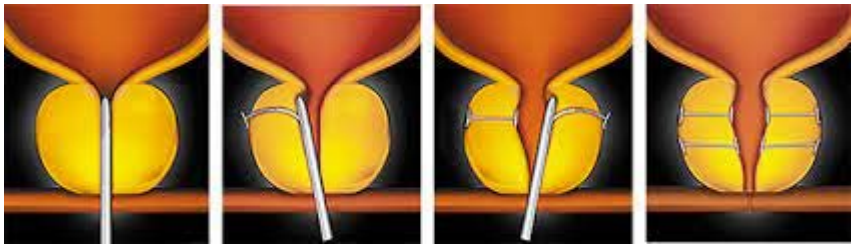
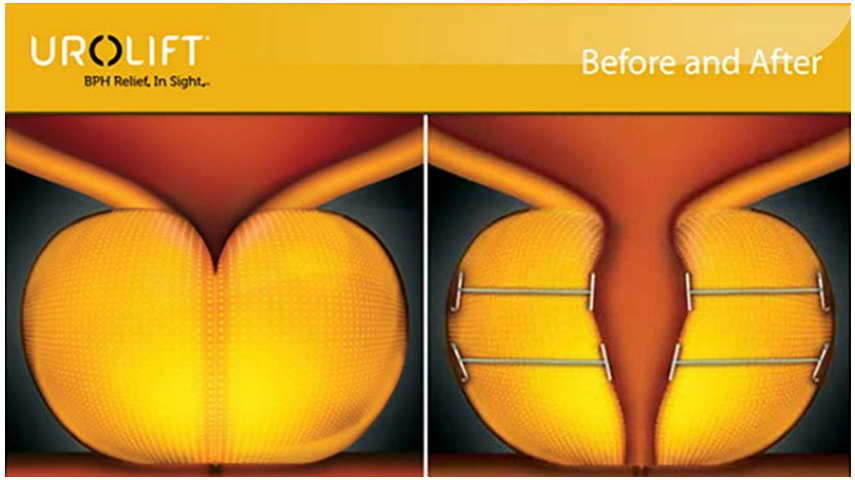
BPH Surgery - Urolift

- Benefits
  - Minimally-Invasive
  - Preserves erectile function
- Appropriate patients
  - Moderate symptoms
  - Prostate size 30-80gms
- Outcomes
  - Improves IPSS score ~10 -15pts
  - Improves flow rate
  - 5-year retreatment rate: 3%-20%





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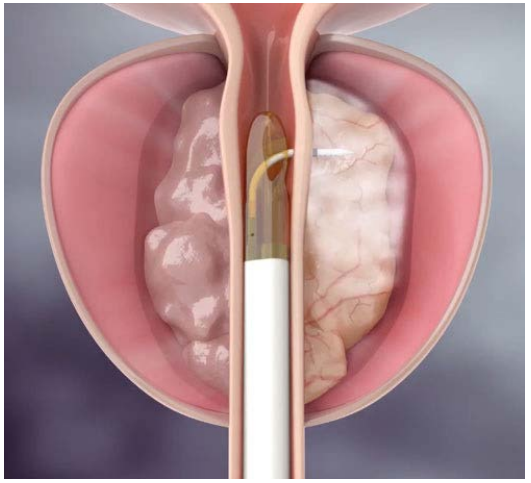
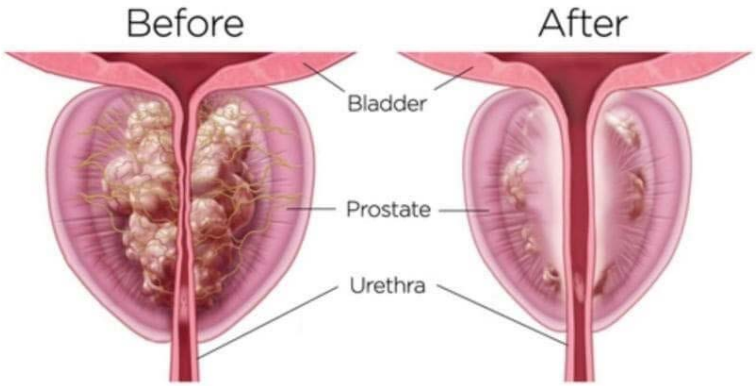
BPH Surgery - Rezum

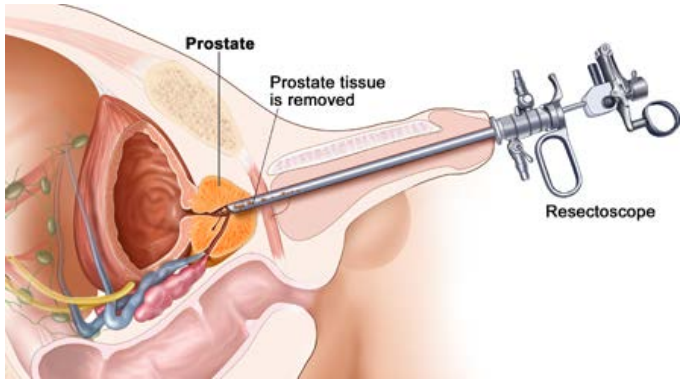
- Benefits
  - Minimally-Invasive
  - Preserves erectile function
- Appropriate patients
  - Moderate symptoms
  - Prostate size 30-80gms
- Outcomes
  - Reduction prostate volume 28%
  - Improves IPSS score ~11 pts
  - Improves flow rate 4-13mls/sec
  - 5-year retreatment rate: 3%-5%

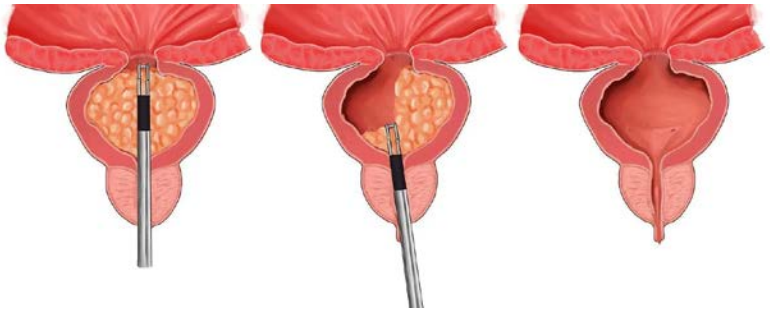


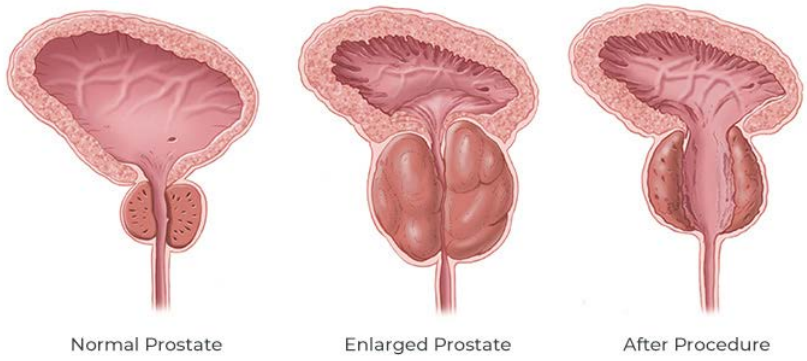


BPH surgery - TURP (Trans-Urethral Resection of Prostate)

- Benefits (GOLD Standard)
  - Maximal treatment (late stage)
  - Longest durability of symptoms relief
  - Tissue diagnosis
- Appropriate patients
  - High symptoms
  - Any size prostate, median lobe
- Outcomes
  - Reduction prostate volume 28%
  - Improves IPSS score ~15 pts
  - Improves flow rate -13mls/sec
  - 10-year retreatment rate: 10-20%







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Preventing BPH

- Healthy urination habits
- Good voiding habits
  - Timed voiding: Pee every 2-3 hours while awake (even if you don't feel like it)
  - Relaxed voiding: relaxed position or sitting with knees apart
  - Double voiding (for those who don't empty well): pee > relax for 1 minutes > pee again
- Nighttime ritual
  - Drink only 1 glass of fluid in the evening
  - Empty your bladder before sleeping
  - Drink more in the morning/noon
- Avoid testosterone supplements

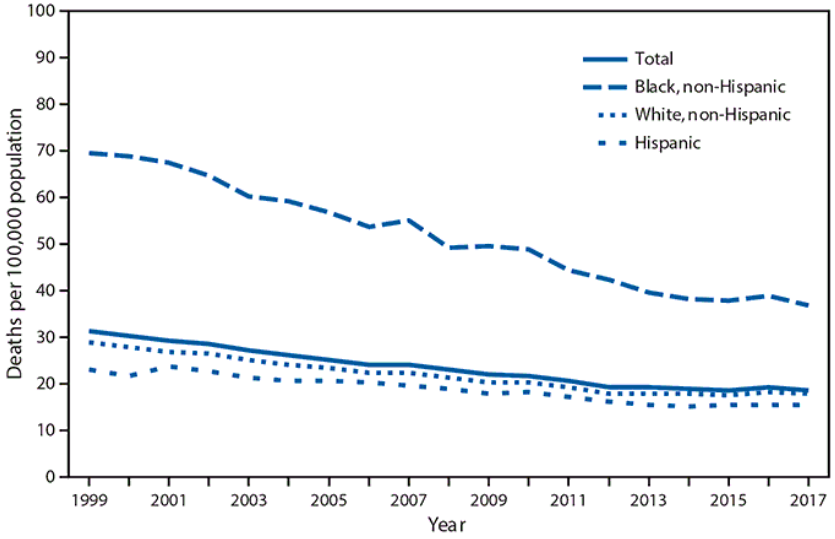
Prostate Cancer

- What is prostate cancer?
  - Cancer that arises from the Prostate gland
  - Subtypes:
    - Adenocarcinoma (comes from glandular type tissue) 95%
    - Small Cell/Neuroendocrine cancer

How common is prostate cancer?

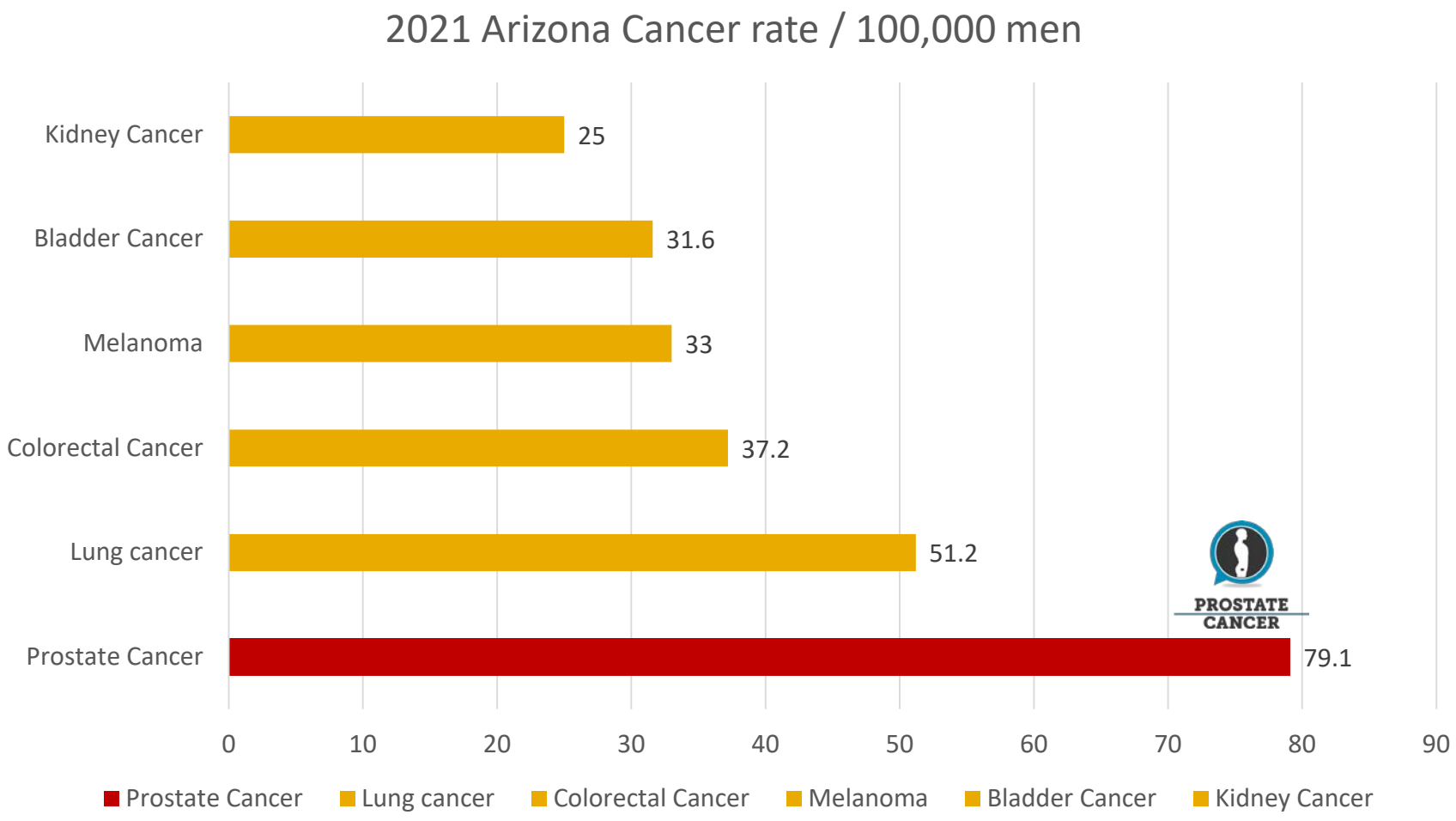
United States 2021 [American Cancer Society]

- Most common non-skin cancer in men
  - New cases: 248,530
- Second most common cause of cancer death
  - Deaths: 34,130
  - Accounts for 10.4% of male cancer deaths

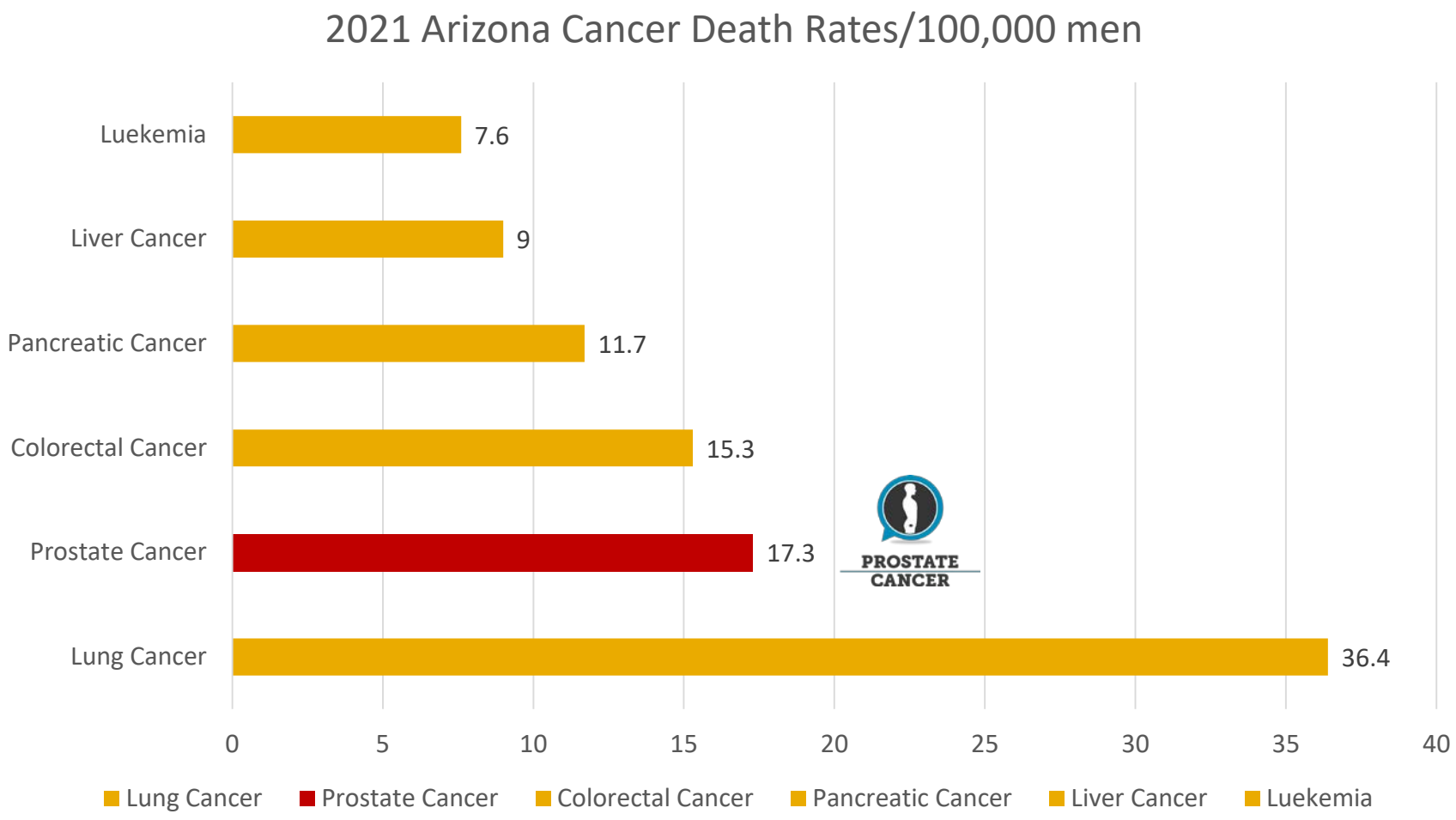


- Arizona 2021
  - **Estimated 2,864 men** will be diagnosed with prostate cancer
  - **Estimated 626 men** will die from prostate cancer

Arizona Cancer Incidence Rates in Men

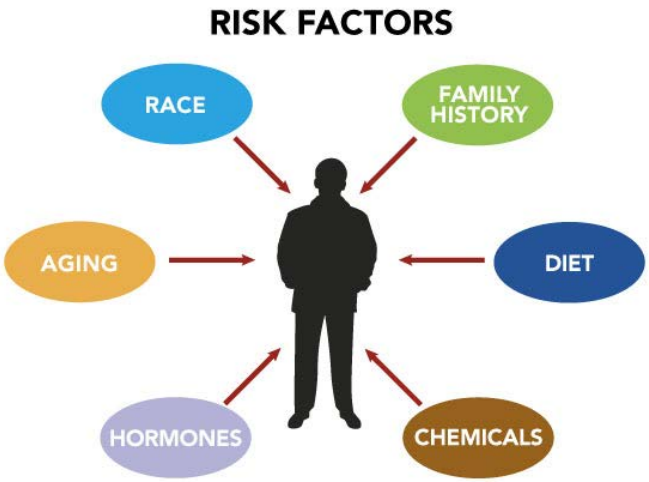


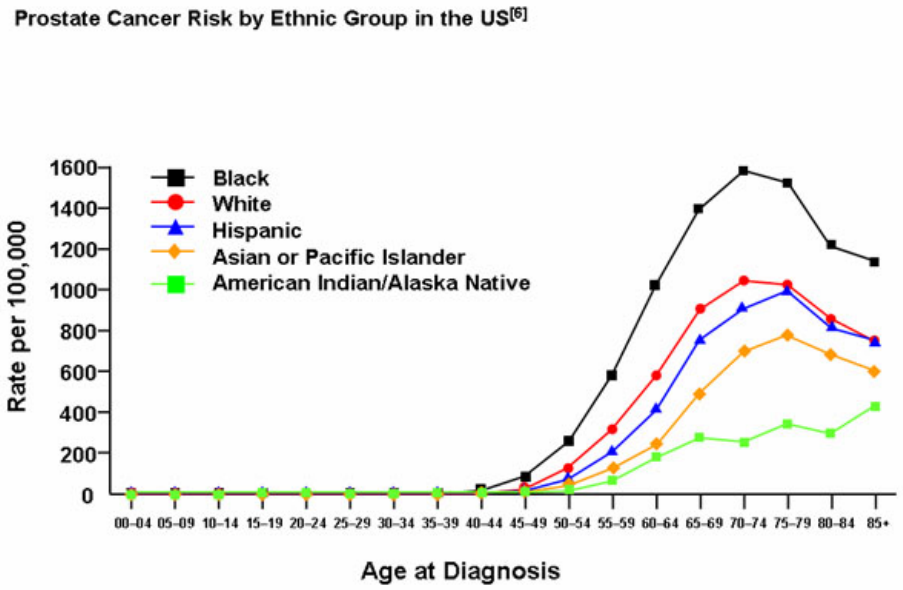
Arizona Cancer Death Rates in Men



Risk Factors

- Age
  - Uncommon before age 40
  - Exceedingly common by age 80
- Race
  - Higher in African American men
  - Low risk in Asian men
- Genetics
  - Men with a brother or father with prostate cancer doubles the risk
  - Breast/Ovarian cancer (BRCA ½)
  - Lynch Syndrome
- Diet
  - Higher risk with high red meat intake
  - Otherwise -- dietary risks largely unknown





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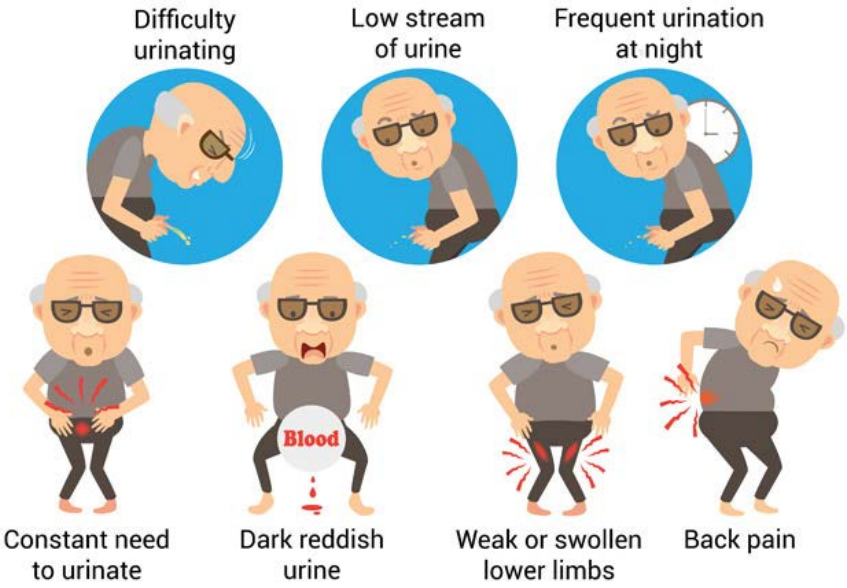
Symptoms

- Early prostate cancer
  - Usually has NO SYMPTOMS

- Advanced prostate cancer
  - Often has no symptoms
  - Can have symptoms
    - blood in urine
    - difficulty urinating
    - pain in the hips, back or chest from bony spread
    - weakness or numbness in legs/feet
    - loss of bowel/bladder control

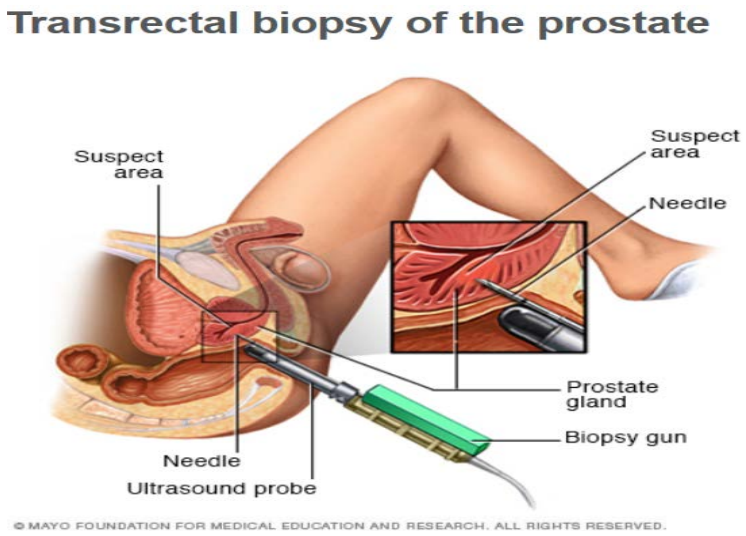


Early Diagnosis

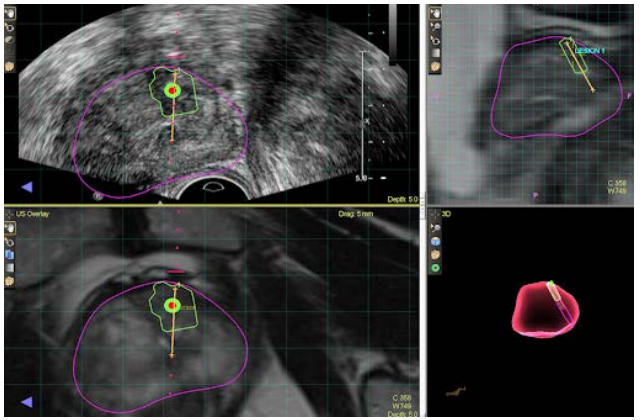
- PSA (prostate specific antigen)
  - PSA is an enzyme which is produced by the prostate and is elevated in prostate cancer and benign prostate conditions as well
  - Detected by a routine (non-fasting) blood test
- DRE (digital rectal exam)
  - To feel any hard cancer nodules in the prostate
- MRI?

Prostate Biopsy

- Performed to assess for prostate cancer
- Usually done for elevated PSA or abnormal rectal exam
- Can target lesions on MRI



- Done with ultrasound guidance through rectum
- 12 or more needles guided into prostate
- Can be done with MRI-fusion guidance



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Important Factors for Diagnosis

- 1. PSA
  - Higher PSA predicts more aggressive disease
- 2. Clinical Stage
  - How far has the cancer advanced?
  - Exam, MRI, Bone Scan
- 3. Grade
  - How aggressive do the cancer cells look?

PSA

- PSA <10: low risk
- PSA 10-20: intermediate risk
- PSA >20: high risk

Clinical Staging

Clinical Stages	DRE Findings
T1a, T1b	Normal DRE. Cancer in a TURP (roto-rooter or ream out surgery) specimen.
T1c	Normal DRE. Cancer found through the PSA test.
T2a	Palpable lump of prostate cancer inside the prostate involving one-half or less of one side (lobe) of the prostate.
T2b	Palpable prostate cancer involving more than one-half of one lobe of the prostate.
T2c	Palpable prostate cancer involving both prostate lobes.
T3	Palpable prostate cancer involving one or both lobes of the prostate and a lump outside the prostate where cancer has invaded through the capsule.
T4	Bladder and rectum involved.

- **Based largely on rectal exam and PSA**
- **If PSA is elevated and rectal exam is normal:**
  - **Stage T1C**
- **If rectal exam is abnormal: stage 2 or higher.**

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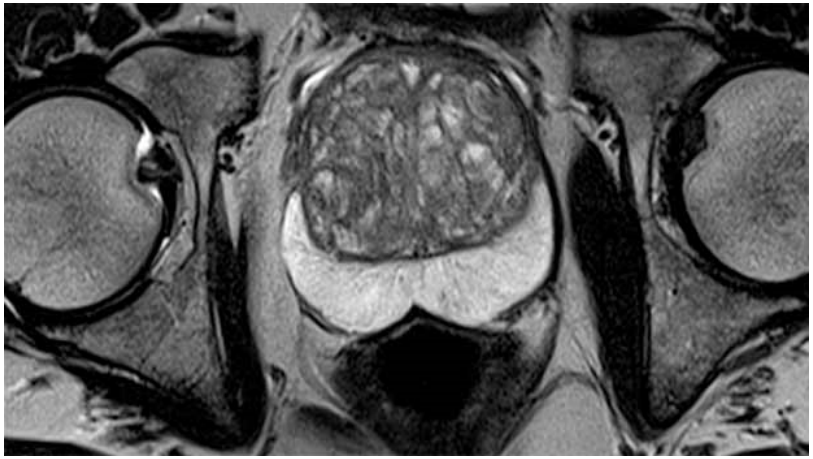
Prostate MRI

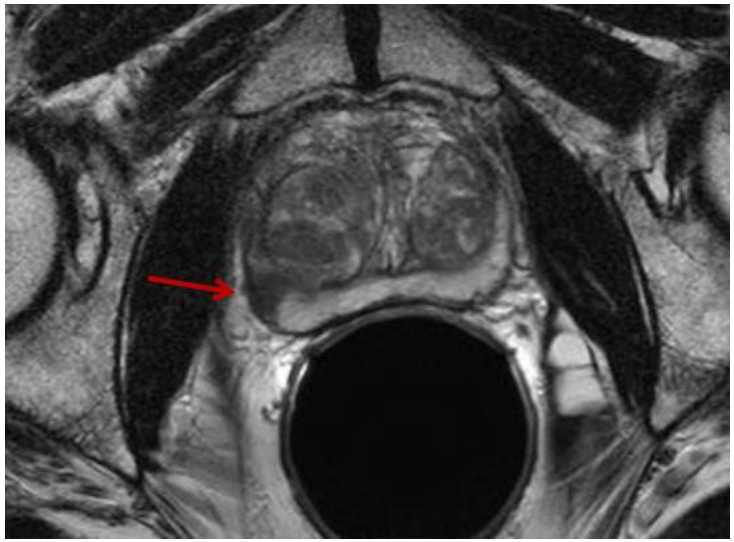
PI-RADS

PI-RADS 1 = Very low (clinically significant cancer highly unlikely)
PI-RADS 2 = Low (clinically significant cancer unlikely)
PI-RADS 3 = Intermediate (clinically significant cancer equivocal)
PI-RADS 4 = High (clinically significant cancer likely)
PI-RADS 5 = Very high (clinically significant cancer highly likely)



PIRADS Accuracy

PIRADS 3: 6-21% cancer
PIRADS 4: 50-60% cancer
PIRADS 5: 90% cancer



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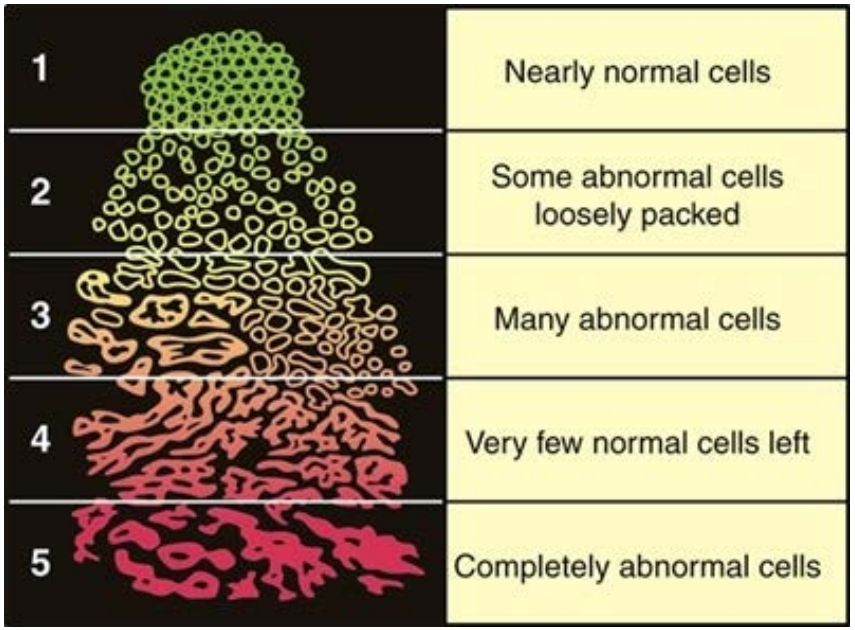
Grade: Gleason Score



- Determined from microscopic evaluation of prostate biopsy specimens
- Each biopsy specimen with cancer gets 2 scores
  - 1st score is most common cancer pattern
  - 2nd score is 2nd most common cancer pattern
- Gleason Sum is the sum of the 2 scores
  - Eg: 3+4 = 7 (intermediate risk)

Gleason Sum vs. Grade Group

TRADITIONAL GLEASON SCORE	NEW GRADING SYSTEM GROUP 1
GLEASON 3+3=6 Only individual discrete well-formed glands	GRADE 1
GLEASON 3+4=7 Predominantly well-formed glands with a lesser component of poorly-formed/fused/cribiform glands.	GRADE 2
GLEASON 4+3=7 Predominantly poorly-formed/ fused/cribriform glands with a lesser component of well-formed glands.	GRADE 3
GLEASON 4+4=8 Only poorly-formed/fused/cribriform glands or -Predominantly well-formed glands with a lesser component lacking or -Predominantly lacking glands with a lesser component of well-formed glands.	GRADE 4
GLEASON 9-10 Lacks gland formation (or with necrosis) with or without poorly-formed/fused/cribriform gland.	GRADE 5

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Risk Groups

TABLE 3: D'Amico et al risk stratification for clinically localized prostate cancer

Low risk	Diagnostic PSA < 10.0 ng/mL ***and*** highest biopsy Gleason score ≤ 6 ***and*** clinical stage T1c or T2a
Intermediate risk	Diagnostic PSA ≥ 10 but < 20 ng/mL ***or*** highest biopsy Gleason score = 7 ***or*** clinical stage T2b
High risk	Diagnostic PSA ≥ 20 ng/mL ***or*** highest biopsy Gleason score ≥ 8 ***or*** clinical stage T2c/T3

PSA = prostate-specific antigen

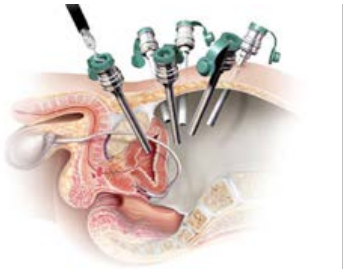
Prostate Cancer Treatment Options

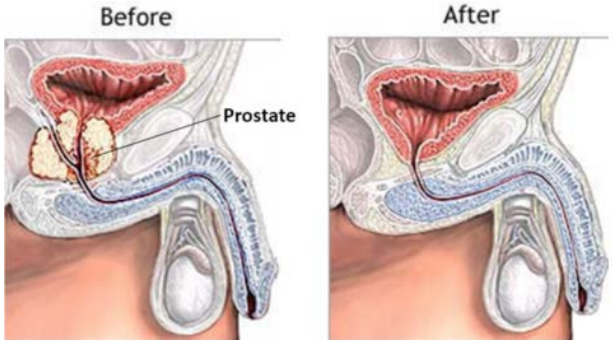
- Low Risk (Grade group 1)
  - Active Surveillance preferred
  - Surgery (Robotic surgery)
  - Radiation (Beam or seeds)
- Intermediate Risk
  - Surgery (robotic prostatectomy with lymph node dissection)
  - Radiation (Beam or seeds) +/- 4-6 months of androgen deprivation therapy
- High Risk
  - Surgery (robotic prostatectomy with lymph node dissection)
  - Radiation (Beam or seeds) + (1-3 years of androgen deprivation therapy or docetaxel chemotherapy)
- Metastatic
  - Hormonal therapy (1st line and 2nd line)
  - Cytotoxic chemotherapy
  - Immunotherapy

Prostate Cancer Treatment Options - **Surgery**

Robotic Surgery

- Remove entire prostate
  - Seminal vesicles
  - pelvic lymph nodes
- Suture the bladder and urethra together
- Foley catheter for 7-10 days





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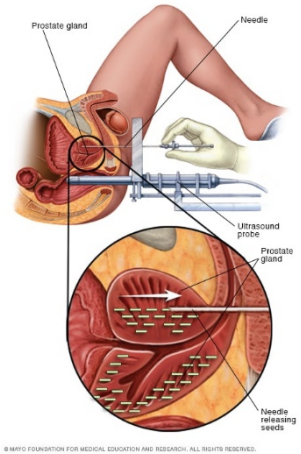
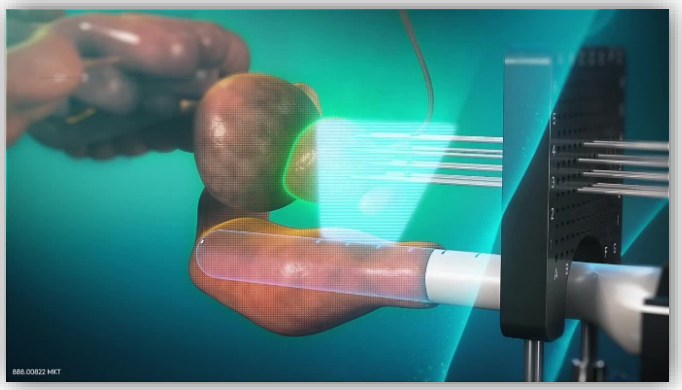
Prostate Cancer Treatment Options - **Radiation**

Deliver dose of radiation to the prostate

- External Beam
- Brachytherapy
- Stereotactic body radiation





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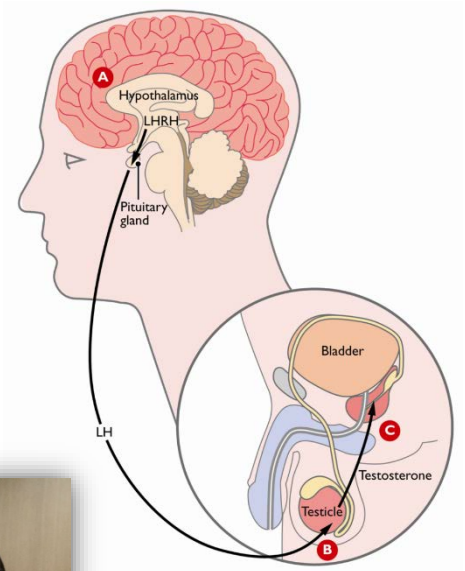
Prostate Cancer Treatment Options – **Systemic Treatments**

- Hormonal therapy
- Chemotherapy
- Immunotherapy



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Survival Rates

- SEER Database 2010-2016

SEER STAGE	5 Yr. Relative Survival Rate
Localized	Nearly 100%
Regional	Nearly 100%
Distant	30%
All SEER stages combined	98%

Source: https://www.cancer.org/cancer/prostate-cancer/detection-diagnosis-staging/survival-rates.html

AUA 2018 Screening Guidelines

- Age
  - Below 40: Do not screen
  - Ages 40-54: Screen with risk factors
    - Family Hx of prostate cancer, African American Ethnicity, Family hx of breast cancer, ovarian cancer, pancreatic cancer.
  - Age 55-69: shared decision-making
    - Most favorable age group to perform PSA screening
  - Age 70 and over: No screening preferred
    - Can consider in some men with excellent health and life expectancy > 10 yrs.

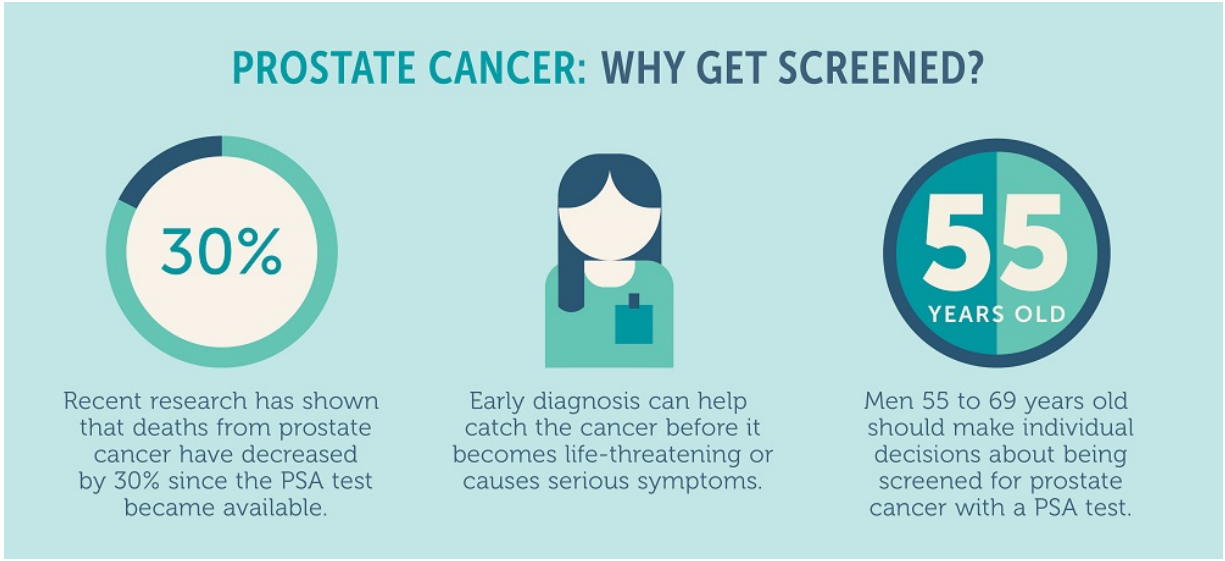
AUA Screening Guidelines

- How to screen?
  - PSA
  - DRE: “Although DRE has been considered a mainstay of screening together with PSA, the Panel could find no evidence to support the continued use of DRE as a first line screening test.
- How often to screen?
  - Interval of 2 years may be better than annual screening
- What PSA level?
  - Age group 55-69: PSA value of 3.0ng/ml or higher
  - Can increase threshold for men with suspicion of prostatitis, men with large prostates, older men.

Informed Decision-making

- Inform men that the decision to get prostate cancer screening is between them and their doctor.

- Encourage men to speak with their doctors to make an informed decision, and to get tested if they decide to.



Facts about PROSTATE CANCER

PROSTATE CANCER IS THE **2ND MOST COMMON** CANCER IN AMERICAN MEN

165,000

NEW CASES

OF PROSTATE CANCER WILL BE DIAGNOSED THIS YEAR

For more information about prostate cancer, visit the American Urological Association's website: **www.AUAnet.org**

American Urological Association

NEARLY

3 MILLION

MEN IN THE UNITED STATES ARE **PROSTATE CANCER SURVIVORS**

PROSTATE CANCER IS MOST TREATABLE WHEN CAUGHT EARLY.

IN ITS EARLY STAGES, PROSTATE CANCER OFTEN HAS **NO SYMPTOMS**

ALTHOUGH THE **PROSTATE-SPECIFIC ANTIGEN (PSA)** BLOOD TEST IS THE **MAIN SCREENING TEST** FOR PROSTATE CANCER, **PROSTATE CANCER CAN ONLY BE DIAGNOSED** THROUGH A **PROSTATE BIOPSY**

EARLY DETECTION IS KEY!

THE AUA RECOGNIZES THE CHOICE TO BE SCREENED FOR PROSTATE CANCER IS A PERSONAL ONE AND **MEN SHOULD TALK TO THEIR HEALTHCARE PROVIDER** ABOUT WHETHER PROSTATE CANCER TESTING IS RIGHT FOR THEM.

MEN WHO BENEFIT THE MOST FROM **ROUTINE SCREENING** ARE BETWEEN THE AGES OF

55 TO 69

ROUTINE SCREENING IS **NOT** RECOMMENDED IN MEN

UNDER THE AGE OF **40** OR

OVER THE AGE OF **70**

SOME MEN ARE AT **HIGHER RISK** FOR PROSTATE CANCER AND SHOULD TALK TO THEIR DOCTOR ABOUT PROSTATE CANCER SCREENING IF THEY ARE **AGE 40 TO 54** YEARS AND:

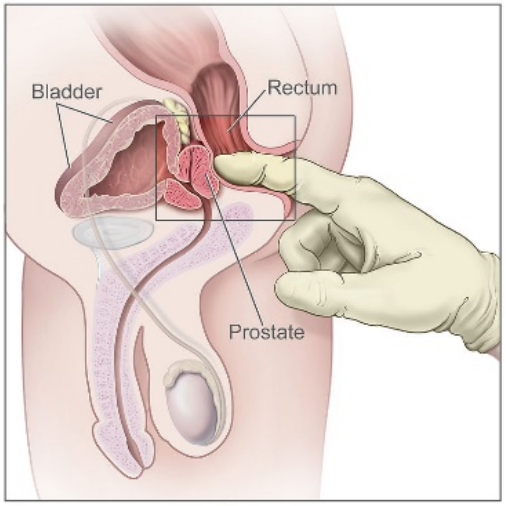
- **ARE AFRICAN-AMERICAN**
- **HAVE A FATHER, BROTHER OR SON WHO HAS HAD PROSTATE CANCER**

Prostate Cancer Prevention

- **You cannot change age, race, genes**
- **You can change diet, activity and lifestyle**
- Dietary changes
  - Low fat diet, reduced red meat, increased fruits and vegetables
  - Avoid obesity
  - Increase vitamin D
  - Green tea and soy products may lower PSA levels
  - Avoid charred meat
- Smoking cessation
- Drugs
  - 5AR inhibitors (finasteride and dutasteride)
  - Shown to decrease prostate cancer development by 25%
    - Possible risk of higher grade cancer

Key Takeaway Points

1. Prostate disorders are very common
2. BPH is non-cancerous, many treatments are available.
3. Good voiding habits can help prevent BPH
4. Early detection can help prevent prostate cancer death.
5. Discuss PSA screening with your doctor
6. Eat a healthier diet and stop smoking
7. With appropriate monitoring and treatment, prostate cancer survival is excellent



Thank You.

For more information about our services, call 602.699.3366 or visit dignityhealth.org/CancerInstituteAZ

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