

A Conversation on Men's Health

Andrew Y. Sun, MD
Urology – Men's Health

Biography

Andrew Y. Sun, M.D.



Education

- Fellowship in Male Reproductive Medicine and Surgery
University of California, Los Angeles, Los Angeles, CA
- Residency in Urology, Administrative Chief Resident
Cleveland Clinic, Cleveland, OH
- Medical Doctorate
Harvard University, Boston, MA

TREATMENT CENTERS

Texas Urology Specialists-Dallas Methodist

1411 N. Beckley Ave., Pavilion III,
Suite 464
Dallas, TX 75203
T: 214-948-3101

Texas Urology Specialists-Midlothian

979 Don Floyd Drive, Suite 104
Midlothian, TX 76065
T: 972-780-0480

Why “Men’s Health?”

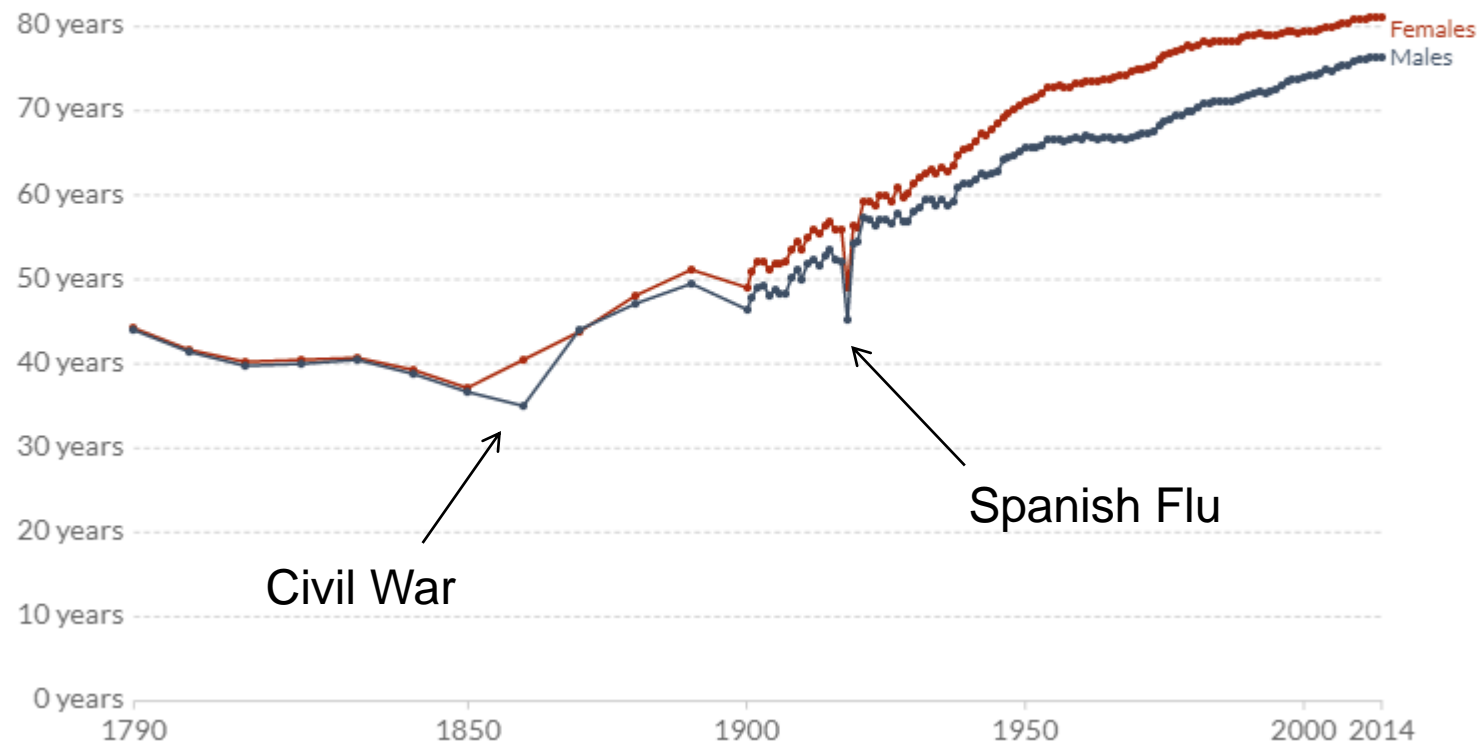
- Men die at higher rates from 9 of the top 10 causes of death
- Men are at higher risk of nearly all major preventable disease
- Male and Female life expectancy was roughly equal in 1920
 - Today, men live on average 6 years less
- And yet, Men are 80% less likely than women to seek medical care

Life expectancy at birth by sex, United States, 1790 to 2014

Estimates are based on period life tables.

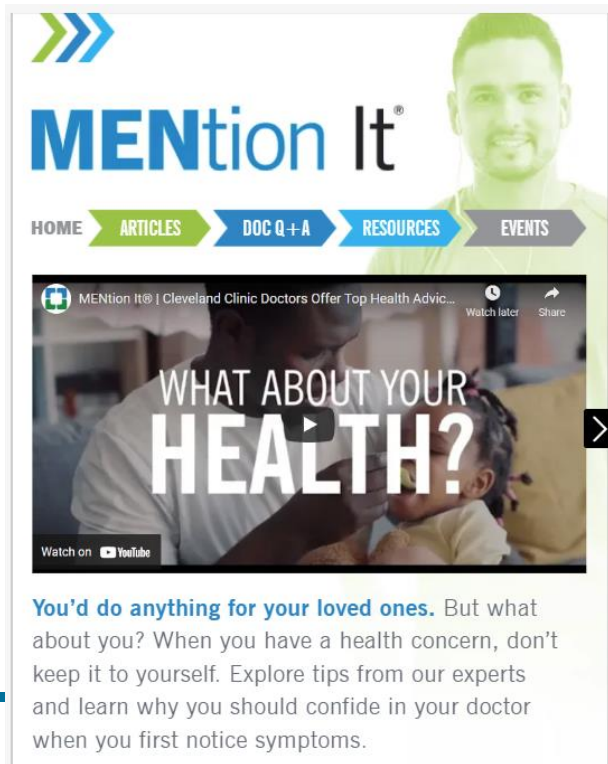
Our World
in Data

↔ Change country



Cleveland Clinic Survey: Men will do Almost Anything to Avoid Going to the Doctor

National MENTion It® campaign examines barriers that stop men from seeking care

A screenshot of the MENTion It website. The header features the MENTion It logo and a navigation bar with links: HOME, ARTICLES, DOC Q + A, RESOURCES, and EVENTS. Below the navigation bar is a video player with the title "MENTion It® | Cleveland Clinic Doctors Offer Top Health Advic..." and a play button. The video thumbnail shows a man and a young girl, with the text "WHAT ABOUT YOUR HEALTH?" overlaid. Below the video player, there is a paragraph of text: "You'd do anything for your loved ones. But what about you? When you have a health concern, don't keep it to yourself. Explore tips from our experts and learn why you should confide in your doctor when you first notice symptoms."/>

MENTion It®

HOME ARTICLES DOC Q + A RESOURCES EVENTS

MENTion It® | Cleveland Clinic Doctors Offer Top Health Advic... Watch later Share

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Watch on YouTube

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Men's Sexual Health

- Sexual health is important for men of all ages
- 90% of men want to talk about sex with their doctors
- Only 20% of doctors feel comfortable talking about it
- TABOO TOPIC – breakdown barriers

Men's Health Topics for Today

- Low Testosterone
- Erectile Dysfunction
- Peyronie's Disease (Curved Erection)
- Urinary Incontinence
- Prostate Cancer Survivorship



MEN'S UROLOGY TUNE-UP

Men's Urology? *It's the urinary tract and the male reproductive organs – the systems below the belt.*



GENERAL UPKEEP

WITH A CAR, KEEPING GAS IN THE TANK AND AIR IN THE TIRES IS A MUST. DID YOU KNOW THAT CERTAIN HEALTHY LIVING TIPS CAN MAKE AN IMPACT ON MALE UROLOGIC HEALTH?



DRINK WATER

Drinking 6 or more cups of water daily can prevent kidney stones

GET EXERCISE

Try for 30 minutes of moderate exercise, 5 days a week



REDUCE STRESS

Try to de-stress – Even 10 minutes a day can lower blood pressure which may help improve erectile dysfunction

EAT HEALTHY

Caffeine, alcohol and spicy foods can irritate the bladder; red meat and high-fat diets can increase the risk of kidney stones and cancer



DON'T SMOKE

There are seven urologic conditions impacted by smoking

1. Bladder cancer
2. Erectile dysfunction
3. Infertility
4. Kidney cancer
5. Kidney stones
6. Painful bladder syndrome
7. Urine leakage



WARNING SIGNS

WHEN THAT LIGHT APPEARS ON THE CAR DASH – THERE'S A PROBLEM. IT'S THE SAME WITH UROLOGIC HEALTH. THERE ARE SOME WARNING SIGNS THAT INDICATE IT'S TIME TO CALL THE DOCTOR.



PAIN BELOW THE BELT - Pain that doesn't go away in the pelvis, genitals, side, abdomen, back or when you urinate



ERECTION PROBLEMS - Getting or maintaining an erection



BLOOD IN URINE - Even a small amount of blood may be a sign that something is going on under the hood



Talk to your doctor about your personal maintenance plan, including your urologic health.



MAINTENANCE SCHEDULE

IT'S KNOWN THAT A CAR SHOULD HAVE SCHEDULED OIL CHANGES. MEN, HERE'S HOW TO KEEP YOUR UROLOGIC HEALTH IN CHECK.

YOUNG MEN 18-40	MIDDLE-AGED MEN 40-50	OLDER MEN 50-70+
BASIC CARE	WATCH YOUR GAUGES	INSPECTIONS
<ul style="list-style-type: none"> Perform routine testicular self-exams Find out if there is a family history of bladder, kidney or prostate cancer 	<ul style="list-style-type: none"> High blood pressure, blood sugar and cholesterol can cause kidney disease and erectile dysfunction Get screened for prostate cancer if you are African American or have a father, brother or son with prostate cancer 	<ul style="list-style-type: none"> Talk to your doctor about prostate screening Look for changes in bathroom breaks like urgency, frequency, decreased flow or frequent night time urination

Urology Care
FOUNDATION™
The Official Foundation of the American Urological Association

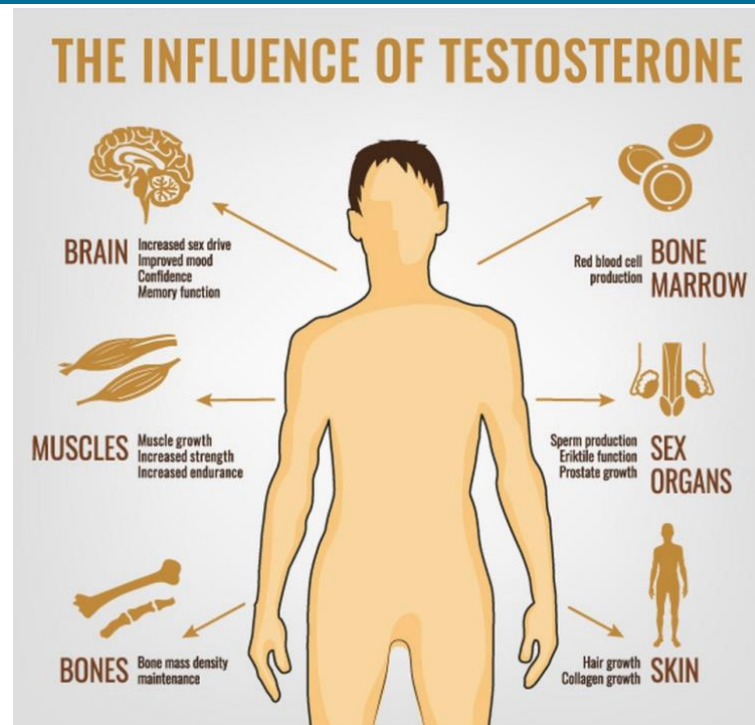
UrologyHealth.org

Patient resources provided through the generous support of: **endo**

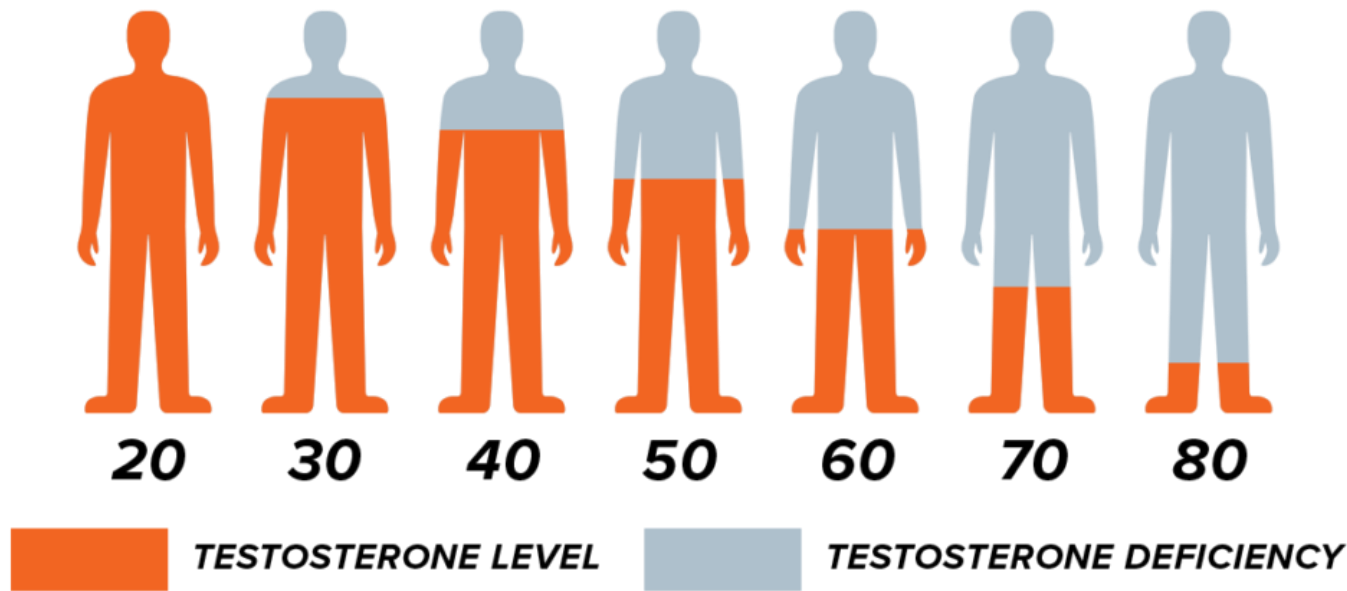
Low Testosterone

Testosterone

TESTOSTERONE
IS A HORMONE
PRODUCED BY MEN
AND WOMEN, BUT
IS MOST OFTEN
REFERRED TO AS THE
**'MALE SEX
HORMONE'**



Testosterone Levels Decline in Aging Men



TESTOSTERONE LEVELS
NATURALLY DECLINE ABOUT

↓ **1–3%**
PER YEAR
AFTER THE AGE OF **40**

“Andropause?”

MENOPAUSE & ANDROPAUSE



Risk Factors for Low T

- In a study of 2100 men over 45 the odds of having low T were:
 - 2.4x higher for obese men
 - 2.1x higher for men with diabetes
 - 1.8x higher for men with high blood pressure

Low T - Diagnosis

Normal

Age	Total Testosterone
19-24	700
25-34	658
35-44	617
45-54	606
55-64	562
65-74	524
75-84	471
85-100	376

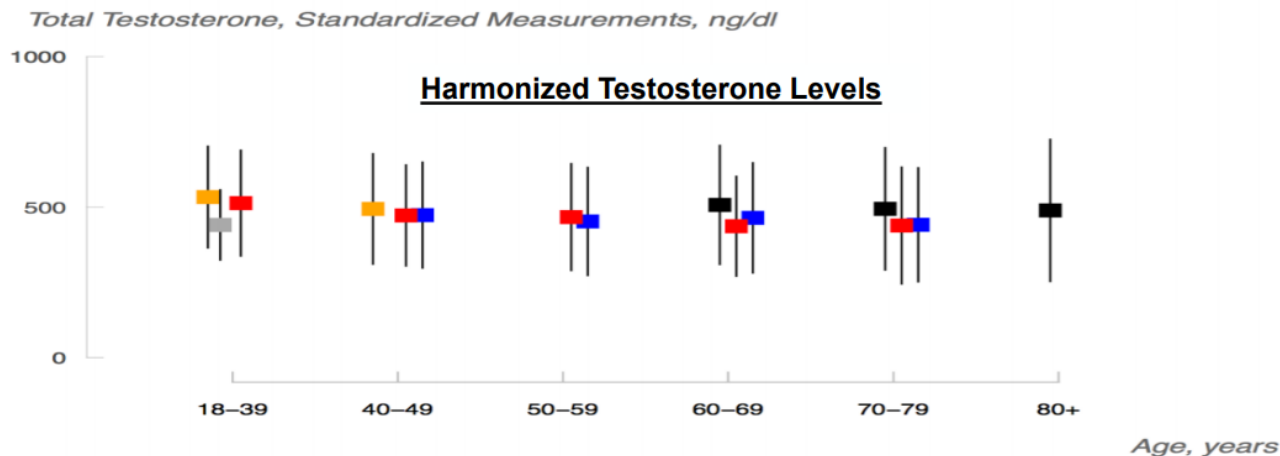
Total Testosterone Reference Range by Age

Low Testosterone

< 300

Harmonized Testosterone Reference Range

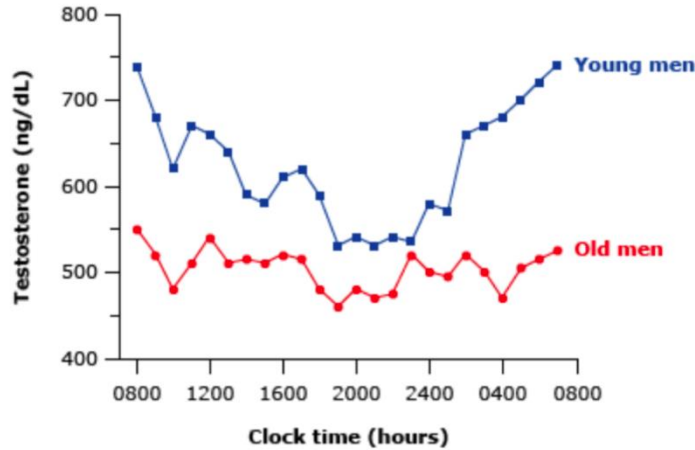
- T assays from four epidemiologic studies cross-calibrated by CDC
- 2.5th percentile = **264 ng/dL**, 97.5th percentile = **916 ng/dL**
- 5th percentile = **303 ng/dL**



Testosterone Measurement

The diagnosis of low testosterone should be made only after **two** total testosterone measurements are taken on separate occasions with both conducted in an early morning fashion.

(Strong Recommendation; Evidence Level: Grade A)



- Intra-individual variability 65-153%
- No need for NPO

Low T - Diagnosis

Low T Symptoms



Blood Test

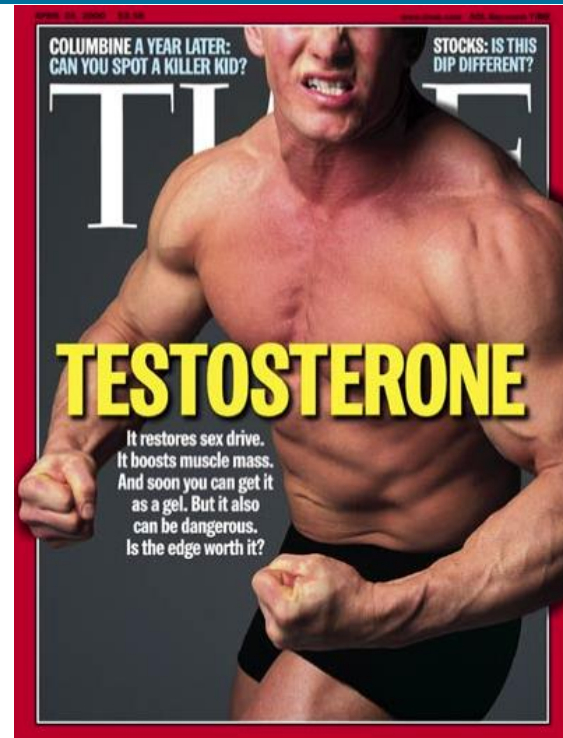


Testosterone

MEN'S CLINIC



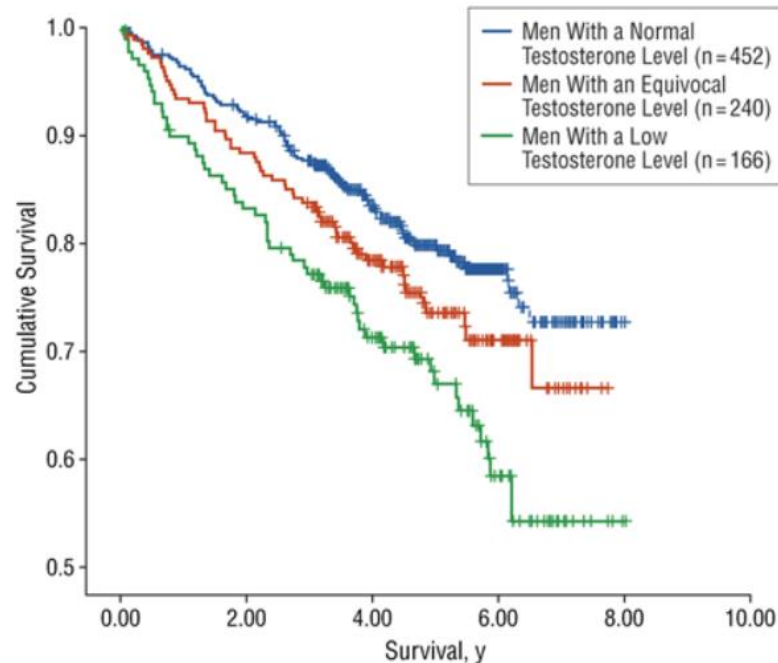
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Consequences of Low T

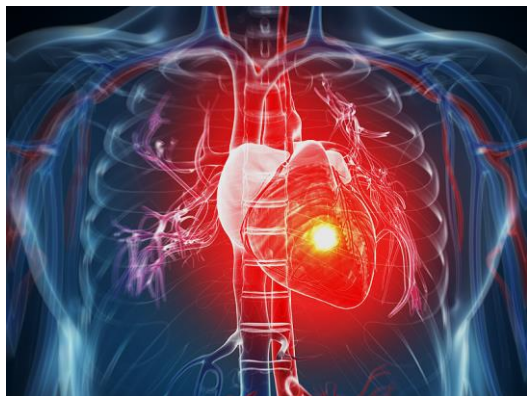
Low Serum Testosterone and Mortality in Male Veterans

Molly M. Shores, MD; Alvin M. Matsumoto, MD; Kevin L. Sloan, MD; Daniel R. Kivlahan, PhD



Consequences of Low T

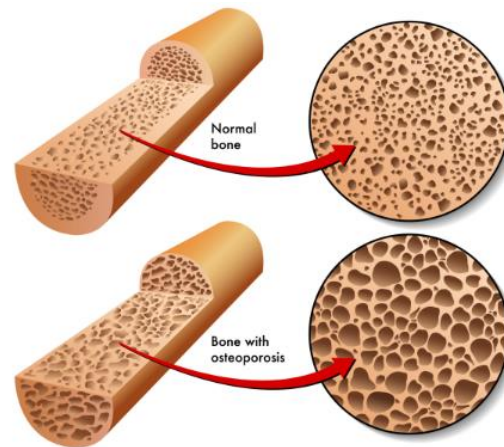
Heart Disease



Diabetes



Osteoporosis



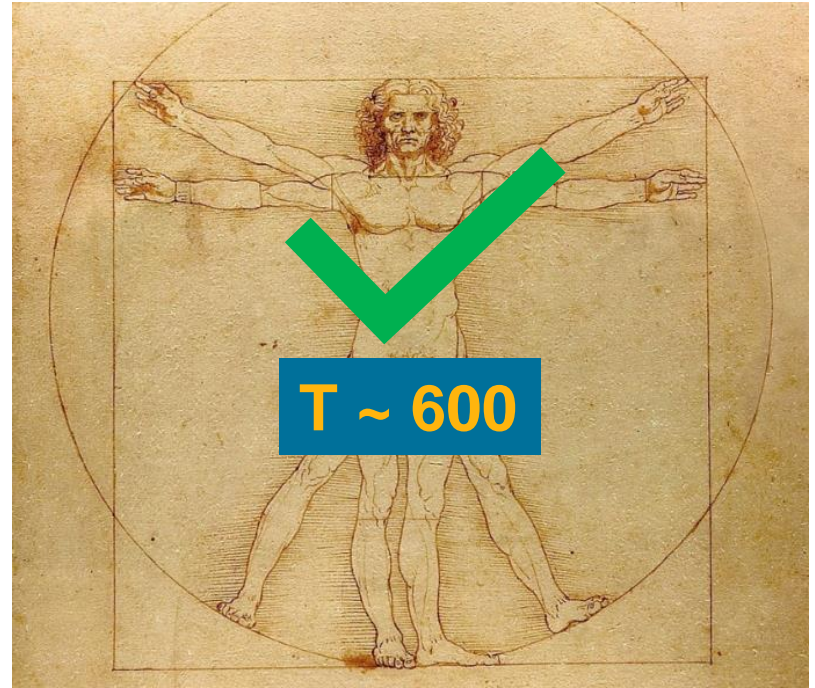
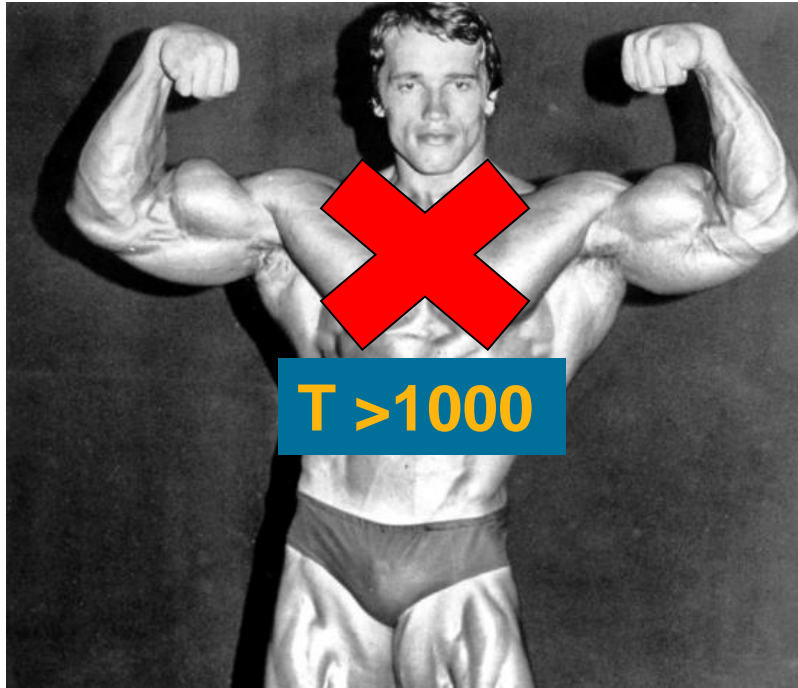
Goals of Treatment

Clinicians should adjust testosterone therapy dosing to achieve a total testosterone level in the middle tertile of the normal reference range.

(Conditional Recommendation; Evidence Level: Grade C)

- Middle tertile = 450-600 ng/dL
- In 31 randomized trials that demonstrated benefits to T therapy, median post-treatment T levels were 490-607 ng/dL.

Testosterone – a Man in Balance



Increase Testosterone Naturally

Weight Loss



- 10% weight loss = 85 ng/dL boost in T
- 15% weight loss = 230 ng/dL boost in T

Sleep Better



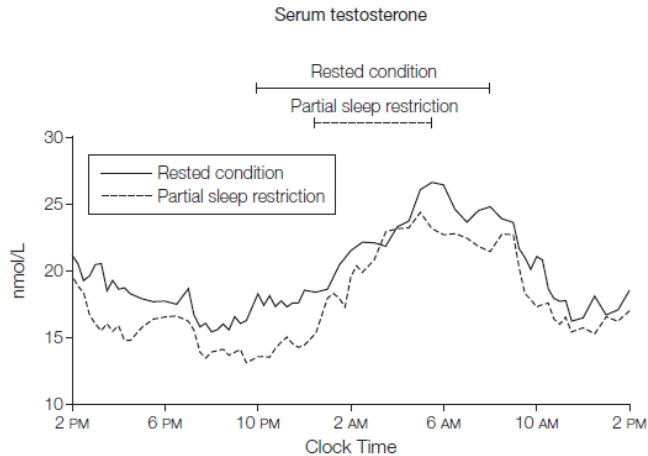
Treat Sleep Apnea = 95 ng/dL boost in T

Sleep and Low T

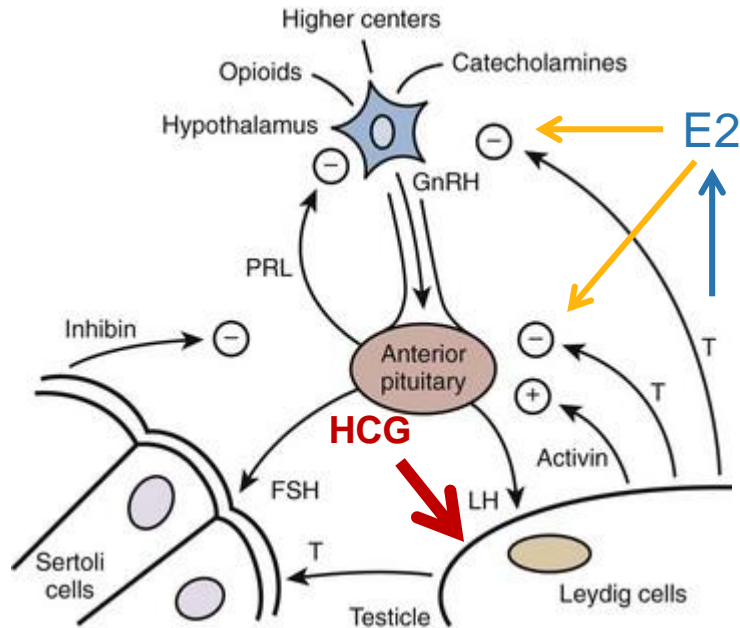
Effect of 1 Week of Sleep Restriction on Testosterone Levels in Young Healthy Men

Rachel Leproult, PhD; Eve Van Cauter, PhD

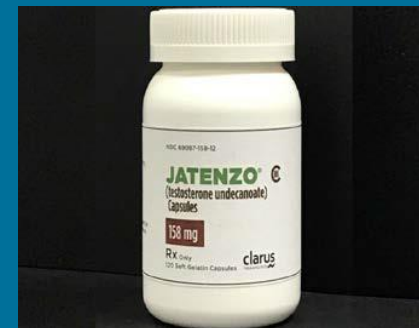
- Restriction of sleep for 1 week from 8 hrs to 5 hrs / night reduced T by 10-15%



Boosting your own Testosterone



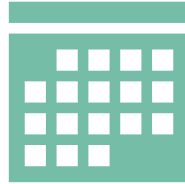
- Aromatase Inhibitors
 - Block Peripheral $T \rightarrow E2$
- SERMs (Clomid)
 - Block E2 negative feedback on Brain, therefore increasing LH + FSH
- HCG
 - LH analogue



With differing treatment times



Daily



Weekly



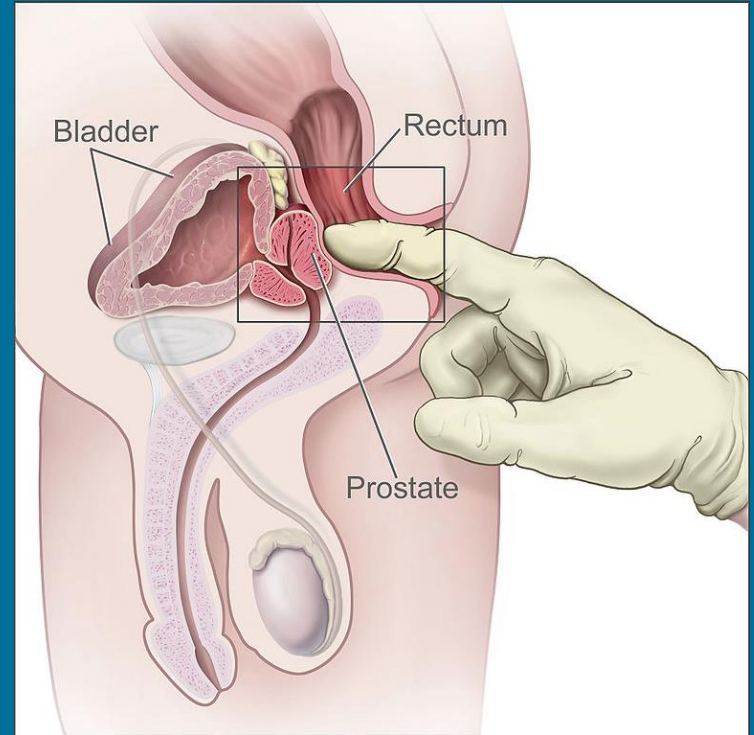
Quarterly

Xyosted

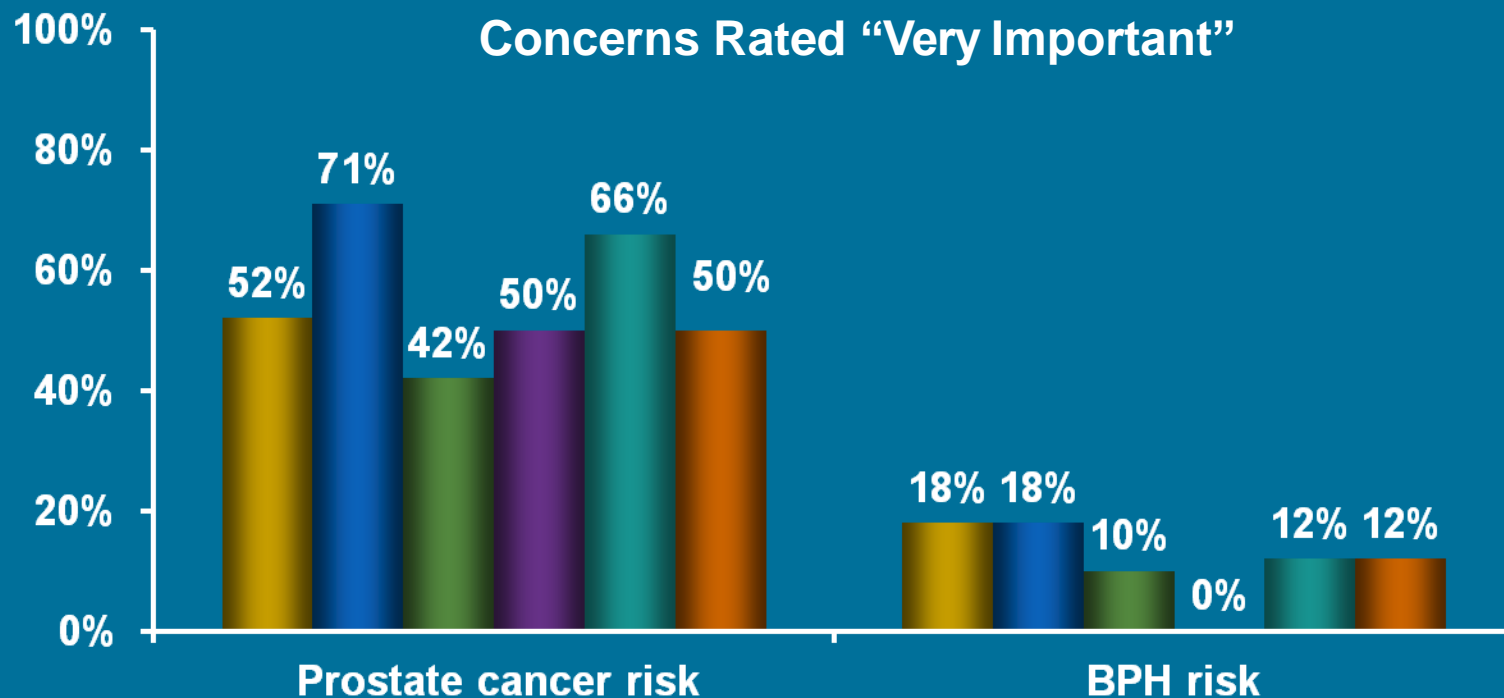


- Auto-injector, single-use, disposable
- 27-gauge needle
- Rapid (~10 s) subcutaneous injection of testosterone enanthate in sesame oil solution
- Doses vary depending on severity of deficiency

Testosterone and Prostate Cancer



Physician Concerns About Testosterone Therapy in 2006



Historical Basis for Concern

Studies on Prostatic Cancer

I. The Effect of Castration, of Estrogen and of Androgen Injection on Serum Phosphatases in Metastatic Carcinoma of the Prostate*

Charles Huggins, M.D., and Clarence V. Hodges, M.D.

(From the Department of Surgery, the University of Chicago, Chicago, Illinois)

(Received for publication March 22, 1941)

1. Reducing T to castrate levels caused prostate cancer regression
2. Administration of exogenous T caused prostate cancer growth
(1 Patient)

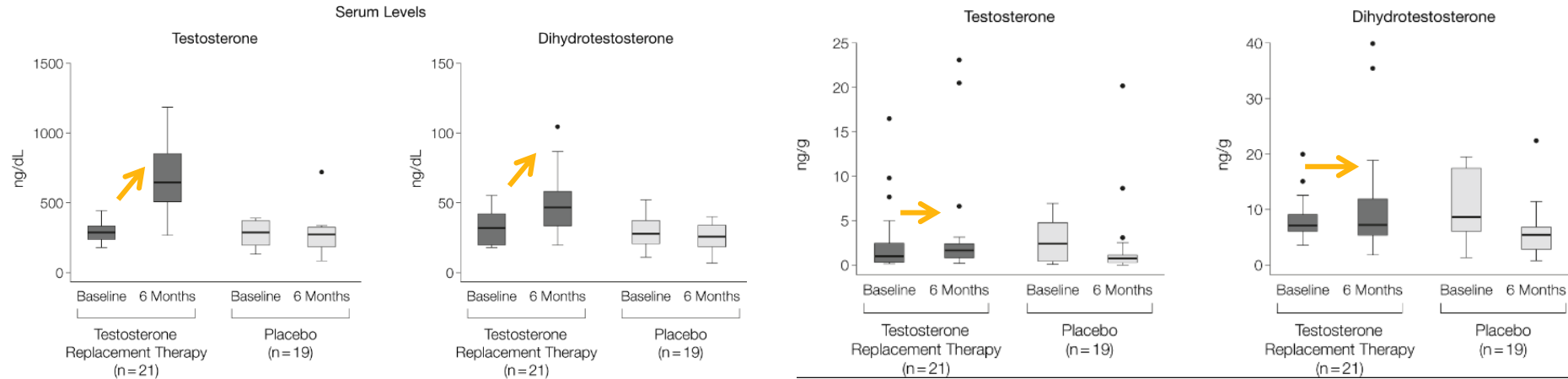
Effect of Testosterone Replacement Therapy on Prostate Tissue in Men With Late-Onset Hypogonadism

A Randomized Controlled Trial

- Randomized, Double-Blind, Placebo Controlled Trial of 44 men
- Inclusion Criteria
 - TT <300 ng/dL
 - Symptoms of hypogonadism
- Randomized to 150mg TE vs Placebo q2 wks for 6 months
- 12-core TRUS Biopsy at baseline and 6 mo
- Primary Outcomes – 6 month change in prostate androgen levels

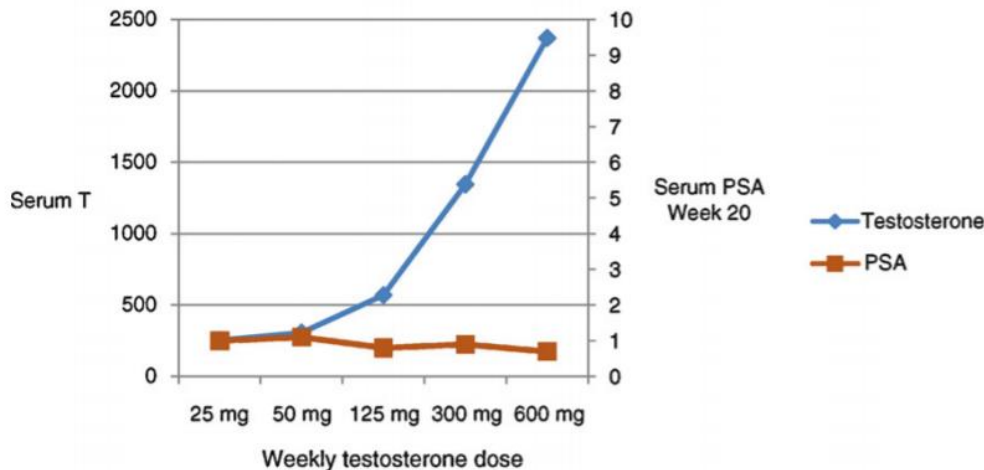
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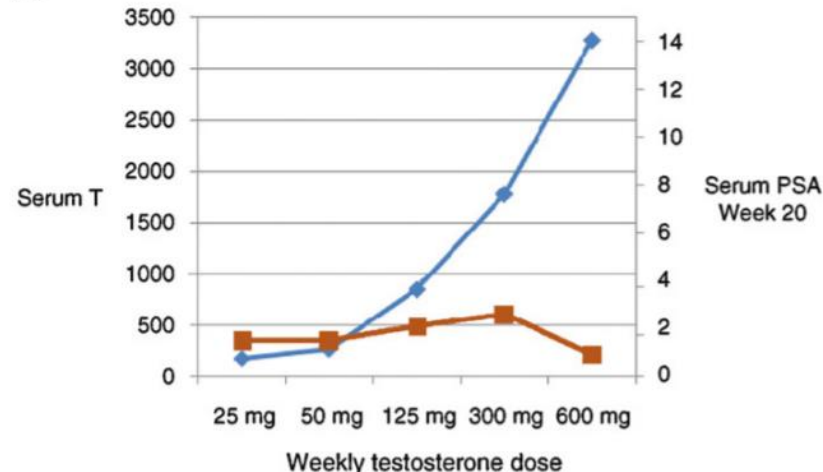


PSA at Supraphysiologic Levels of Testosterone

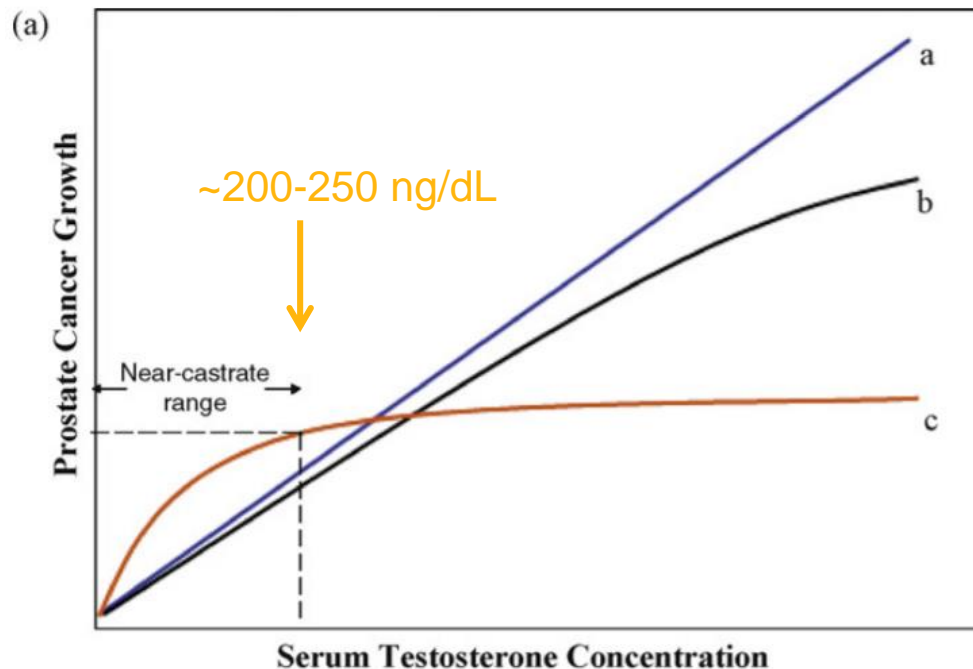
(a) Serum testosterone and PSA in young men



(b) Serum T and PSA in older men



Prostate Saturation Model



Changes in Prostate Specific Antigen in Hypogonadal Men After 12 Months of Testosterone Replacement Therapy: Support for the Prostate Saturation Theory

Mohit Khera, Rajib K. Bhattacharya, Gary Blick, Harvey Kushner, Dat Nguyen, and Martin M. Miner

- 451 hypogonadism men started on TRT for 12 months
- Divided into 2 groups
 - Testosterone <250 ng/dL
 - Testosterone >250 nd/dL
- Only in patients with Testosterone <250 ng/dL
 - PSA correlated with testosterone
 - Significant rise in PSA after 12 months of TRT (0.3 ng/dL)

TRT Existing Prostate Cancer

- Testosterone therapy **can be considered** in those men who have undergone radical prostatectomy (RP) with favorable pathology (e.g., negative margins, negative seminal vesicles, negative lymph nodes), and who have undetectable PSA postoperatively.
- Available studies are retrospective in nature but have suggested that post-RT patients (with or without ADT exposure) placed on testosterone therapy **do not experience recurrence** of prostate cancer.

Guidelines – Prostate Cancer

AUA 2018 Guidelines

Clinicians should inform patients of the **absence** of evidence linking testosterone therapy to the development of prostate cancer. **(Moderate Recommendation; Grade B)**

Patients with testosterone deficiency and a history of prostate cancer should be informed that there is inadequate evidence to quantify the risk-benefit ratio of testosterone therapy. **(Expert Opinion)**

Endocrine 2018 Guidelines

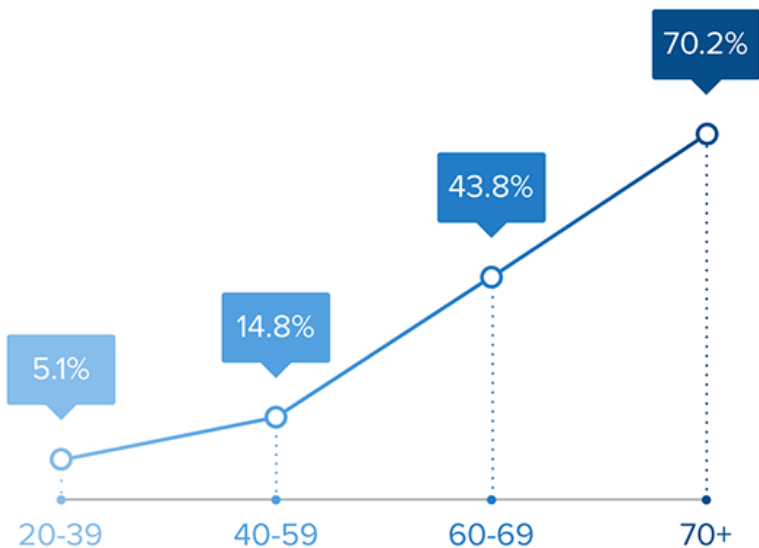
We recommend against testosterone therapy in men with... prostate cancer, a palpable prostate nodule or induration, PSA level > 4 ng/mL, PSA > 3 ng/mL in men at increased risk of prostate cancer without further urological evaluation...severe lower urinary tract symptoms, ... **(Low quality evidence)**

Erectile Dysfunction

Erectile Dysfunction (ED)



Erectile dysfunction prevalence by age



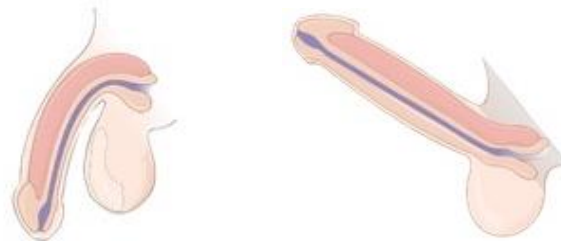
Erectile Physiology

- When aroused, the **nerves** in the penis are activated
- Muscles in the body of the penis relax, letting in more blood flow through the **arteries**
- The erection tightens the **veins**, so the blood can't leave the penis, sustaining the erection



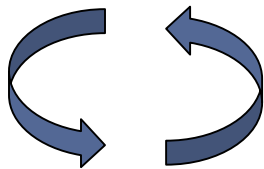
Flaccid

Erect



What is needed for normal erectile function?

- Healthy **Nerves**
- Open **Blood Vessels** (arteries, veins)
- Proper **Hormone** balance (Testosterone)



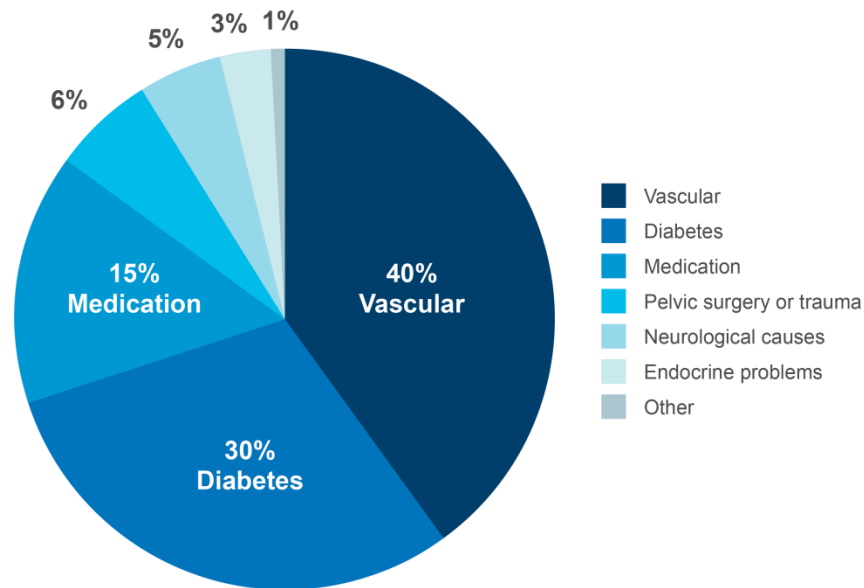
- The right state of mind (**Psychological** factors)

Causes and Comorbidities Associated with ED

**Correlates positively
with overall poor health**

Top Causes are:

- Vascular (HTN, HLD)
- Hormonal (Low T)
- Neurologic (Diabetes)
- Psychological
- Medication
- Post Procedural



ED & Heart disease



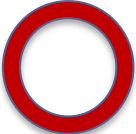
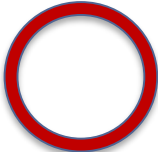


Symptoms of heart disease will develop within 2-3 years of ED

Within 3-5 years of ED, a cardiovascular event, such as a heart attack, will likely occur

- ED may be a warning sign of more serious issues
- ED can be an indicator of silent (non-symptomatic) coronary artery disease
- ED is an independent risk factor for future cardiovascular events
- ED precedes coronary artery disease symptoms in almost 70% of cases

ED often presents before symptoms of heart disease

Symptoms	Erectile dysfunction	Chest pain (stable or unstable) sudden heart attack	TIA stroke	Leg pain while walking
Artery Size (mm)				
	Penile Artery (1–2)	Main Artery Supplying Blood to the Heart (3– 4)	Internal Carotid Artery (5–7)	Femoral Artery (6–8)



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The Official Foundation of the American Urological Association

UrologyHealth.org

Patient resources provided through the generous support of: endo

WAYS TO KEEP YOUR PENIS HEALTHY



Maintain a healthy weight



Drink alcohol in moderation



Eat a healthy diet



Get a good night's sleep



Reduce stress



Exercise often



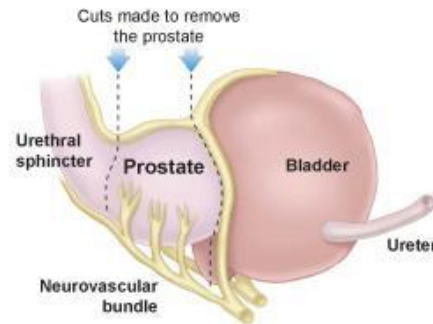
Quit smoking



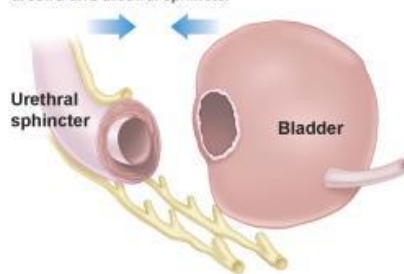
Stay sexually active

ED and Prostate Cancer Treatment

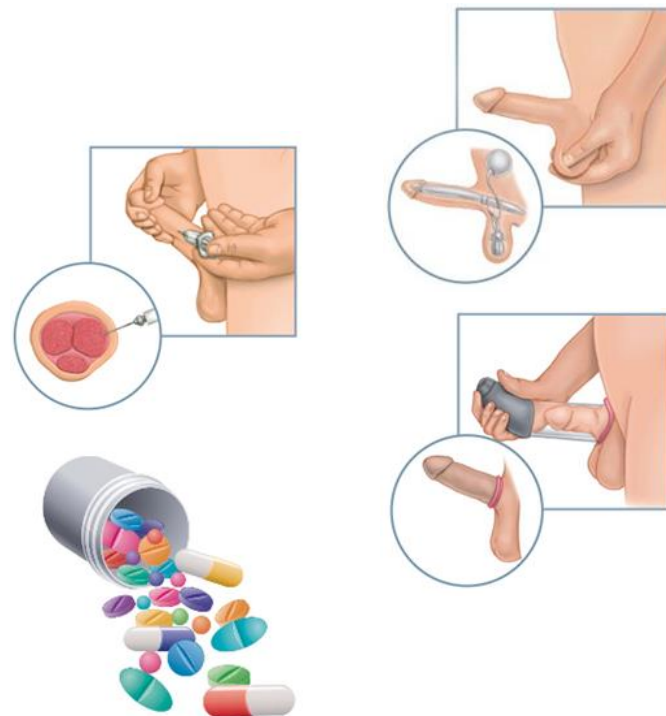
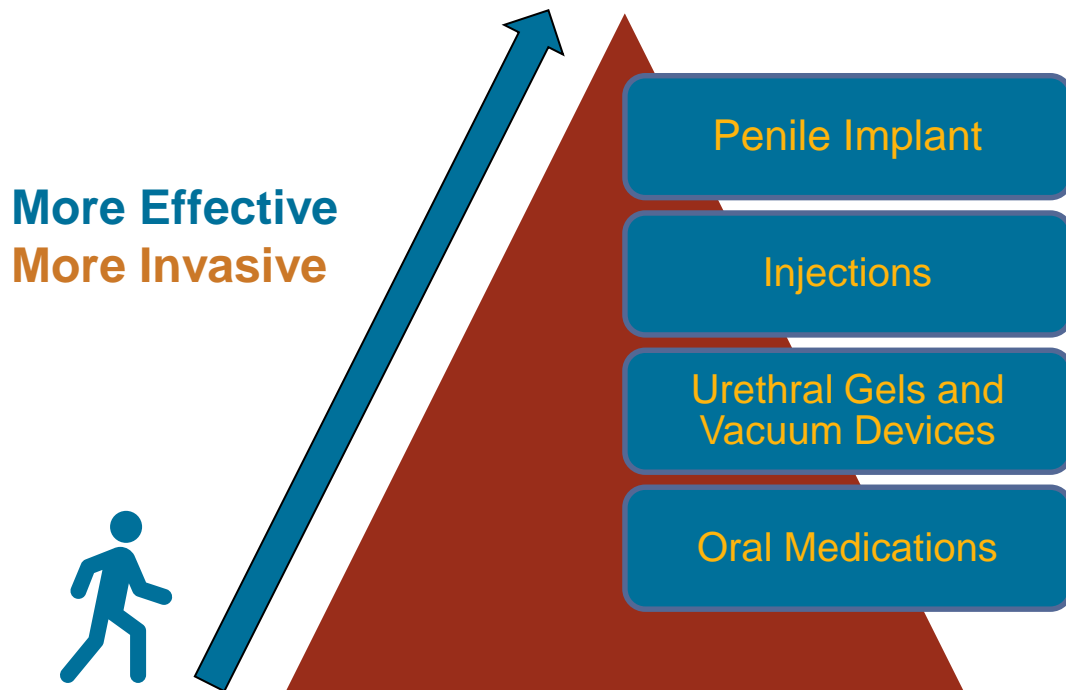
- ED from prostate cancer surgery - up to 50% 1 year
- ED after radiation therapy – also up to 50%



The surgeon rebuilds the urinary tract pulling the bladder down to bridge the space connecting the urethra and urethral sphincter



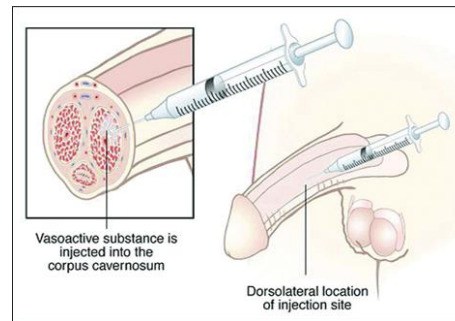
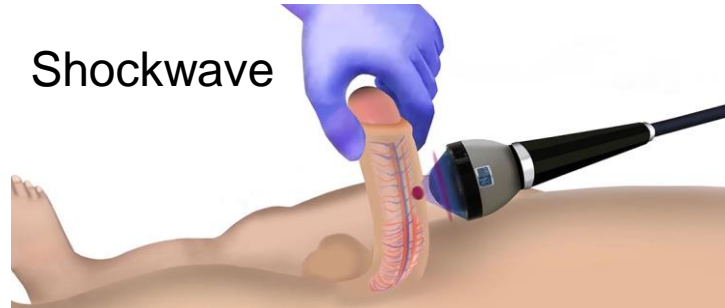
The ED Treatment Pyramid



Alternative & Experimental ED Treatments



Shockwave



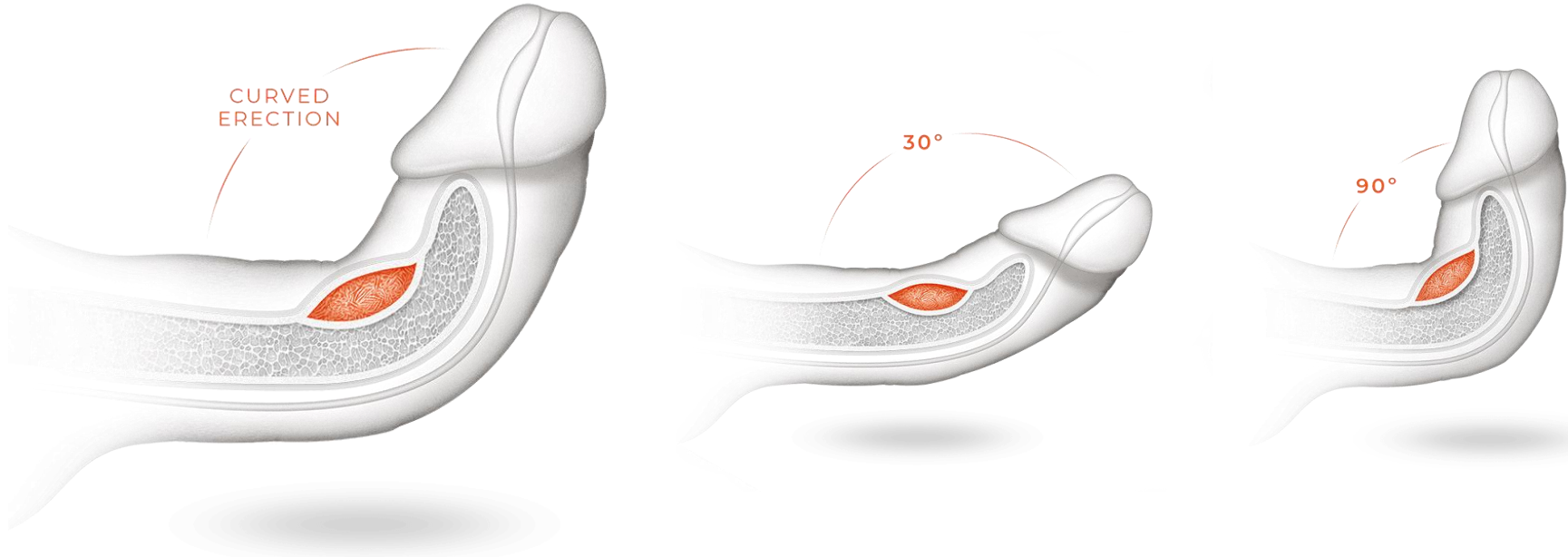
PRP

Peyronie's Disease

Peyronie's Disease



Peyronie's Disease - Penile Curvature



Peyronie's Disease

PEYRONIE'S DISEASE IS
THOUGHT TO IMPACT ABOUT



BETWEEN THE AGES OF
40 AND 70 YEARS OLD.



THE NUMBER OF
PEYRONIE'S CASES MAY BE
HIGHER THAN THE PREDICTIONS
BECAUSE MANY MEN MAY BE
TOO EMBARRASSED
TO SEEK HELP FROM THEIR
DOCTOR.

Peyronie's Disease – Treatment Options

Pills



Pokes



Procedures



Peyronie's Disease - Treatment

Pills



- No FDA Approved Therapy
- Cialis
- L-Citrulline
- Pentoxifylline
- Vitamin E
- Colchicine
- NSAIDs (Advil, Aleve, etc...)

10-15%

Peyronie's Disease - Treatment

Pokes



XIAFLEX[®]
collagenase clostridium histolyticum

- Only FDA Approved Therapy for Peyronie's
- Series of Injections into the Plaque
- Dissolves the Plaque over time

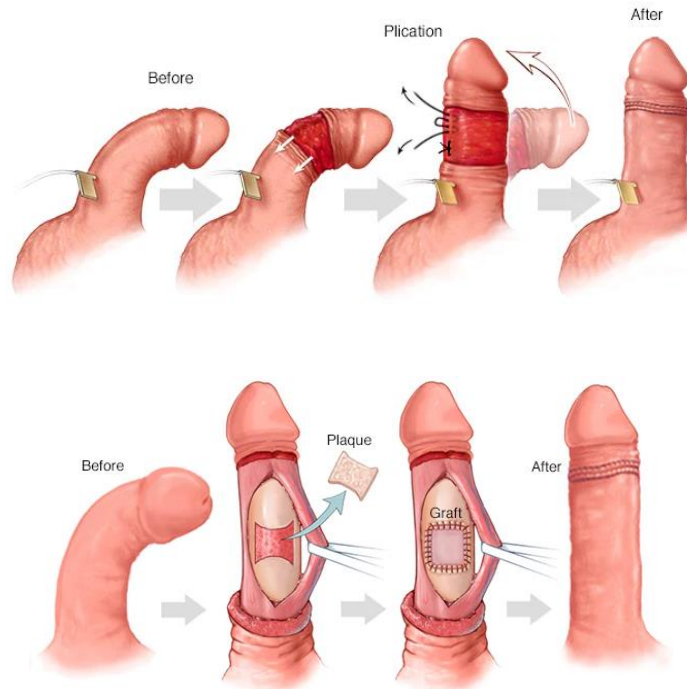
30-50%

Peyronie's Disease - Surgery

Plication Sutures

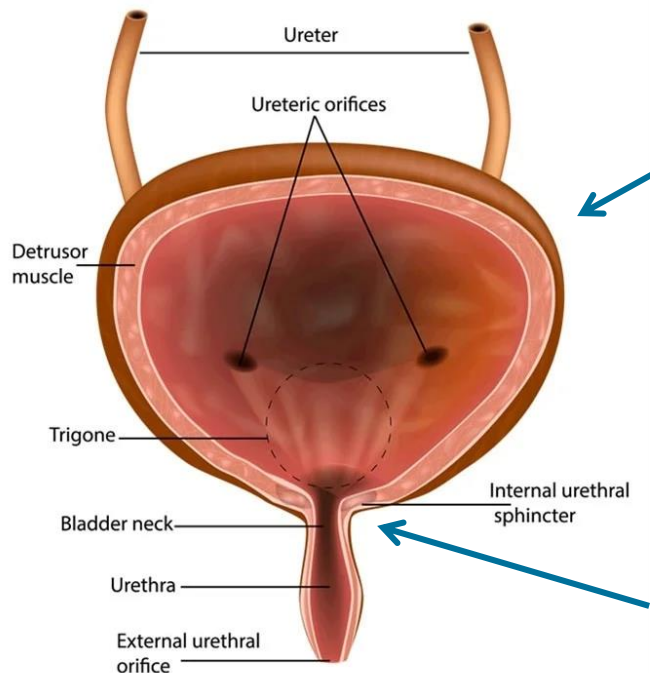
95%

Plaque Excision and Graft

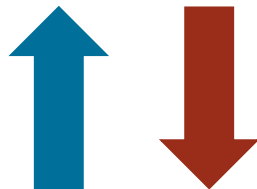


Urinary Incontinence

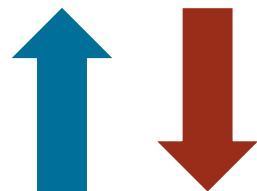
Urology is Simple Plumbing



Detrusor – “The Pump”

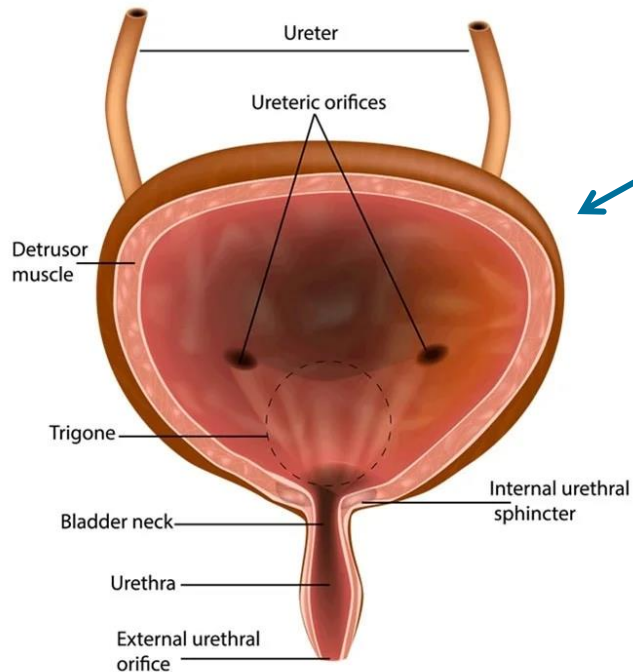


4 possible problems



Urethra – “The Outlet”

Urge Incontinence



Detrusor – “The Pump”
Overactive Bladder (OAB)

Causes

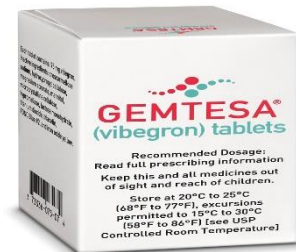
- Radiation Therapy

OAB Initial Treatment

Anticholinergic Medications

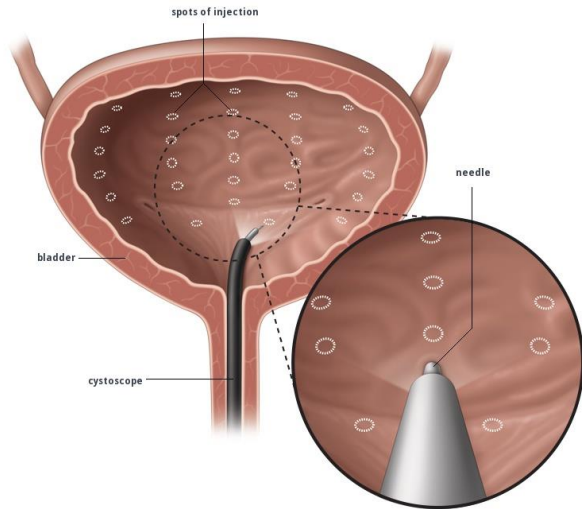


B-3 Agonist Medications

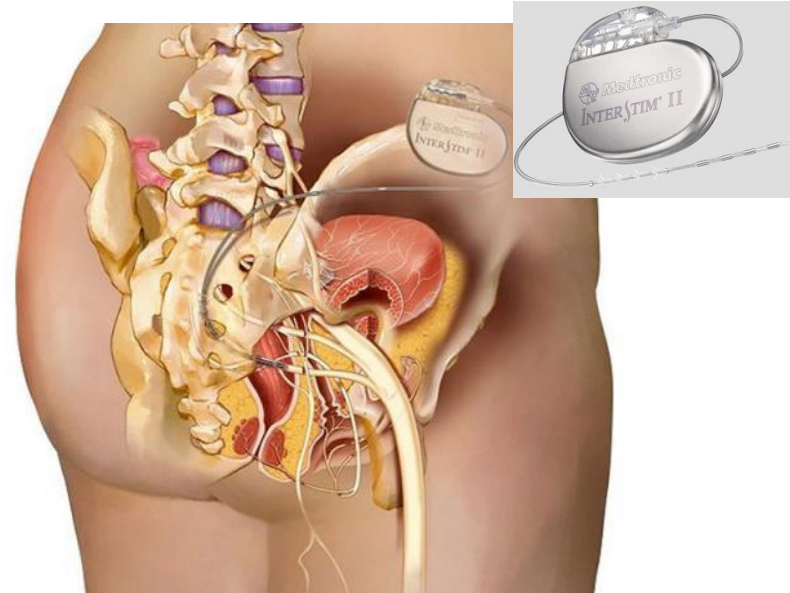


OAB Advanced Treatment

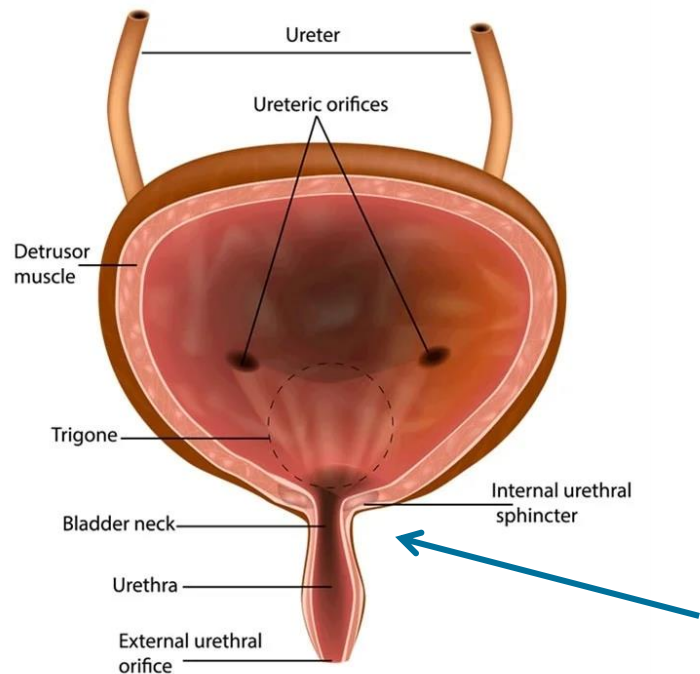
Bladder Botox



Interstim Device



Stress Incontinence



Stress Incontinence

Causes

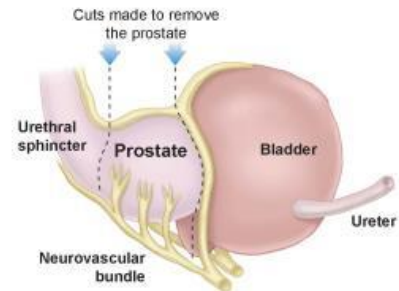
- Prostate Surgery

Urethra – “The Outlet”

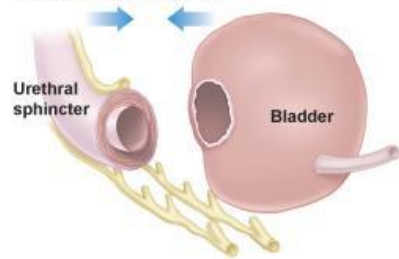


Incontinence after Prostate Cancer

- Up to 50% of men have leakage immediately following surgery
- Most resolve over time however
- 10-15% of men have persistent SUI one year after surgery
- 1-2% of men can have SUI after radiation



The surgeon rebuilds the urinary tract pulling the bladder down to bridge the space connecting the urethra and urethral sphincter



Incontinence after Prostatectomy

Behavioral modifications

- Reduced fluid intake
- Planned restroom breaks

Intervention

- Pelvic floor physical therapy
- **Kegel exercises**
- Biofeedback

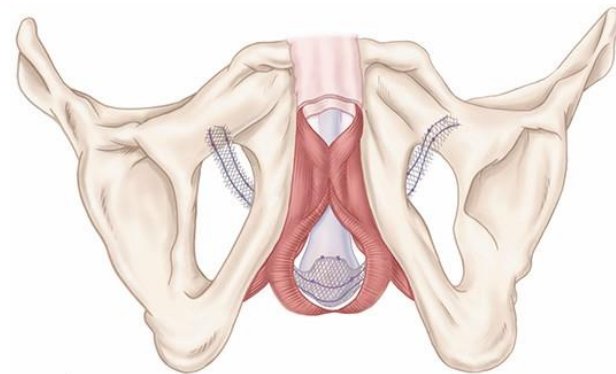
Coping

- **Pads**
- Diapers
- Catheters
- Penile clamps



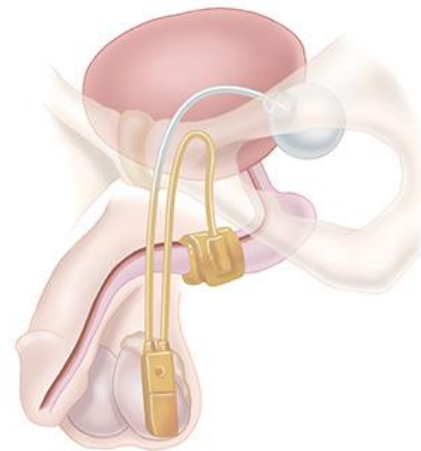
Treatment Options – Male Sling

- Supports and tightens up the urethra
- Most appropriate for mild to moderate SUI (1-3 pads per day)
- Minimally invasive, outpatient procedure
 - Heal time ~2-3 weeks
- Set it and forget it



Treatment Options – Artificial Sphincter

- Mimics a real sphincter
- Can treat all severities of SUI
- Offers maximal support
- Minimally invasive, outpatient procedure
 - Heal time ~4 weeks
- Activate on/off



Men's Health and Prostate Cancer Survivorship

Prostate Cancer – Treatment

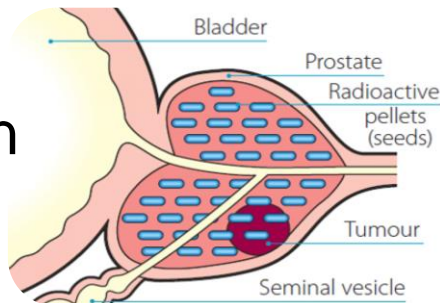


Surveillance



External Radiation

Radiation Seeds



Robotic Surgery

Andrology and Prostate Cancer

- **Optimizing Men's Health**
- Treat the disease (Prostate Cancer), then ensure that the side effects of treatment are not worse than the disease itself
- “Pre-habilitation” in addition to “re-habilitation”
- **Quality** of life is just as important as **Quantity** of life

Thank You!



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