The Prostate

Dr. John Bergman
Anatomy and Physiology

The Prostate
• An exocrine gland of the male reproductive system.
• About the size of a walnut
• Gland that secretes alkaline fluid.

• The Alkalinity helps to neutralize the acidity of the vaginal tract helping sperm to survive the journey to the ovum.
Skene’s Gland (Female Prostate)

- Gland that plays an important role in **sexual arousal and climax**
- Located on the anterior wall of the vagina
- Drain into the urethra (source of female ejaculate)
- Gland swells during sexual arousal
The Nervous System

• The nerves that supply the prostate originate from S2-S4
• They are parasympathetic fibers of the pelvic splanchnic nerves

• These nerves are involved in sexual arousal and climax
Fun Mnemonic:

S2-3- 4...
Keep the “Ding Dong” off the Floor
Autonomic Nervous system

PNS (Rest, Digest, Repair) = Cranial-sacral
Function:
• Stimulates immune system, repairs tissue
Increases:
• blood supply to gut, and all repair mechanisms

SNS (Fight or Flight) = Thoracic and lumbar
Function: Keeps you alive under stress, increases
Heart rate, blood pressure, blood sugar, LDL cholesterol, stress hormones
Decreases: blood supply to the gut, immune system function
Point and Shoot

Parasympathetic
  -Arousal

Sympathetic
  -Climax
The Nervous System

The Prostate contains **smooth muscle** to help expel semen during ejaculation

- These muscles are controlled by the Autonomic Nervous System.
The Nervous System and the Pelvic Floor

The Prostate is **sheathed** in the muscles of the pelvic floor which contract during the ejaculatory process

- Any **nerve compression** or interference involving the sacrum will cause dysfunction of the pelvic floor muscles
- A **sedentary lifestyle** is a huge factor in the weak pelvic floor muscles
Prostate Disorders

- Prostatitis
- Benign Prostatic Hyperplasia
- Cancer
Prostatitis

- Inflammation of the Prostate
- Classified as Acute, Chronic, Non-inflammatory, and Asymptomatic inflammatory
- Chronic: Accounts for 90-95% of all prostatitis
- Medical doctors suspect Bacteria as the main cause
- Affects 30-50% of Men
Benign Prostatic Hyperplasia (BPH)

• Non-cancerous Enlargement of the prostate
• Most Common “disorder” of the prostate gland
• Restricts flow of urine from the bladder

Common condition in older men (45-74)
• 50% of all men in their 50’s have BPH
• 60% of men over the age of 60 have BPH
• 80% of men in their 80’s have BPH
Prostate Cancer

• The most common form of cancer in men
• Prostate Cancer affects 1 in 6 American men
• The 6th leading cause of cancer death in males worldwide
• 99% of cases occur in those over the age of 50
• 46% of men in the U.S. (ages 50-59) have prostate cancer

• Can develop into a painful and fatal condition
• Can also develop slowly and never cause problems
• According to Most Medical Journals:
• The majority of prostate cancer will never progress to a clinically meaningful stage if left undiagnosed and untreated during a man’s lifetime
Symptoms for Prostate Problems

• Dysuria: problems with urination
• Frequent urination
• Nocturia (increased urination at night)
• Difficulty urinating
• Urgency
• Leaking
• Dribbling
• Weak urine stream
• Pain in the abdomen, groin, low back, scrotum, rectum, penis, testicles
• Painful orgasms
Prostate Exams: The PSA Test

• PSA stands for Prostate- specific antigen
• a protein produced by the prostate
• Used to screen for prostate cancer

The Theory

• Cancer cells produce more PSA
• so higher levels may indicate prostate cancer
Prostate Biopsy

• A biopsy is usually done when a blood test shows **high levels of PSA**
• Removes small samples of prostate tissue that are examined under a microscope

• A thin, hollow needle is inserted through the rectum, through the urethra, or through the area between the anus and scrotum (perineum)

• Trans-rectal is the most common

• Usually **6-12 samples** are taken

• Procedures last about **30 to 45 minutes**
Trans-rectal Prostate Biopsy

• A spring-loaded needle is attached to a probe which is inserted into the anus and the needle punctures through the rectum into the prostate.
Trans-urethral Prostate Biopsy

- A lighted scope (Cystoscope) is inserted into your urethra and a cutting loop is passed through the cystoscope to remove small pieces of prostate tissue.
Trans-Perineal Prostate Biopsy
The Controversy behind Prostate Screening

• **Annual cost** of PSA screening in the U.S. totals at least **$3 billion**
• PSA testing for prostate cancer screening is controversial because of the cost and uncertain long term benefits to patients.
• PSA tests have consistently shown **false positive and false negatives**
• results may lead to **overtreatment of low-risk cancers**

"I never dreamed that my discovery four decades ago would lead to such a profit-driven public health disaster."
“The test is hardly more effective than a coin toss.”

Dr. Richard J. Ablin, The Discoverer of PSA
The Controversy behind Prostate Screening

The American Urological Association

• “The controversy over prostate cancer should not surround the test, but rather how test results influence the decision to treat.”

• “A cancer cannot be treated if it is not detected. Testing empowers patients and their urologists with the information to make an informed decision.”
The Controversy behind Prostate Screening

The United States Preventive Services Task Force (USPSTF)

“Prostate-specific antigen-based screening results in small or no reduction in prostate cancer-specific mortality and is associated with harms related to subsequent evaluation and treatments, some of which may be unnecessary.”

• And Still Medical Doctors are Confused

The American Society of Clinical Oncology

“It is uncertain whether the benefits associated with PSA testing for prostate cancer screening are worth the harms associated with screening and subsequent unnecessary treatment”
Why The Confusion?

The American Cancer Society Recommend that men be informed of the risks and benefits of screening and they should talk about the benefits of testing with their doctor

“The American Cancer Society (ACS) does not support routine testing for prostate cancer at this time.”

Chief Medical Officer of the American Cancer Society, Dr. Otis Brawley

“The question is not as simple as: 'does prostate cancer screening work?' What we need to know is: what are benefits of prostate cancer screening and are they large enough to outweigh the harms associated with it?”

“We still cannot say whether the benefits outweigh the risk.”
No More Confusion

New England Journal of Medicine

- “Screening did not reduce the death rate in men 55 and over”
- “Most men with an elevated PSA level turn out not to have prostate cancer; only about 25 percent of men who have a prostate biopsy due to an elevated PSA level actually have prostate cancer”

The European Randomized Study of Screening for Prostate (ERSPC)

- Study involving 182,000 men ages 50-74
- After 9 years, they concluded that 1410 men would need to be screened and 48 additional cases of prostate cancer would need to be treated to prevent just one death from prostate cancer
No More Confusion

The Journal of the American Medical Association (2009)

• “After 20 years of screening for breast and prostate cancer, several observations can be made…”

• “Screening may be increasing the burden of low-risk cancer without significantly reducing the burden of more aggressively growing cancers and therefore Not resulting in the anticipated reduction in cancer mortality.”

• “To reduce morbidity and mortality from prostate cancer and breast cancer, new approaches for screening, early detection, and prevention for both disease should be considered.”
High-Grade Prostatic Intraepithelial Neoplasia

- “High-Grade” means you have an abnormal cellular pattern
- Many men have undergone unnecessary treatment for cancer because....

“These are now considered **benign or indolent lesions of epithelial origin** and should never have been, and should never be, termed ‘carcinomas’.”

National Cancer Institute (NCI) 2013
Statins Linked to Prostate Cancer

• One of the most widely prescribed drugs in the world

• **1 in 4 Americans** over the age of 45 is taking a Statin medication

• Statins act by blocking a crucial enzyme in your liver that’s responsible for making cholesterol

• This enzyme also makes **CoQ10** which is essential for mitochondrial health

• There are **Over 900** studies proving the adverse effects of Statins
Statins Linked to Prostate Cancer

Journal of the American Medical Association, 1996
- Connection between statin drugs and development of various cancers
  “Longer-term clinical trials and careful post-marketing surveillance during the next several decades are needed to determine whether cholesterol-lowering drugs cause cancer in humans.”
  “In the meantime, the results of experiments in animals and humans suggest that lipid-lowering drug treatment, especially with the fibrates and statins, should be avoided.”

American Academy of Cardiology, Published in JAMA (2009)
“There is currently No evidence that ezetimibe (a statin medication), which reduces levels of low-density lipoprotein cholesterol, improves clinical outcomes such as myocardial infarction or death.”
Cholesterol: The Vital Building Material for Hormones

Cholesterol > pregnenolone > 17 hydropregnenolone > DHEA > Androstenidione > Testosterone
Testosterone

- Hormones are used for communication between organs and tissues
- The Hypothalamus controls all hormone secretions

Testosterone is responsible for:

- Regulation of the prostate
- Development of reproductive tissues
- Sperm development
- Regulation of cognitive and physical energy
- Regulation Thromboxane A2: Tissue Healing
- Bone Health and Strength
- Maintains Cardiovascular Health
Low Testosterone Levels Associated with

- Diabetes and obesity
- Cardiovascular disease
- Alzheimer’s disease and dementia
- Stroke and heart attacks
- Depression
- Sleep Disorders including Insomnia
- Reduced sex drive and Infertility
- Erectile Dysfunction
“Normal” or above average Testosterone levels are associated with:

- Increased mental and physical energy
- Increased sexual vitality
- Improved Immune system function
- Lower blood pressure
- Decrease risk of heart attack
- Decrease risk of obesity
- Increased lean body mass
- Decreased risk of diabetes
- Increased muscle and bone mass
- Decreased risk of dementia and Alzheimer’s

(Journal of Neurology and JAMA)
Testosterone Replacement Therapy (Steroids)

FDA Warning for Testosterone Products (2015):

“Neither the benefits nor the safety of testosterone have been established for low testosterone levels due to aging.”

-The FDA has required that testosterone pharmaceutical labels include warning information about the possibility of an increased risk of heart attacks and stroke.

Excessive Testosterone associated with

- 30% increased risk of death and heart attack

(National Institute of Aging)
The True Cause of Prostate Problems

• Nervous System disorder
• Immune System disorder
• Injury to prostate
• Pelvic Trauma
• Dehydration
• Stress
The Natural Solutions for a Healthy Prostate

- Stimulate the **Nervous System**
  - Moist heat on the perineum
- Exercise Regularly
- Strengthen the **Immune System**
  - Soak in a warm bath
- Hydrate properly
- Healthy Sex Life
- Prostate Massage
- Natural Anti-inflammatories
  - Improve bowel movements
  - Limit or avoid alcohol or caffeine
  - Avoid prolonged **Sitting**
  - Increase vitamins and minerals
  - Deep REM **Sleep**
Vitamin D

- Men with prostate cancer are **7 times less** likely to die if they have high levels of vitamin D

  British Journal of Cancer

Vitamin K2

- Vitamin K2 may reduce your risk of prostate cancer by **35%**

  American Journal of Clinical Nutrition

“**Results suggest that general dietary modification has a beneficial effect on the prevention of prostate cancer.**”

  Journal of Human Nutrition and Dietetics
The Healthy Prostate Diet

- Eliminate Sugar, especially processed sugar
- Reduce environmental toxins and sources of heavy metals
- Detox your Body
- Eliminate all processed/package non-organic foods
- Animal based Omega 3’s (Krill or fish oil)
  - Selenium (400mcg per day)
  - Vitamin E (400 units per day)- Only natural, no synthetic
- Fresh vegetables or veggie juice daily
- Broccoli and broccoli sprouts: help control excess estrogens
- Walnuts: can reduce prostate cancer growth by 30-40%
The 5 Keys to Health and Healing

- Proper nerve supply
- Regular Exercise
- Proper Nutrition
- Sufficient Rest
- Prayer and Meditation
Mental and Emotional Stress

The CDC states:

“85% of all disease is caused by emotions”

And

“Up to 90% of the doctor visits in the USA may be triggered by a stress-related illness.”
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