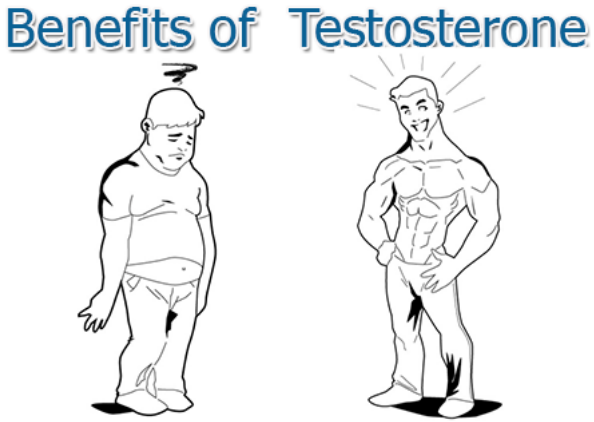
Male Hormone Issues

The Ideal Male

- What describes a healthy male?
- Happy guy, well-muscled, good sex drive, focused brain
- This is what a guy can expect with the right level of testosterone
- Low testosterone?
- Flabby, weak, moody, unmotivated

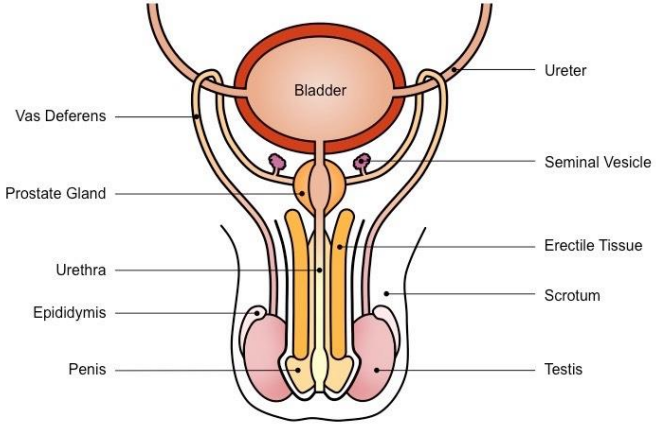


Men

- The question is why do men age as they do
- It is not simple neglect as many may believe
- Or lack of good food
- Or lack of exercise
- Those may be factors but do not explain what is really happening

Male Reproductive System

- The purpose is to produce sperm which carries the male reproductive cells and protective fluid
- The system must also maintain and transport sperm
- Males must be able to discharge sperm within the female reproductive tract
- The system must produce and secrete male sex hormones in order to maintain the male reproductive system
- Pretty straight forward, right?



Basic Parts

Penis: Responsible for ejecting semen and urine. Urine flow is blocked from the urethra in the penis during intercourse so that only semen (with sperm) is ejected

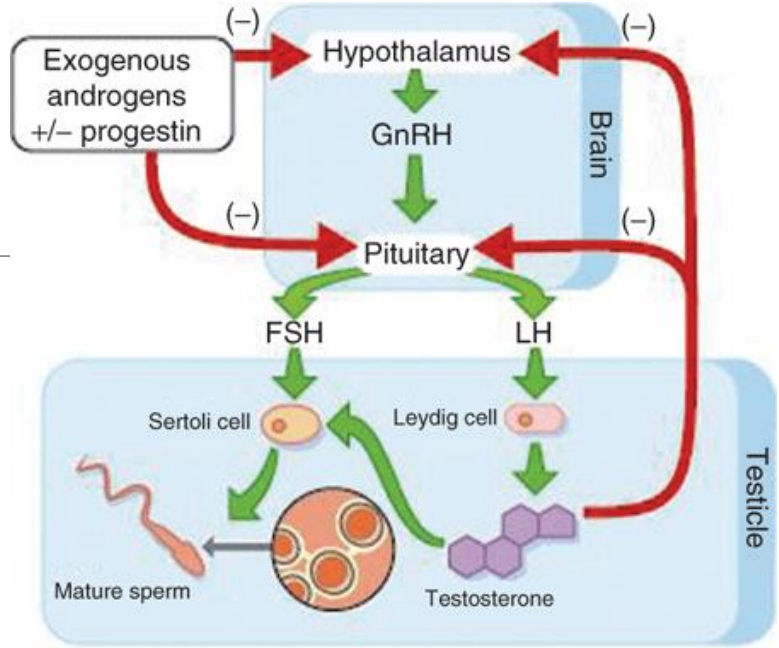
Scrotum: Pouch-like sac that contains the testes (testicles) – its job is to keep the testes at a temperature slightly cooler than body temperature for normal sperm production

Special muscles in the wall of the scrotum allow it to move closer to the body for warmth or further away to cool as needed

Parts

Testes: Are responsible for making testosterone and producing sperm

Epididymis: Tubes that run along side the testes and mature the sperm



Vas Deferens: Tube behind the bladder that transports mature sperm to the urethra

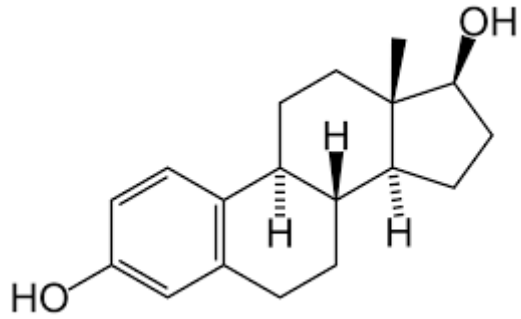
Prostrate Gland: Located behind the bladder – it nourishes sperm and provides extra fluid for the sperm and ejaculation

How Does It Work?

Three Hormones for Male Reproduction:

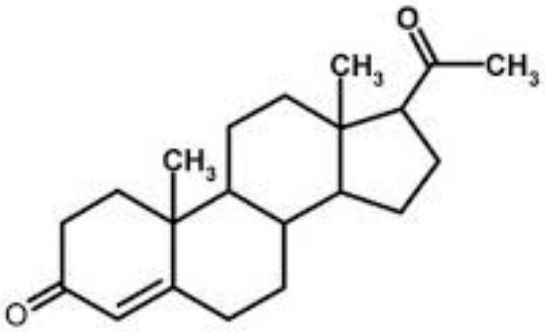
1. Follicle-stimulating hormone is responsible for sperm production
2. Luteinizing hormone stimulates the production of testosterone and is also needed to make sperm.
3. Testosterone is responsible for the development of sex drive, muscle mass, strength, fat distribution, bone mass, voice changes and body and facial hair

Role of Estrogen



- Estrogen in men helps with fertility, libido and sperm production- also help prevents weight gain
- Estrogen is important for brain function in fetal development so that male reproduction occurs properly during puberty
- It is essential for the development and maturation of sperm
- Men have estrogen receptors in the testes and epididymis indicating there is a specific role for estrogen in male reproduction
- Estrogen also support serotonin production

Progesterone

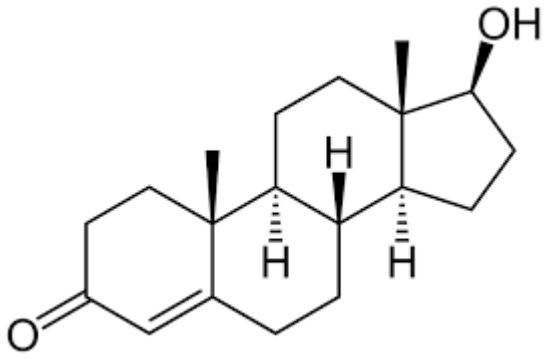


- Can convert to testosterone so it is can be a precursor
- Key role is to preserve masculinity in men
- It can counter the effects of excess estrogen
- It helps with mood, sperm and testosterone production and helps with regulation of immune system, kidney and nervous system function
- Progesterone supports GABA production
- How big a role it play is not fully understood

Hormone Imbalances

- Is it low progesterone, low testosterone or high estrogen?
- When investigating symptoms of each imbalance – the symptoms are similar
- Man boobs, low libido, weight gain, loss of muscle mass, mood issues, erectile dysfunction, infertility
- This known as male andropause
- Seldom is one hormone imbalance present without the others

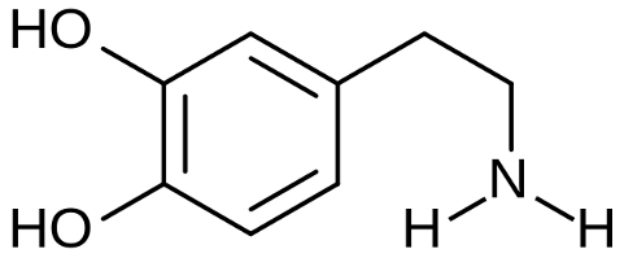
Dopamine and Testosterone



- Bidirectional relationship
- It happens because of a relationship with prolactin
- An increase in prolactin decreases testosterone in the testes
- Prolactin production is released by the pituitary (after a PRH signal from the hypothalamus)
- A rise in dopamine stimulates the release of prolactin inhibitory factor (PIF) which inhibits the pituitary from releasing prolactin

Dopamine and Testosterone

- Prolactin inhibits gonadotropin-releasing hormone (GnRH) secretion,
- The inhibition of prolactin caused by dopamine, increases the secretion of GnRH, therefore increasing the secretion of testosterone
- Testosterone raises dopamine levels which is known to increase sexual desire
- So dopamine is needed for testosterone production but testosterone is also needed to raise dopamine levels



Dopamine

Other Causes of Low T

- Diabetes and obesity
- Testicular cancer
- Infections
- HIV/Aids
- Chronic liver and/or kidney disease
- Injury to the testes

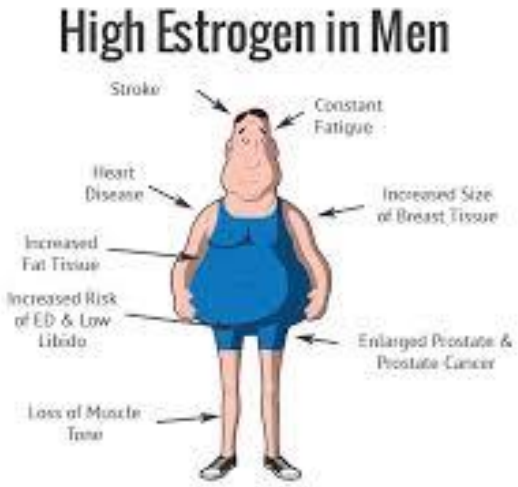
- Inflammatory diseases such as tuberculosis, sarcoidosis (affects lungs and lymph), and histiocytosis (abnormal number of immune cells),

Estrogen Dominance in Men (Andropause)

- Sexual dysfunction (low libido, decreased morning erections, decreased erectile function)
- Enlarged breasts
- Lower urinary tract symptoms
- Increased fat around the middle – can also be a symptom of low estrogen
- Feeling tired
- Loss of muscle mass
- Emotional mood issues, especially depression
- Type 2 diabetes
- Enlarged prostate
- Prostate cancer

Estrogen Dominance

- Same relationship exists for men – liver and gut issues as the primary reason
- Men can experience excess estrogen because of xenoestrogens and increase aromatase activity (causing the conversion of testosterone to estrogen)
- Not just in the adrenals
- But a failure to detox out the excess estrogen is what cause the symptoms



Estrogen Dominance

- Alcohol has been linked to increasing estrogen in both men and women
- Aging is also linked to increased aromatase activity
- Stress can increase aromatase but so can adrenal fatigue
- Metabolic disorders such as obesity or type 2 diabetes
- High insulin stimulates aromatase activity
- Studies show aromatase-inhibiting drugs lowered insulin levels

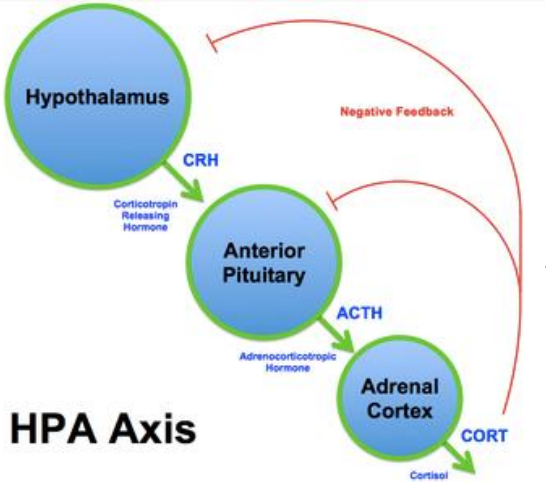
Protocol

- Similar to women – liver and gut pathway for detox excess hormones is essential
- Stress is a high factor so adrenal support and stress reduction key
- Thyroid support and stable blood sugar also important
- Dysbiosis/candidiasis protocol may be helpful along with a liver cleanse
- Maca is a great food/supplement for male andropause
- Aromatase-inhibiting foods

Male Infertility

- Cause is low quantity and quality of sperm
- 1 in 20 men have a fertility issue
- Genetic causes, undescended testicles, infections, twisting of the testes in scrotum, varicose veins of the testes, medicines and chemicals, radiation damage, blockage of sperm transport, infections, prostate-related problems, absence of vas deferens, vasectomy
- Hormonal issues: pituitary tumours, lack of LH/FSH, androgenic steroid abuse

Male Fertility



- Just like women, low FSH and High LH affects men's fertility interfering with sperm and testosterone levels
- Stress and HPA-axis interferes with the HPG axis and the production of these hormones
- Stress also affects the quality of sperm, motility and anxiety and depression are also associated with male hormone issues
- Fertility in male diabetics is lower and higher insulin levels are found in the testes

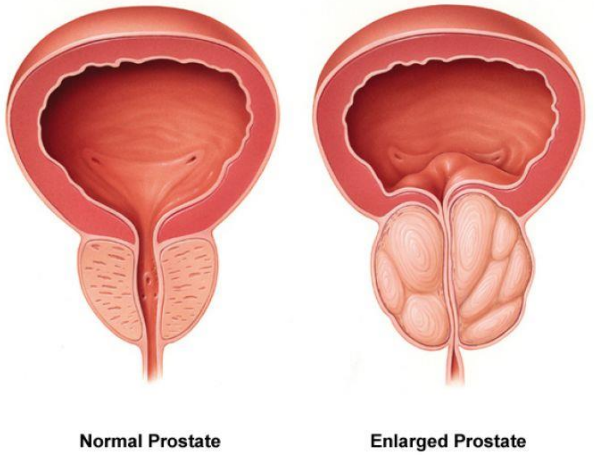
Male Fertility

- Not only is the liver responsible for removing excess hormones, liver disease issues including NAFLD lowers testosterone, sex hormone-binding globulin and semen quality
- Low thyroid function is also associate with infertility – too much T4 and too little T3 decreases libido, testosterone and may interfere with gonad hormones
- Animal study found that L. reuteri help improves sperm quantity, quality and motility, increases LH and FSH, and prevents age-related testicular shrinkage
- Gut bacteria also modifies the effects of stress and helps regulate the thyroid as well as helps stabilize blood sugar

Aiding Fertility

- Same players involved
- Probiotics: L.reuteri is helpful but lactobacillus in general is the most predominant bacteria family in healthy sperm and lower sperm quality is associated with prevotella bacteria
- Liver support: Milk thistle
- Thyroid support and adrenal support
- Stabilize blood sugar and reduce high insulin
- Possible dysbiosis/candidiasis protocol and liver cleanse
- Lack of sleep and heavy or no exercise are not good for male fertility

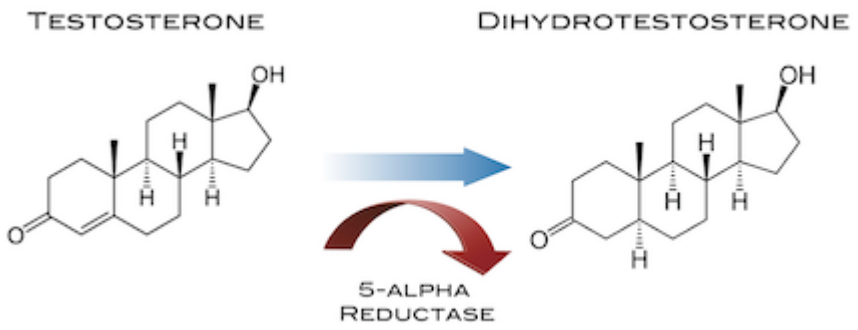
BPH



- Benign Prostatic Hypertrophy – Enlarged prostate
- Prostate enlarges and grows - puts pressure on bladder which limits flow of urine to the urethra
- Symptoms: Frequent urination, especially at night, less urine flow (bladder does not empty), incontinence, painful urination, impotence - estrogen levels increase as men age and is linked to prostate issues
- Conventional treatment:
- Alpha blockers: Relax bladder neck and prostate muscles to increase urine flow
- Side effects: Drops in blood pressure, headaches or nausea, swollen legs or ankles, tiredness, weakness, sleep issues, tremors, rashes, erection problems (rare)

Drugs Continued…

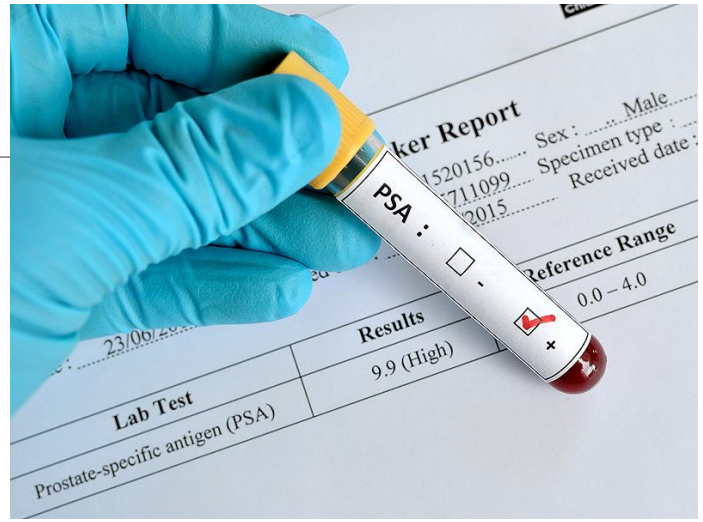
- 5-Alpha Reductase Inhibitors: Shrink the prostate by blocking the enzyme 5-Alpha reductase which converts testosterone to dihydrotestosterone (DHT) - a powerful androgen responsible for many male traits
- DHT is responsible for the growth of the prostate in puberty but in adult males, too much can cause growth the male does not want
- Side effects: Low libido, erectile dysfunction, depression, increase risk of prostate cancer



Drugs Continued…

- 5-Alpha Reductase Inhibitors and Alpha Blockers are often combined
- Phosphodiesterase-5 (PDE-5) inhibitors (Viagra, Cialis, Levitra) are sometimes combined with alpha blockers to help with erectile dysfunction and may help with inflammation of the prostate
- Side effects: facial flushing, stuffy nose, headaches, muscle aches, and indigestion - some men also experience brighter or a blue tinge to their vision

Prostate Tests



- Digital rectal exam
- Urine test can be used to rule out an infection or other conditions that have similar symptoms
- Blood test can be used to check for kidney problems.
- Prostate-specific antigen (PSA) blood test. PSA is a substance produced by the prostate and levels increase as the prostate enlarges. Elevated PSA levels also increased with infection, surgery or prostate cancer.
- A neurological exam as the nervous system can help identify causes of urinary problems other than enlarged prostate

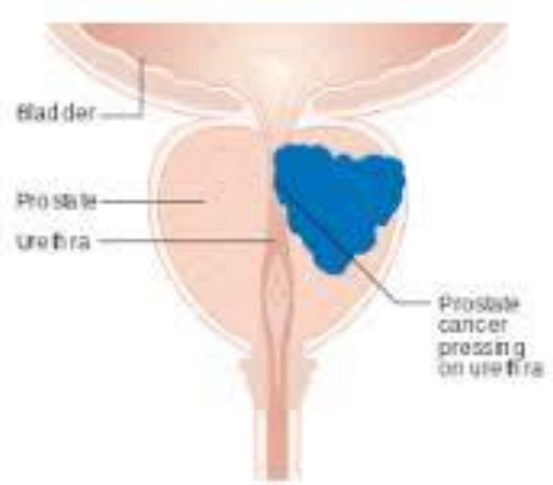
Alternative Protocol

- Saw Palmetto – may be helpful for symptoms only – does not shrink
- Plant Sterols – may be help for urinary symptoms
- Stinging Nettle – Helps with BPH symptoms
- Rye Grass Pollen – helps with emptying the bladder
- Usually a combination is best
- Bee pollen may be helpful with reducing inflammation and symptoms in two studies

Alternative Protocol

- Prostate is an estrogen target tissue and estrogens directly and indirectly affect growth and cell differentiation of the prostate
- Higher estrogen levels are link to BPH – ¼ cup flax (ground) is helpful for moving out both dihydrotestosterone and estrogen out of the body
- Liver work and gut health work essential
- Support blood sugar (to lower insulin), adrenals and thyroid
- Zinc to support prostate health
- Aromatase-inhibiting foods
- Possible dysbiosis/candidiasis cleanse and liver cleanse

Prostate Cancer



- 2nd leading cause of death in men
- Age and a genetics are factors
- Mutated BRCA-1 gene puts men at higher risk of developing prostate cancer
- Mutated BRCA-2 gene linked to aggressive form of prostate cancer
- Low zinc is found in prostate cancer cells
- Zinc helps with tumour suppression and may explain why zinc deficiency is connected to prostate cancer

Conventional Treatment

- 95% of prostate cancers are adenocarcinomas which are slow growing tumours
- Surveillance of tumors only every 3-6 months with rectal exam, PSA test and biopsies
- Surgery to remove the prostate (may also include removing lymph nodes) or surgery to relief pressure on the bladder (for men too advanced or too old for surgery) – sometime testicles removed to stop testosterone production
- Radiation therapy – can often be combined with hormonal therapy – to shrink tumour
- Hormonal therapy – drugs to block - both LH agonists and antagonists, anti-androgens
- Chemotherapy – especially if metastasized

Prostate Cancer

- Depending on age – many men opt for surgery
- High risk of developing cancer 5 years later in the colon – often discovered after it has metastasized to the liver – usually fatal
- 95% of men who have surgery will have impotence
- High percentage of men who have radiation or drugs will be impotent as well
- Insulin increases prostate cancer risk and stress increase chances of metastasis

Testicular Cancer

- Generally occurs in men 15-40 years of age
- Factors include undescended testicles, family history of the testicular cancer, HIV
- High estrogen in mothers while pregnant has been linked to the development of testicular cancer in sons
- Other hormone issues may be present but not as well understood as prostate cancer
- Protocol should be similar to prostate cancer

testicular cancer

Alternative Protocol

No matter what treatment option they go for – men still have existing underlying issues

Immune system is the key issue that needs supporting

Liver and gut health is equally important

Plant sterols have been shown to help with prostate cancer

Zinc to help suppress tumour growth

Protocol

- Multi for other nutrients that help the body fight cancer
- There are numerous anti-cancer supplements (salvestrols) that can be added
- Liver and gut health work - dysbiosis/candidiasis protocol, liver cleanse
- Juicing to up the anti-oxidant, anti-inflammatory and anti-cancer phytonutrients in the diet
- ¼ cup of flax (ground) to help remove dihydrotestosterone and estrogen
- Support adrenals and thyroid, stabilize blood sugar

In Conclusion…

- Men's hormonal issues are not as well understood as women
- There is less alternative information about men than women
- Fortunately, men's hormones have the same influences as women making it easier to design a general protocol
- Men need more protein and exercise to maintain healthy hormones so that must be worked into their protocols
- Balancing men's hormones is as important as balancing women's