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Key Inforbits

- Fast facts on men's health
- Erectile dysfunction update
- Testosterone replacement
- Benign prostatic hyperplasia review
- BPH treatment review
- Men's health screening checklist



JUNE IS MEN'S HEALTH MONTH!

Wear **BLUE** on Friday, June 16th to help raise awareness for men's health issues



Images from: <http://www.clipartbest.com/cliparts/dcr/o9y/dcro9yydi.png>

Fast Facts on Men's Health:

- On average, men live about 5 years less than their female counterparts
- Men have a higher death rate than women for cancer, heart disease, diabetes, and suicide
- 1 out of every 2 men will develop cancer in his lifetime
- Men make half as many visits to their physician for prevention as women

Men's health fact sheets & information [Internet]. Washington, DC: Men's Health Network. [cited 2017 May 30]. Available from: <http://www.menshealthnetwork.org/healthfacts>

Erectile Dysfunction

Erectile Dysfunction, also known as ED or impotence, is a common but treatable medical problem in which men are unable to have and/or maintain an erection during sexual intercourse. It is commonly present in 1 of 2 men older than 40 years of age. Some common causes of erectile dysfunction include atherosclerosis, diabetes, as well as obesity.¹

The first step in treating ED is usually making lifestyle changes. Weight loss through diet and exercise is often all that is necessary. Reducing alcohol and avoiding smoking and illicit drug use can also help. ED may be the result of an adverse drug reaction from other medications, so this should also be addressed.¹

Phosphodiesterase inhibitors are the most common medical treatment option for erectile dysfunction. They work by increasing the blood flow to the penis. Some of the agents in this class include: sildenafil (Viagra[®]), vardenafil (Levitra[®], Staxyn[®]), and tadalafil (Cialis[®]). The most common side effects seen with these drugs are headache, facial flushing, nasal congestion and dizziness.²

Some exciting news came from the FDA in 2016 as they approved the first ever generic version of Viagra®. The pharmaceutical company, Teva, will be offering Viagra® (sildenafil) as a generic medication for the treatment of erectile dysfunction. It will be available beginning December 11, 2017 in 25 mg, 50 mg, and 100 mg tablets.³

1. Najari BB, Kashanian JA. Erectile Dysfunction [Internet]. JAMA. 2016;316(17):1838 [cited 2017 May 30]. Available from: <http://jamanetwork.com/journals/jama/fullarticle/2576613?resultClick=1>
2. Lee M. Erectile dysfunction. In: DiPiro JT, Talbert RL, Yee GC, Matzke GR, Wells BG, Posey LM, editors. Pharmacotherapy: A pathophysiologic approach. 9th ed. New York: McGraw-Hill Medical; c2014. Chapter 66.
3. Marcus MB. First Generic Version of Viagra Approved by FDA. CBS Interactive Inc. 10 March 2016. Available from: <http://www.cbsnews.com/news/first-generic-drug-for-viagra-called-sildenafil-citrate-approved-by-fda/>

Men's Health Screenings:

Exam?	How Often?	What Age?
Rectal Exam Screens for hemorrhoids, lower rectal problems, colon and prostate cancer.	Annually	Beginning at 20 years old
PSA Blood Test Prostate Specific Antigen (PSA) is produced by the prostate. Levels rise when there is an abnormality such as an infection, enlargement or cancer. Testing should be done in collaboration with your physician. <i>*Some populations may need to begin testing at an earlier age if at a higher risk, such as African Americans at age 40.</i>	Annually, as determined by a physician	Age 50 and greater
Colorectal Health A flexible scope examines the rectum, sigmoid and descending colon for cancer at its earliest and treatable stages.	Every 10 years	Age 50 and greater
Testosterone Screening Low testosterone symptoms include low sex drive, erectile dysfunction, fatigue and depression. Initial screening for symptoms with a questionnaire followed by a simple blood test.	Should be determined by a physician	Age 40 and greater
Self Exams Testicle: To find lumps in their earliest stages Skin: To look for signs of changing moles, freckles, or early skin cancer; Oral: To look for signs of cancerous lesions in the mouth; Breast: To find abnormal lumps in their earliest stages.	Monthly by self	Age 20 and greater

1. Men: Get it Checked, Checkup and Screening Guidelines for Men. Washington, DC: Men's Health Network. Available from: <http://www.menshealthmonth.org/wp-content/uploads/2011/04/getitcheckedpostermen.pdf>
2. American Cancer Society Guidelines for the Early Detection of Cancer. American Cancer Society. 26 July 2016. Available from: <https://www.cancer.org/healthy/find-cancer-early/cancer-screening-guidelines/american-cancer-society-guidelines-for-the-early-detection-of-cancer.html>

Benign Prostatic Hyperplasia (BPH) Refresher:

BPH, or benign prostatic hyperplasia, is a medical condition that occurs in men in which the prostate is enlarged but is also not cancerous.¹ It is most commonly seen in men between the ages of 63 and 65 years of age, but can occur at any age. Symptoms include increased urinary frequency and/or urgency, urinary leaking or dribbling, and a hesitant, interrupted, or weak stream of urine.²

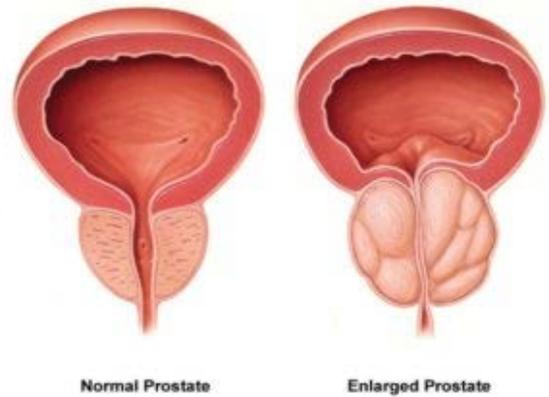


Image from: <https://cu-6dce.kxcdn.com/wp-content/uploads/2016/02/minimal-incisions-prostate-cancer-treatment-300x250.jpg>

Risk factors for developing BPH:^{1,2}

- Age 40 and older
- Family history of BPH
- Personal history of erectile dysfunction
- Lack of physical exercise
- Certain medical conditions: obesity, heart or circulatory disease, type 2 diabetes

The development of BPH is thought to be the result of both static and dynamic factors. Static factors include enlargement of the prostate gland while dynamic factors include excessive α -adrenergic tone of the prostate gland, bladder neck, or urethra. Symptoms of BPH may result from either type of factor and treatment may vary depending on the patient-specific pathophysiology of the disease.²

Some medication classes can exacerbate the symptoms of BPH and should therefore be avoided.^{2,3} These include:

- Diuretics → can worsen urinary frequency
- Tricyclic antidepressants → can reduce bladder muscle contractions
- Antihistamines → can prevent bladder contractions and slow the flow of urine
- Decongestants → can tighten the muscles surrounding the prostate and bladder
- NSAIDs → may worsen urinary retention, but some evidence shows that they may actually shrink the prostate and thus improve symptoms

Mild symptoms	Moderate symptoms	Severe symptoms
<p>Watchful waiting: return for reassessment every 6 to 12 months & behavioral modifications (minimize fluid intake at bedtime, minimize caffeine and alcohol intake, avoid potentially aggravating drugs listed above, etc.)</p>	<p>With ED? α-1 blocker, phosphodiesterase inhibitor, or both</p> <p>Small prostate & low PSA? α-1 blocker</p> <p>Large prostate & increased PSA? 5-α reductase inhibitors + α-1 blocker</p> <p>Predominant irritative voiding symptoms? α-1 blocker + anticholinergic agent <i>or</i> α-1 blocker + mirabegron</p>	<p>Minimally invasive surgery or prostatectomy</p>

ED: erectile dysfunction; PSA: prostate-specific antigen

All BPH patients should be encouraged to maintain a healthy lifestyle that includes a low-fat diet, eating lots of fruits and vegetables, getting regular physical exercise, and smoking cessation. Overweight patients should also be encouraged to lose weight.

1. Prostate Enlargement (Benign Prostatic Hyperplasia). National Institute of Diabetes and Digestive and Kidney Diseases, US DHHS. Sep 2014. Web. Available from: <https://www.niddk.nih.gov/health-information/urologic-diseases/prostate-problems/prostate-enlargement-benign-prostatic-hyperplasia>
2. Lee M, Sharifi R. Benign Prostatic Hyperplasia. In: DiPiro JT, Talbert RL, Yee GC, Matzke GR, Wells BG, Posey LM, editors. Pharmacotherapy: A pathophysiologic approach. 10th ed. New York: McGraw-Hill Medical; c2014. Chapter 84.
3. Watson S. What Medications Should I Avoid with BPH? Healthline. 22 Oct 2015. Web. Available from: <http://www.healthline.com/health/bph-medications-to-avoid#prescription-medicines3>
4. Mayo Clinic Staff. Benign Prostatic Hyperplasia Treatment and Drugs. Mayo Clinic. 13 Nov 2014. Web. Available from: <http://www.mayoclinic.org/diseases-conditions/benign-prostatic-hyperplasia/basics/treatment/con-20030812>

Review of BPH Treatments:

	α-1 blockers	5-α reductase inhibitors	Anticholinergics	β-3 adrenergic agonists
Examples of drugs in class	Cardura [®] (doxazosin) Flomax [®] (tamsulosin)	Proscar [®] (finasteride) Avodart [®] (dutasteride)	Ditropan [®] (oxybutynin) Detrol [®] (tolterodine) Enablex [®] (darifenacin)	Myrbetriq [®] (mirabegron)
Relaxes prostatic smooth muscle	Yes	No	No	No
Decreases prostate size	No	Yes	No	No
Halts disease progression	No	Yes	No	No
Peak onset	1-6 weeks	3-6 months	1-2 weeks	2-8 weeks
Efficacy in relieving BOO	++	++, for patients with enlarged prostates	Irritative symptoms only	Irritative symptoms only
Frequency of dosing	1-2 times/day	Once daily	Once daily	Once daily
Sexual dysfunction ADRs?	Ejaculation disorder (EJ)	Decreased libido, erectile dysfunction (ED), EJ	ED	None
Cardiovascular ADRs?	Yes	No	Tachycardia	Hypertension

ADRs: adverse drug reactions; BOO: bladder outlet obstruction

If one medication from the table above is not adequately relieving symptoms, patients may be on a combination regimen that includes an alpha blocker and a 5-alpha reductase inhibitor concurrently. Cialis[®] (tadalafil) may also be used for men with BPH, but it is typically reserved

for those who are also experiencing erectile dysfunction and is used in combination with other BPH medications.^{1,2}

1. Lee M, Sharifi R. Benign Prostatic Hyperplasia. In: DiPiro JT, Talbert RL, Yee GC, Matzke GR, Wells BG, Posey LM, editors. Pharmacotherapy: A pathophysiologic approach. 10th ed. New York: McGraw-Hill Medical; c2014. Chapter 84.
2. Mayo Clinic Staff. Benign Prostatic Hyperplasia Treatment and Drugs. Mayo Clinic. 13 Nov 2014. Web. Available from: <http://www.mayoclinic.org/diseases-conditions/benign-prostatic-hyperplasia/basics/treatment/con-20030812>

Testosterone Replacement:

Testosterone is a very important hormone that plays a vital role in male reproductive and sexual health, bone health, and muscle strength. When testosterone production becomes unbalanced, it can result in hypogonadism, sometimes called low-T.¹ Signs and symptoms of low testosterone include depression, difficulty concentrating, disturbed sleep, increased body fat, fatigue, hot flashes, lower sex drive, and difficulty sustaining erections.³ Diagnosis of low testosterone should be based on both clinical symptoms and low serum testosterone levels.¹

Testosterone replacement therapy has become one of the most widely prescribed medications in the United States.¹ It is available as a cream, gel, injection, or patch.² There are several benefits and risks of testosterone replacement therapy that should be considered and weighed before starting treatment in all patients. Testosterone replacement therapy should not be used in patients who are asymptomatic due to the potential risks.¹



“Low T? How’s the rest of my alphabet?”

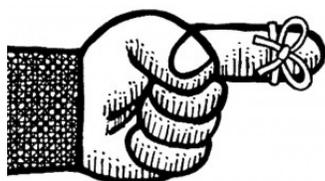
Image from: <https://www.cartoonstock.com/directory/t/testosterone.asp>

Benefits	Risks
<ul style="list-style-type: none"> • Symptom relief • Improves bone density and strength⁴ • May help correct anemia with no identifiable cause⁶ 	<ul style="list-style-type: none"> • More plaque buildup in coronary arteries (though not necessarily more CVD events)⁵ • Unclear long-term risks • Adverse drug reactions: depends on formulation but may include acne, application site reactions, hypertension²

In 2015, the FDA reviewed the available data on testosterone replacement therapy and determined that the benefit and safety is not fully established. Manufacturers are now required to include labeling on testosterone products that notes the possible increased risk for heart attack or stroke with treatment.¹ Furthermore, studies have shown that testosterone gel does not improve memory or cognitive function as had been previously theorized.⁷ There is also no clear association between testosterone and prostate cancer, but more research needs to be done in this area. As an alternative

to using testosterone replacement therapy, losing weight and increasing muscle mass through strength exercises are two ways to naturally increase testosterone levels.³

1. McBride JA, Carson CC, Coward RM. Testosterone deficiency in the aging male. *Ther Adv Urol*. 2016 Feb;8(1):47-60.
2. Testosterone. In: Lexi-Comp Online [AUHSOP Intranet]. Hudson, OH: Wolters Kluwer Clinical Drug Information [updated 2017 May 19, cited 2017 May 30]. [about 6 p.]. Available from http://online.lexi.com/lco/action/doc/retrieve/docid/patch_f/7742
3. Is testosterone therapy safe? Take a breath before you take the plunge [Internet]. Boston: Harvard Medical School. 2014 Feb [updated 2015 Dec 4; cited 2017 May 30]. Available from: <http://www.health.harvard.edu/mens-health/is-testosterone-therapy-safe-take-a-breath-before-you-take-the-plunge>
4. Synder PJ, Kopperdahl DL, Stephens-Shields AJ. Effect of testosterone treatment on volumetric bone density and strength in older men with low testosterone: a controlled clinical trial. *JAMA Intern Med*. 2017;177(4):471-479. doi:10.1001/jamainternmed.2016.9539
5. Budoff MJ, Ellenberg SS, Lewis CE. Testosterone treatment and coronary plaque volume in older men with low testosterone. *JAMA*. 2017;317(7):708-716. doi:10.1001/jama.2016.21043
6. Roy CN, Synder PJ, Stephens-Shields AJ. Association of testosterone levels with anemia in older men: a controlled clinical trial. *JAMA Intern Med*. 2017;177(4):480-490. doi:10.1001/jamainternmed.2016.9540
7. Resnick SM, Matsumoto AM, Stephens-Shields AJ. Testosterone treatment and cognitive function in older men with low testosterone and age-associated memory impairment. *JAMA*. 2017;317(7):717-727. doi:10.1001/jama.2016.21044



Don't Forget!
Father's Day is Sunday, June 18!

Image from: <http://runjersey.com/why-follow-why-like/string-around-finger-dont-forget/>



The last "dose" ...

“It is health that is real wealth and not pieces of gold and silver.”

– Mahatma Ghandi

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