

Hormone Replacement Therapy...For Women & Men!

Hormone deficiencies currently affect over 55 million women and men in the U.S. With the average American age on the rise, more research is being done on the effects of aging, hormone decline, and hormone replacement therapy (HRT). Commonly referred to as Menopause and Andropause (the “Male Menopause”), the decline in hormone production that results in a hormone deficiency often brings with it unpleasant side-effects. HRT can address these symptoms and restore hormone levels.

Conventional HRT consists of using standard doses of commercially available synthetic hormones without considering each person’s individual hormonal profile. In recent years, research such as the Women’s Health Initiative study has linked synthetic hormones to an increased risk of heart disease and breast cancer. In addition to this research, many doctors and patients have abandoned this “one-size-fits-all” approach for HRT based on individualized hormone profiles.

Hormone Deficiency Symptoms (Women & Men):

fatigue, low libido, slow cognitive function, insomnia, depression, weight gain, muscle loss, migraines, and osteoporosis.

Women may also suffer from:

hot flashes, night sweats, feminine discomfort, and decreased interest in intimate relations.

An individualized approach to HRT, using bio-identical hormones (BHRT), pinpoints a person’s exact hormone levels, and what hormones are needed to balance their hormone deficiency. Studies show that BHRT in physiological doses (equivalent to what your body used to make) produce significantly fewer negative side effects than synthetic hormones.

The differences between synthetic and bio-identical hormones are in their chemical structures and functionality. Synthetic hormones are often produced from animals, are not identical to those made by the human body, and do not act in the body as human hormones do. Bio-identical hormones (derived from plants such as soy or yam), are both chemically and functionally identical to those produced by human reproductive organs and adrenal glands.

As with any prescription medication, the pros and cons of hormone replacement therapy must be discussed with a knowledgeable healthcare provider. For additional information on hormones, to take a hormone self-assessment, or to learn more about custom compounding, visit www.collegepharmacy.com and browse the Women’s and Men’s Health sections. You may also call **College Pharmacy’s Hormone Hotline at (719) 262-0022 ext. 192** to request information or schedule a Hormone Consult.

Testosterone Replacement In Aging Men May Improve Vitality, Libido, Cognition, Cholesterol, Cardiovascular & Prostate Health.

As men grow older, levels of free testosterone decrease and estrogen levels increase. In fact, the average 60-year-old male has more circulating estrogen in his blood stream than the average 60-year-old female! As if the decline in testosterone weren't problematic enough, new research has shown that even small increases in estrogen may have detrimental effects on men's cardiovascular health.

This age-related decline in free testosterone levels (commonly referred to as "Andropause") may result in diminishing energy, reduced libido, decreasing muscle mass, abdominal weight gain, depression, reduced cognitive function, and an increased risk of Heart Disease.

Advances in understanding the function of hormones and the role of hormone replacement has made it possible to manage many of the negative side-effects associated with age-related hormone decline. One therapy that has gained popularity in recent years is biologically identical testosterone replacement therapy (TRT) for men.

TRT in men has been shown to enhance libido, decrease heart disease risk, increase lean body mass, and prevent osteoporosis. Maintaining testosterone levels may also lower total cholesterol and LDL, and decrease insulin resistance. Additional research has shown a beneficial impact on cellular energy production, brain function, and oxygenation.

Testosterone therapy for men is based on personal hormone test results to determine the testosterone dosage that fits the needs of the person. No two people are alike, and hormone needs differ from person to person. There are many commercial products available that promise to help overcome the negative effects of a testosterone decline (such as loss of libido). However, TRT actually helps address the cause of the problem...not just the side-effects, while offering a combination of additional long-term health benefits.

Biologically identical testosterone therapies include injections, topical gels, sublingual tablets (dissolved under the tongue), and pellets. Injections are usually administered every two weeks. Topical gels are applied once per day and sublingual tablets are taken twice per day. Pellets are inserted by the doctor and release a steady amount of testosterone over three to six months.

As with any prescription medication, the pros and cons of hormone replacement therapy must be discussed with a knowledgeable healthcare provider.

For additional information on testosterone replacement (including research), to request a practitioner referral, or to take a hormone self-assessment, visit www.collegepharmacy.com and browse the Men's Health section. You may also call **College Pharmacy's Hormone Hotline at (719) 262-0022 ext. 192** to request information or schedule a Hormone Consult.

Frequently Asked Questions: Andropause, Libido, Hormones

What is andropause or male menopause?

Similar to menopause in women, andropause arrives in a man's life when there is a drastic drop in hormone levels. When levels of testosterone fall, the condition is called hypogonadism (hypo=low, gonad=testis). Although total testosterone may not drop drastically, free testosterone, or the active form of testosterone, drops significantly with age.

What are some of the symptoms of andropause?

Symptoms may include:

Fatigue	Loss of Muscle Mass
Abdominal Weight Gain	Low Libido
Insomnia	Reduced Overall Sexual Function
Migraines	Difficulty Achieving/Maintaining an Erection
Cholesterol	Mood Swings & Depression
Arthritis	Decreased Strength & Endurance
Osteoporosis	Aches & Pains

What can I do?

Hormone replacement therapy may help reverse some of the negative effects of low testosterone. Biologically identical testosterone is the same molecular structure and might produce the same effects as the free form of testosterone produced by the testes.

What are Biologically Identical Hormones?

Biologically identical testosterone is derived from soybeans. It has the same molecular structure and may help produce the same effects as the free form of testosterone produced by the testes.

Are there any side effects?

Before testosterone replacement is initiated, your healthcare practitioner should order a PSA (prostate specific antigen) test, DHT (dihydrotestosterone) test, and Estradiol level test. All drugs taken in non-physiological doses have the potential to present adverse side effects. Talk to your healthcare practitioner or pharmacist for more information.

How are Biologically Identical Hormones administered?

Biologically identical testosterone therapies include injections, topical gels, sublingual tablets (dissolved under the tongue), and pellets. Injections are usually administered every two weeks. Topical gels are applied once per day and sublingual tablets are taken twice per day. Pellets are inserted by the doctor and release a steady amount of testosterone over three to six months.

How do I find a doctor who will prescribe Biologically Identical Hormones?

Please CONTACT US at College Pharmacy. We will be happy to provide you with a practitioner referral and answer any questions you may have! Call **College Pharmacy's Hormone Hotline at (719) 262-0022 ext. 192** to request information or schedule a Hormone Consult.

Common BHRT Formulations

Custom Sizes, Strengths, Dosage Forms, and Formulations Available.

Estradiol	0.50mg	1mg	2mg	
Estriol	1mg	2mg	5mg	
Biest	1.25mg	2.5mg	5mg	
Triest	1.25mg	2.5mg	5mg	
Progesterone	50mg	100mg	200mg	400mg
Testosterone	0.625mg	2.5mg	50mg	100mg
E2/P4	0.5mg/100mg	1mg/200mg		
Biest/P4	2.5mg/100mg	5mg/200mg		
Triest/P4	2.5mg/100mg	5mg/200mg		
E2/Testos	0.5mg/1.25mg	1mg/2.5mg		
DHEA	5mg - 200mg			
Pregnenolone	5mg - 200mg			
Cortisol	5mg - 20mg			
Melatonin	1mg - 50mg			

Common Formulations For Men

Custom Sizes, Strengths, Dosage Forms, and Formulations Available.

Testosterone (USP)				
Sublingual Tablet	10mg	25mg	50mg	100mg
PerQ Gel™	50mg	75mg	100mg	200mg
Cream	10mg	25mg	50mg	100mg
Pellet	50mg	75mg	100mg	200mg**
Testosterone Cypionate* (Injectable)			100mg - 200mg	10cc
Testosterone Enanthate* (Injectable)			200mg	5cc
Cypionate/Enanthate (Injectable)			150mg/50mg	10cc
DHEA (Sublingual Tablet)			10mg - 50mg	
Progesterone (Sublingual Tablet/Gel)			5mg - 15mg	
Pregnenolone (Sublingual Tablet)			50mg	
DHT (Sublingual Tablet/Gel)			1mg - 2mg	
Indole-3 Carbinol (Capsule)			200mg - 400mg	
Anastrozole (Capsule)			0.05mg - 1mg	
Chrysin (Capsule)			250mg - 500mg	
D.E.S. (Capsule)			0.5mg - 5mg	
Beta-Sitosterol (Capsule)			300mg	
Papaverine (Penile Injection)			30mg/cc	10cc
Prostaglandin E1 (Penile Injection)			10mcg - 40mcg/cc	10cc
Tri-Mix (Penile Injection)			300/10/25	10cc
			300/10/100	10cc
			150/2.5/50	10cc
Phentolamine Mesylate (Penile Injection)			5mg/cc	1cc

*Commercially Available. **Larger diameter pellet. For more information about BHRT call (800)888-9358, ext. 182, or email us at drhotline@collegepharmacy.com.

Cholesterol: Cholesterol molecules are transformed into pregnenolone precursors. Cholesterol is the starting point for the hormone process.

Pregnenolone: Often referred to as the “parent hormone,” pregnenolone is synthesized from cholesterol. It is a super-hormone that is the key to keeping the brain functioning at peak capacity. Believed to be the most potent memory enhancer, it has also been shown to be beneficial in improving concentration, fighting mental fatigue and relieving severe joint pain and fatigue in arthritis.

Progesterone: The ovaries and the adrenal glands in women and, in smaller amounts, in the testes and the adrenal glands in men, produce progesterone. Levels of progesterone are especially high after ovulation and remain high through mid-cycle. If pregnancy does not occur, it signals the uterus to shed this lining. Progesterone also plays an important role in brain function and is often called the “feel-good hormone” because of its mood-enhancing and anti-depressant effects. Progesterone is especially beneficial because it keeps the other hormones in balance.

DHEA: A steroid hormone produced by the adrenals. Has been shown to protect against cancer and heart disease and to lower blood cholesterol. DHEA has also been shown to improve memory, strengthen the immune system, prevent bone loss, reduce body fat and enhance libido.

Testosterone: Testosterone works differently in the bodies of men and women, but plays an important role in the overall health and well-being of both sexes. Often called the “hormone of desire” because of its powerful effect on libido, testosterone is also important in building strong muscles, bones and ligaments, as well as increasing energy and easing depression.

Estrone (E1): Most commonly found in increased amounts in postmenopausal women, the body derives estrone from the hormones that are stored in body fat. It is considered the most cancer causing of the three estrogens.

Estradiol (E2): Produced by the ovaries, estradiol is the principal estrogen found in a woman’s body during the reproductive years. Estradiol is very effective for the symptomatic relief of hot flashes, genitourinary symptoms, osteoporosis, psychological well-being and reduction of coronary artery disease. When estradiol is replaced using a parenteral (sublingual tablet, pellet implant or percutaneous gel) route, it is not subject to first-pass metabolism by the liver, and therefore does not produce high levels of estrone. Using these routes of administration, a woman can mimic the physiologic release of estradiol from the ovaries.

Estriol (E3): Although considered the weakest of the three estrogens, estriol has potential protective properties against the production of cancerous cells. No American drugs contain estriol and, because it cannot be patented, it does not hold much interest for the pharmaceutical industry. Its availability through compounding has caused its use to grow rapidly throughout the country.

Cortisol: Cortisol acts like a furnace in your house. High cortisol levels are indicative of increased stress and increased adrenal production. The stress and adrenals are like windows that are open and the cortisol is like a furnace constantly running to compensate for the loss out the windows. This is why cortisol is given when levels are high so that the body does not have to work so hard to produce it. After one or two months, cortisol levels should be checked again.

Thyroid: Thyroid stimulates hormones. Increased scores on a TSH test usually are viewed as an indication that something is wrong. In reality, TSH is not a reliable test.

Melatonin: Probably best known for regulating sleep, melatonin is also an excellent anti-oxidant and, most importantly, a regulator of zinc.

Biest: Most commonly an 80:20 ratio of estriol and estradiol. This combination allows for all of the protection of estriol while providing the cardiovascular and osteoporosis benefits and vasomotor symptom relief of estradiol.

Triest: Most commonly an 80:10:10 ratio of estriol, estradiol, and estrone. Not recommended unless estrone levels are extremely low.

Popular Hormone Dosage Forms

Sublingual Tablets – Half of the total daily dose should be taken twice daily using this mode for hormone administration. Like the Per-Q Gel, sublinguals are not subject to first-pass metabolism by the liver.

Per-Q Gel™ – A once-a-day application of this percutaneous gel is all that is required to achieve a near constant 24-hour steady state of hormone levels. Two cc's of Per-Q Gel™ are spread (not rubbed) onto the skin over a large surface area in the morning or evening just once daily. The skin acts as a reservoir, slowly releasing hormones from its microcirculation into the main circulation continuously over a 24-hour period. This gel is extremely hypoallergenic and compliance is very good due to its once-a-day dosing.

Alcohol Gels – Applied two times daily. Volume of each dose is ½ cc. Provides good levels, but not as constant as the once-a-day Per-Q Gel™.

PLO Gel – Applied two times daily. Volume of each dose is 0.5cc or less typically. Requires refrigeration to keep the gel stable. Good blood levels can be achieved.

Topical Creams – Popular with people with dry skin. Requires application two to three times per day. Good hormone levels are achievable.

Suppositories – Are made using fatty acid bases and are hypoallergenic. Not commonly used for HRT – but still used by some for extreme cases of premenstrual syndrome.

Injectables – Use the most hypoallergenic oils available. Typically require administration every 2-3 weeks.

Vaginal Creams and Ointments – Good for localized therapy. Available in either water or petrolatum bases.

Pellet Implants – Typically utilizes estradiol and testosterone and are inserted subdermally every 3 to 6 months. This route provides very constant hormone levels similar or better to those achieved using Per-Q Gel™.

Powder and Oil-Filled Capsules – Oral dosing remains very popular. Powder-filled capsules can be prepared for immediate or slow release. Oil-filled capsules can be used to improve absorption of some hormones.