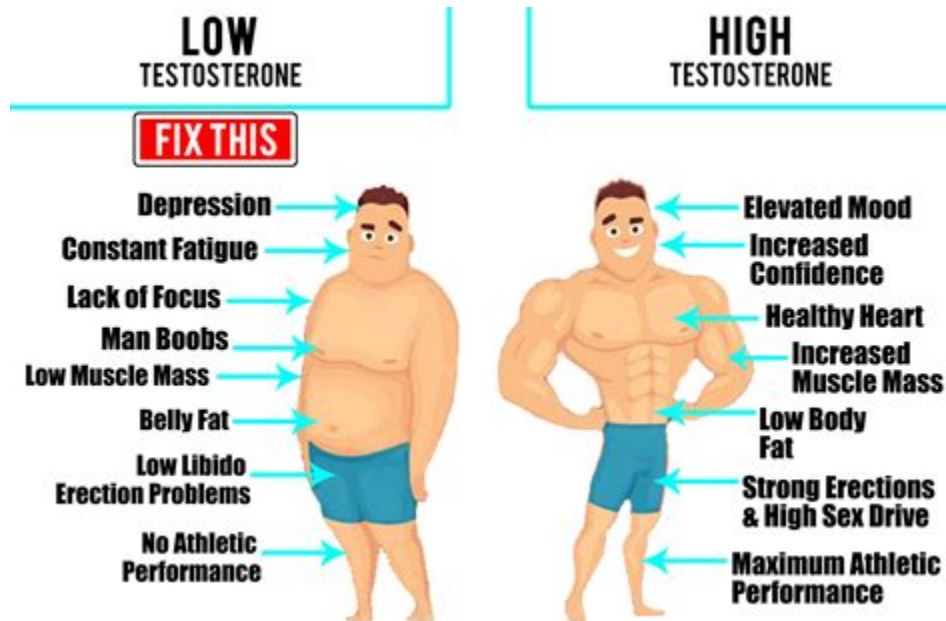


INTRODUCTION. In recent years, mass marketing has led to a greater public awareness of the age-related decline in serum testosterone levels and the association of hypogonadism with many already common medical comorbidities. 1,2 This in part has fueled the growth of testosterone replacement therapy (TRT) for hypogonadism, which experienced a 12-fold increase in sales worldwide from 2000 to 2011. .



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hCG for Men: Testosterone, Weight Loss, Side Effects & More - Healthline



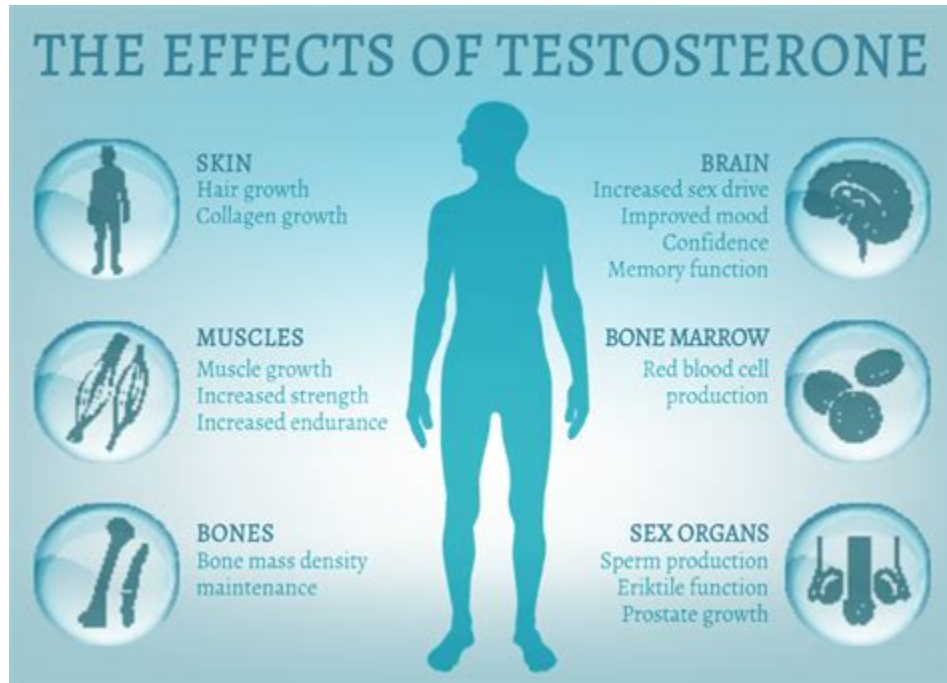
Objectives: To compare serum testosterone response and symptom improvement in men with hypogonadism in response to treatment with clomiphene citrate (CC), human chorionic gonadotropin (hCG), or a combination of both therapies.

Questions about HCG, Arimidex, and Their Effects



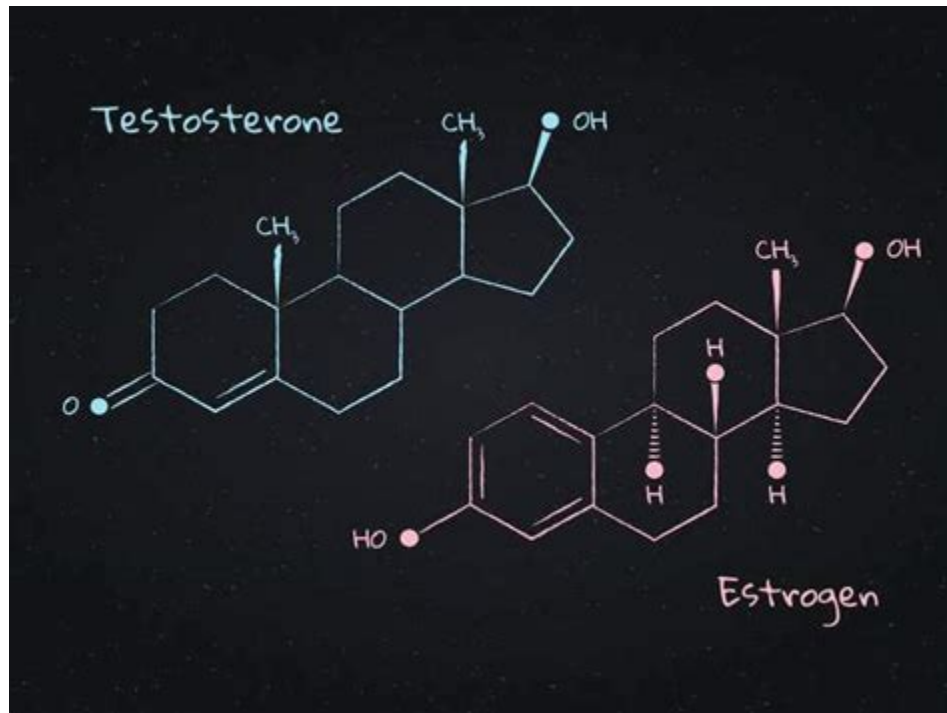
In my paper "My Current Best Thoughts on How to Administer TRT for Men", published in A4M's 2004/5 Anti-Aging Clinical Protocols, I introduced a new protocol where small doses of Human Chorionic Gonadotrophin (HCG) are regularly added to traditional TRT (either weekly IM testosterone cypionate or daily cream/gel).

Testosterone Therapy For Men: Anastrozole & HCG Injections



Given the clinical and commercial testosterone landscape, the American Urological Association (AUA) identified a need to produce an evidence-based document that informs clinicians on the proper assessment and management of patients with testosterone deficiency.

Arimidex PCT (Anastrozole PCT Guide) - Steroid Cycles



Human Chorionic Gonadotropin (hCG) is a water-based peptide hormone that is injected to replenish

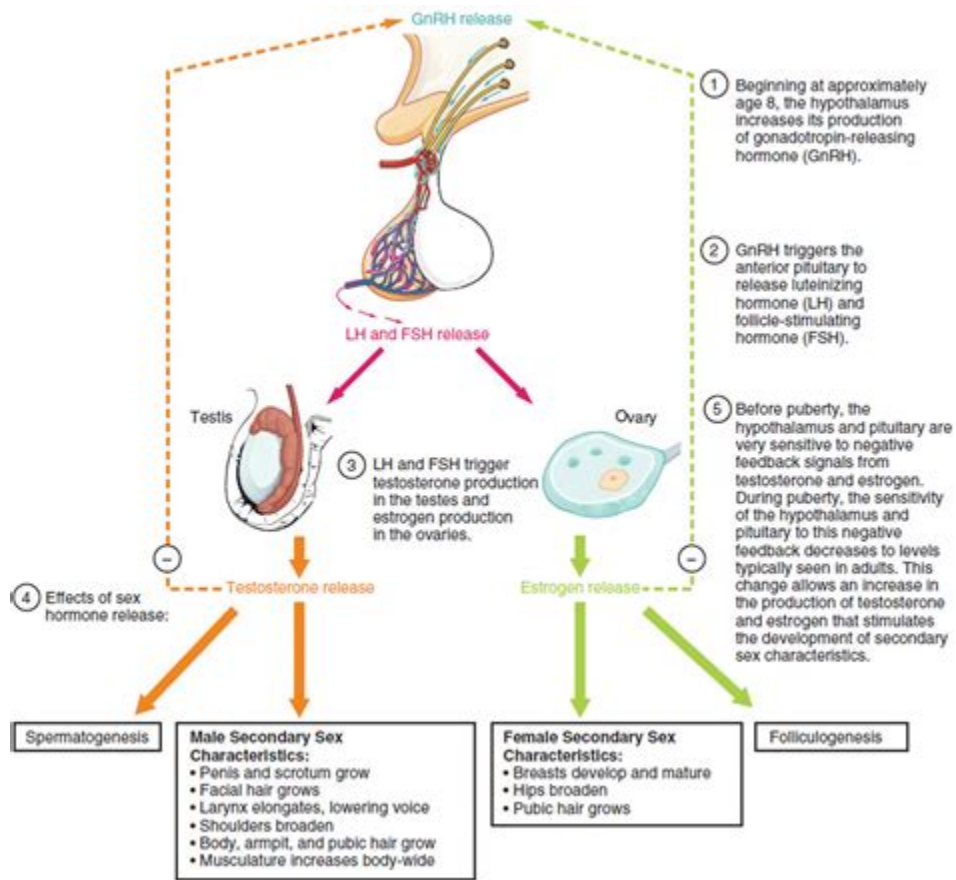
lost luteinizing hormone (LH) that TRT suppresses. A lack of hCG can result to deactivation of LH receptors present in the testes. This results in: Shrinkage of testes. For some, the testes can eventually lead to testicular atrophy.

PDF An update to the Crisler HCG Protocol - Defy Medical



It can be expensive and absorption can be poor, 10% at best. If you are injecting hCG, inject T subq with #29 1/2" 0.5ml insulin syringes. Do not co-inject T+hCG. Injected T is least cost and 100% absorbed. The point of transdermals is to make \$\$\$ and avoid injections. You are injecting now so transdermal T is pointless.

Indications for the use of human chorionic gonadotropic hormone for the .



Initial hormonal evaluation generally consists of a testosterone determination, in conjunction with a free testosterone or sex hormone-binding globulin level, in patients with clear symptoms and signs but normal-range total testosterone, follicle-stimulating hormone, luteinizing hormone, and prolactin levels.

Treatment of hypogonadotropic male hypogonadism: Case-based scenarios

Apply to this Phase 4 clinical trial
treating Idiopathic Hypogonadotropic
Hypogonadism, Testicular
Hypogonadism, Eunuchism,
Hypogonadism: Treatment for
Hypogonadism

1. Introduction. Male hypogonadism is defined as the failure to produce adequate circulating testosterone and/or spermatozoa in the ejaculate, resulting in signs and symptoms of testosterone deficiency and/or infertility [1]. Male hypogonadism should be diagnosed and treated, because when untreated, hypogonadal men may develop a clinical syndrome of decreased sexual function, infertility .

Clomiphene citrate and human chorionic gonadotropin are both . - PubMed

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Evaluating the Combination of Human Chorionic Gonadotropin and Clomiphene Citrate in Treatment of Male Hypogonadotropic Hypogonadism: A Prospective Study

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Background: In this study, we evaluated MHH patients who wished to preserve fertility, assessing the efficacy of a short course (12 months) of a combined hCG +clomiphene citrate. **Materials and Methods:** The cross-sectional study included 19 patients with hypogonadotropic hypogonadism who were admitted to the Andrology and Fertility Hospital of Hanoi between March 2016 and March 2018. Using hCG every three days in combination with clomiphene citrate 25mg per day until normal testosterone levels are reached, maintain the dose until spermatozoa are present. **Results:** The mean age was 30.2 ± 5.6. Differences in penis length between the time before and after treatment were significant (p=0.005). The average dose of hCG using in our study was 5579 ± 1773.7 IU. After treatment 6 months and 12 months, the changes in clinical features in all patients and the total hypogonadotropic hypogonadism group were statistically significant (p<0.001). In particular, the differences in testosterone hormone levels in the partial hypogonadotropic hypogonadism group were also statistically significant (p=0.03). No adverse event was observed in our study. The number of patients appearing sperm in the semen is 9 patients (47.4%) after 12 months, but most of the sperm were completely deformed (<1%), and the average motility in the progressive motility group was below 8%. **Conclusion:** In conclusion, a combination of hCG and clomiphene citrate may be an option for MHH patients who desired fertility. After 12 months, 47.4% of patients have sperm in semen but almost all of them were deformed. Hormone profile and secondary sexual characteristics improved significantly. There was no adverse event in our study that considered it as safe therapy. **Keywords:** male hypogonadotropic hypogonadism, MHH, total HH, total hypogonadotropic hypogonadism, partial HH, partial hypogonadotropic hypogonadism, clomiphene citrate, CC, human chorionic gonadotropin, hCG, treatment

Introduction

Male hypogonadism is divided into hypergonadotropic and hypogonadotropic (male hypogonadotropic hypogonadism, MHH). MHH is caused by insufficient secretion of gonadotropins and can be classified into three, namely, congenital, acquired and idiopathic. MHH presents as absent/delayed/arrested sexual maturation and infertility. It has lower prevalence than primary hypogonadism.¹ To optimise the management of MHH after confirmation of the disease and consideration of future fertility prospects, the timing and choice of therapeutic intervention are important. Therapy

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Human chorionic gonadotropin (hCG) is an LH analog derived from urine or recombinant sources that stimulate intratesticular Leydig cell testosterone production. hCG thus increases intratesticular and serum testosterone levels to improve spermatogenesis. 8 This IM or subcutaneous hormone replacement therapy is the only on-label pharmaceutical for .

Anastrozole (Arimidex) for Men on Testosterone Therapy



Case # 3: Monitoring During Testosterone Replacement Therapy. A 50-year old man presents with a history of decreased libido that is confirmed by his sexual partner (who is interested in having more sex with the patient). He has a history of gout. His exam is normal except for small testes (4 cc).

Recovery of spermatogenesis following testosterone replacement therapy .

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Asian Journal of Andrology (2016) 18, 373–380
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INVITED REVIEW

Male Fertility

Recovery of spermatogenesis following testosterone replacement therapy or anabolic-androgenic steroid use

J Abram McBride, Robert M Coward

The use of testosterone replacement therapy (TRT) for hypogonadism continues to rise, particularly in younger men who may wish to remain fertile. Concurrently, awareness of a more pervasive use of anabolic-androgenic steroids (AAS) within the general population has been appreciated. Both TRT and AAS can suppress the hypothalamic-pituitary-gonadal (HPG) axis resulting in diminution of spermatogenesis. Therefore, it is important that clinicians recognize previous TRT or AAS use in patients presenting for infertility treatment. Cessation of TRT or AAS use may result in spontaneous recovery of normal spermatogenesis in a reasonable number of patients if allowed sufficient time for recovery. However, some patients may not recover normal spermatogenesis or tolerate waiting for spontaneous recovery. In such cases, clinicians must be aware of the pathophysiologic derangements of the HPG axis related to TRT or AAS use and the pharmacologic agents available to reverse them. The available agents include injectable gonadotropins, selective estrogen receptor modulators, and aromatase inhibitors, but their off-label use is poorly described in the literature, potentially creating a knowledge gap for the clinician. Reviewing their use clinically for the treatment of hypogonadotropic hypogonadism and other HPG axis abnormalities can familiarize the clinician with the manner in which they can be used to recover spermatogenesis after TRT or AAS use.

Asian Journal of Andrology (2016) 18, 373–380; doi: 10.4103/1008-682X.173938; published online: 23 February 2016

Keywords: anabolic steroids; hypogonadism; infertility; spermatogenesis; testosterone; testosterone replacement therapy; vasectomy reversal

INTRODUCTION

In recent years, mass marketing has led to a greater public awareness of the age-related decline in serum testosterone levels and the association of hypogonadism with many already common medical comorbidities.^{1,2} This in part has fueled the growth of testosterone replacement therapy (TRT) for hypogonadism, which experienced a 12-fold increase in sales worldwide from 2000 to 2011.³ The same trend occurred in the United States where the greatest increase was observed in younger men aged 40–49 years by 4-fold, resulting in an age group-specific prevalence of 2.3% in 2011.⁴ This is not surprising since approximately 7% of men less than 40 years and 38% of men older than 45 years demonstrate biochemical hypogonadism when defined as $<300 \text{ ng dl}^{-1}$.^{5,6} As such, younger men are seeking treatment for hypogonadism with as many as 12.4% of all testosterone prescriptions occurring in men <39 years of age.⁷

Similar to TRT, there has also been an increase in the availability and use of anabolic-androgenic steroids (AAS). It is estimated that up to 3 million people use AAS in the United States alone, including up to 3% of high school age adolescents, 14% of collegiate athletes, and 30% of community weight trainers; however, many of these estimates are based upon older data.^{8,9} A more recent review revealed that AAS use is a common cause of profound hypogonadism with up to one of five men seeking treatment for hypogonadism reporting prior AAS

use.⁹ Interestingly, much of the increase in amateur athletic use has been attributed to cosmetic instead of athletic improvements.¹⁰ These numbers indicate a concerning shift in use to beyond the realm of professional athletics. In addition, many “dietary supplements” used for athletic or cosmetic enhancement also discretely contain AAS, with contamination rates as high as 15%.¹¹ Unfortunately, up to 50% of previous AAS users choose not to disclose their previous AAS use with physicians, potentially masking a clinician’s overall impression of the burden of AAS abuse.¹²

Both TRT and AAS use can lead to suppression of the hypothalamic-pituitary-gonadal (HPG) axis, resulting in a diminution of spermatogenesis and potential infertility. Spontaneous recovery of spermatogenesis after cessation of TRT or AAS is possible but may take several months to several years, and in some cases may be permanent.^{13–16} Taken together, the rising use of TRT and AAS in young- to middle-aged men, in conjunction with a societal shift toward greater paternal age,¹⁷ is creating an environment where clinicians are increasingly likely to encounter men seeking treatment for infertility related to prior TRT and/or AAS use or treatment for hypogonadism with interest in preserving their fertility. Meanwhile, men present to infertility specialists for vasectomy reversal (VR) at an average age of 41 ($n = 1300$), some of whom may also suffer from hypogonadism and report current or previous TRT use.¹⁸ Therefore, clinicians need to be

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In men, doctors prescribe hCG to help address the symptoms of hypogonadism, such as low testosterone and infertility. hCG can help the body increase its production of testosterone and.

Testosterone treatment of male hypogonadism - UpToDate



It depends on what you want to accomplish with the use of human chorionic gonadotropin (More info on HCG's use to improve testicular volume while using testosterone replacement can be found.

American Association of Clinical Endocrinologists . - Endocrine Practice



Hypogonadism in a male refers to a decrease in either of the two major functions of the testes: sperm

production or testosterone production. These abnormalities can result from disease of the testes (primary hypogonadism) or disease of the pituitary or hypothalamus (secondary hypogonadism). The use of testosterone to treat hypogonadism in adult .

hcg protocol - TheBody



HCG Diet Food Guide

DREAMBODY
Medical Centers

Approved Food

(Non-grape) Tomatoes	Lobster
Apples	Melba Toast
Asparagus	Mineral Water
Beet-Greens	Mushrooms
Broccoli	Mustard Powder
Buffalo	Onions
Cabbage	Oranges
Cauliflower	Parsley
Celery	Pepper
Chard	Peppers, Bell
Chicken Brest	Red Radishes
Chicory	Salt
Coffee	Shrimp
Crab	Spinach
Cucumbers	Strawberries
Eggplant	Sweet Basil
Fennel	Tea
Fresh White Fish	Thyme
Garlic	Truiva & Stevia
Grapefruit	Turkey Breast
Grissino Breadstick	Veal
Lean Beef	Vinegar
Lemon	Water
Lettuce	Zucchini

Not Approved Food

Alcohol	Energy Drinks
Apricot	Fried Chicken
Artichokes	Grapes
Artificial Sweeteners	AlcGreen Peas
Avocado	Ham
Banana	Kiwis
Beans	Mangoes
Breads	Melons
Butter	Oil
Cakes	Olives
Candies	Pastas
Carrots	Potatoes
Cherries	Pumpkins
Coconuts	Rice
Corn	Soda
Diet Sodas	Squash
Dressings	Yams



PCT Side Effects What is Arimidex (Anastrozole)? By blocking the aromatase enzyme, Arimidex directly lowers the levels of estrogen circulating in the body. This is critical for treating breast cancer because of estrogen's function on cancer cells.

Post Cycle Therapy (PCT): The Ultimate Guide - Steroid Cycles



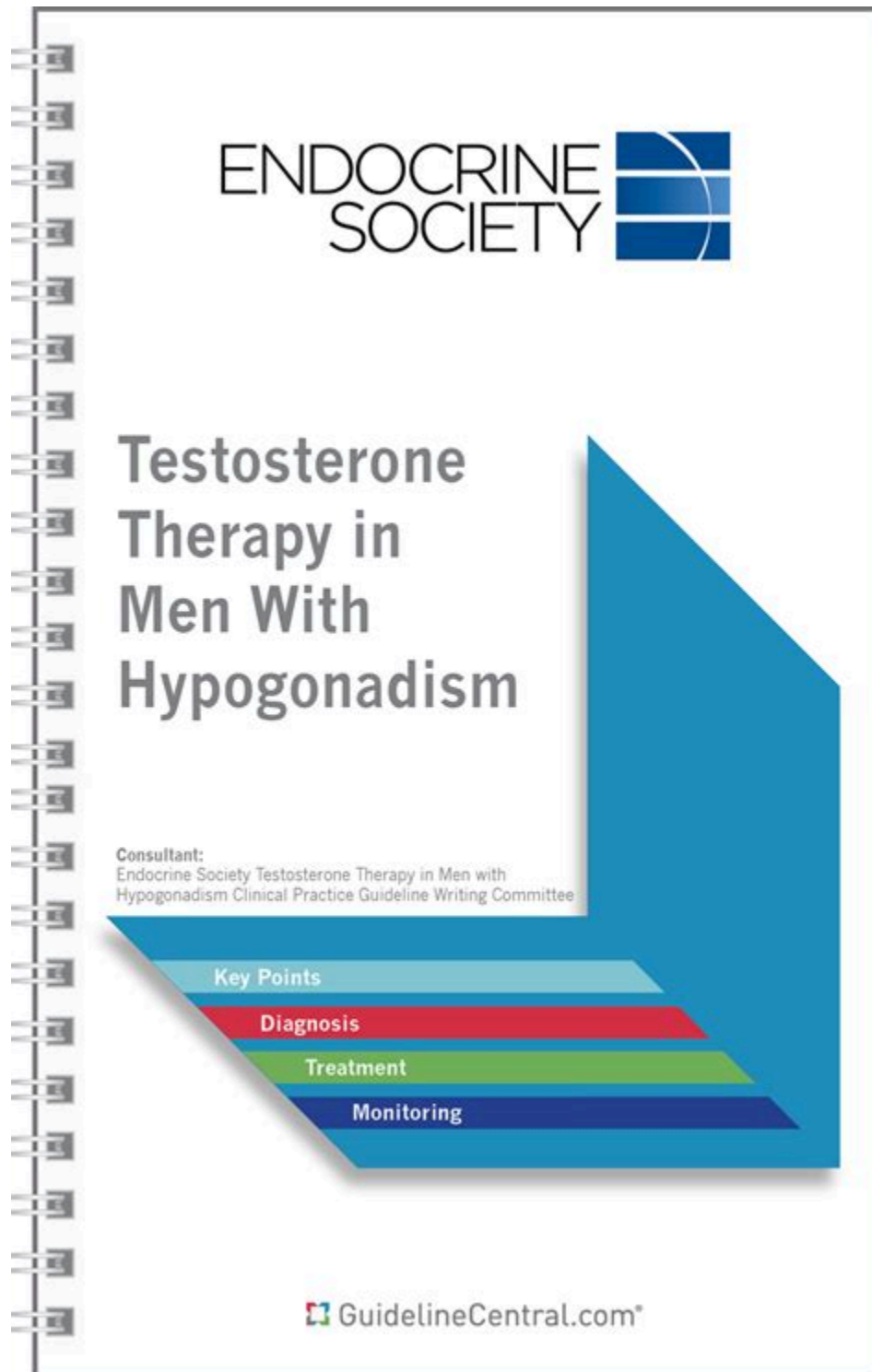
T Treatment Trifecta Testosterone + HCG + Arimidex If your doctor only prescribes testosterone by itself, you will most likely be in for a rough ride. The problem with test only regimens is that one of the main metabolites (estrogen), tends to get out of control.

What You Need to Know about Testosterone Injection Protocol



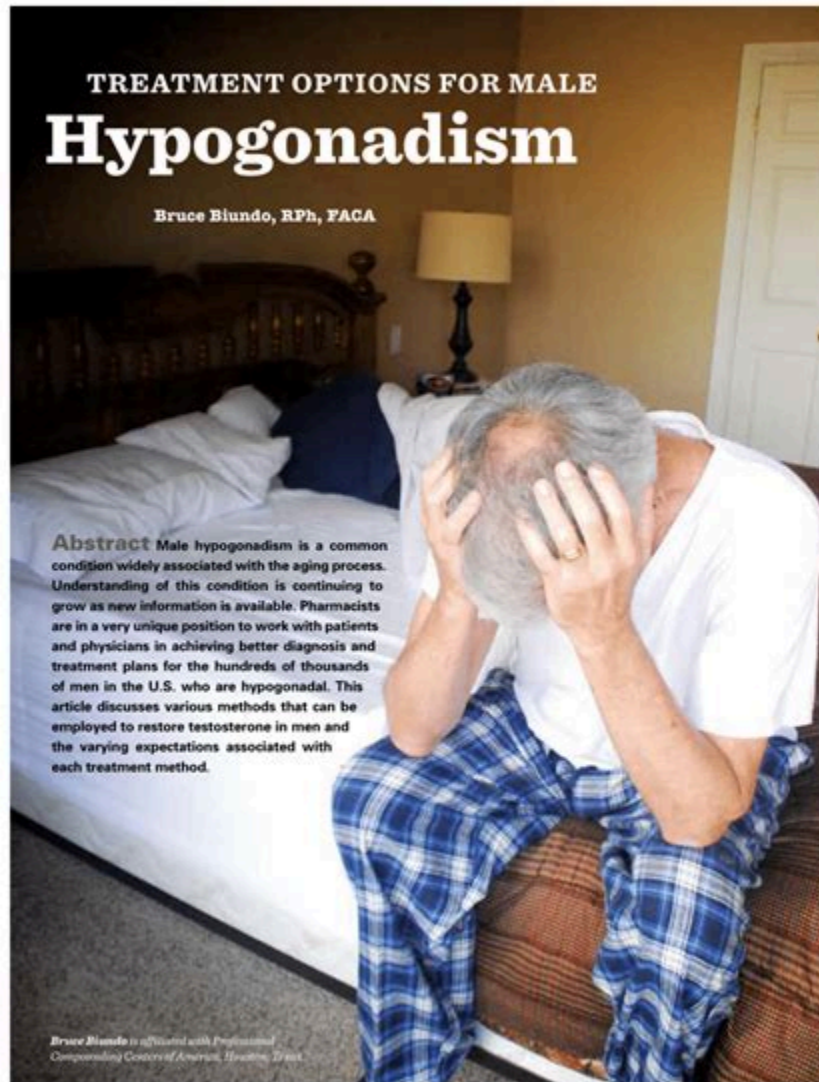
Co-administration of Anastrozole (Arimidex) The Endocrine Society's Clinical Practice Guidelines for Testosterone Therapy in Adult Men with low testosterone does not address the potential issue of high estradiol levels during TRT. As such, The Endocrine Society does not recommend for or against any treatments that lower estradiol levels.

Testosterone Therapy for Hypogonadism Guideline Resources



HCG Levels and Testosterone Dosing Schedules. There are a number of protocols currently favoured in the medical community. One common dosage pattern is a 500 IU HCG injection on days 5 and 6, used concomitantly with a weekly 100 mg testosterone injection on day 7. If you prefer a shorter dosage pattern, as I do, due to the half-life concerns of testosterone and to maintain more stable levels .

An update on male hypogonadism therapy - PMC - National Center for .



So I have been on T+HCG for about 2 weeks. I felt like my E2 was getting higher (ED & low libido, not alpha feeling, round face) so I popped .125 of Arimidex. I felt good for about 8 hours and then I quickly sank into anxiety, body aches, trouble breathing, low mood. I even bailed on my workout early.

HCG Injection Dosage Protocol For Men: Increased Testosterone Chart



Post Cycle Therapy (PCT) Guide A cycle of steroids completely changes the functioning of your natural hormone system. You might stop producing natural testosterone altogether. One of the big goals of post-cycle therapy is to get your hormone balance back on track.

TRT with HCG/ Arimidex - Testosterone Replacement - T NATION



Essential Points. Recommends making a diagnosis of hypogonadism only in men with symptoms and signs consistent with testosterone (T) deficiency and unequivocally and consistently low serum T concentrations. Recommends the use of accurate assays for the measurement of total and free testosterone and rigorously derived reference ranges for the .

PDF Testosterone Therapy in Men with Clinical Practice Guideline

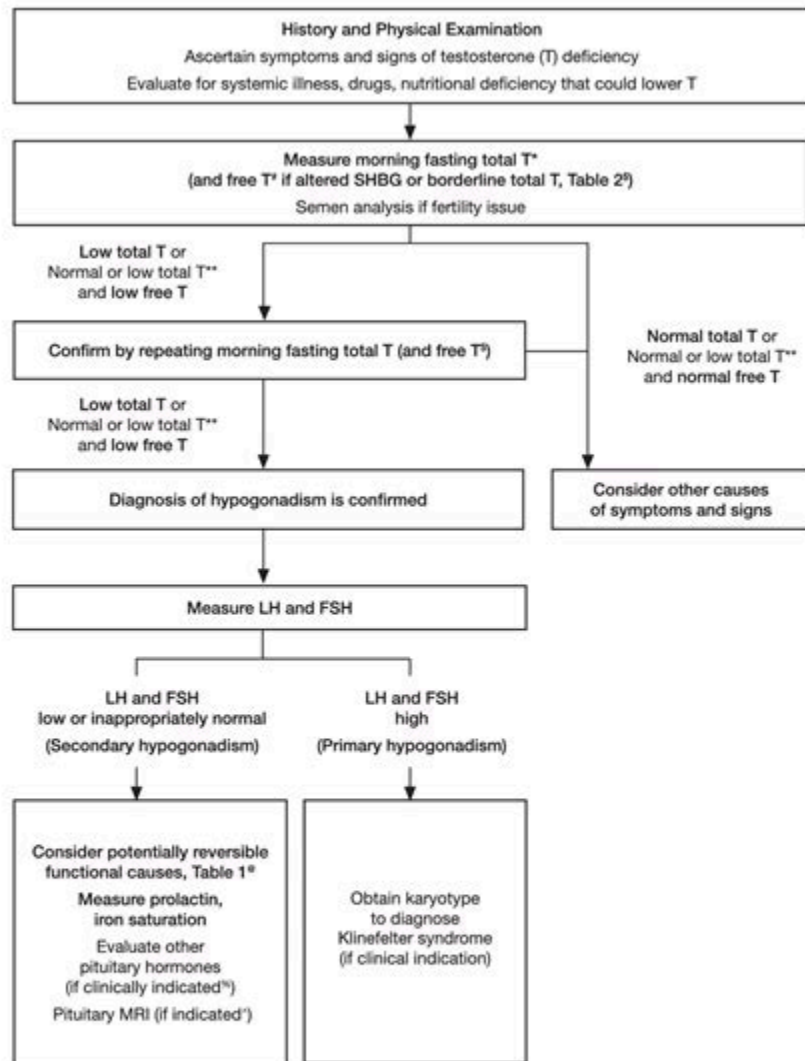
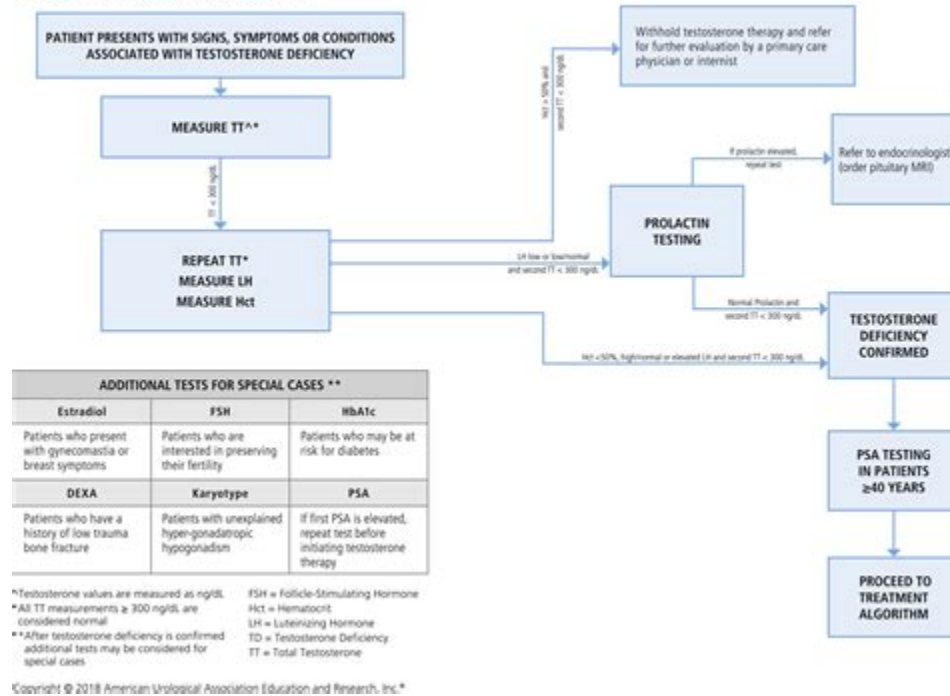


Figure 1. An approach for the diagnostic evaluation of adult men suspected of having T deficiency. *The lower limit of the normal total testosterone (TT) harmonized to the CDC standard in healthy nonobese young men is 264 ng/dL (9.2 nmol/L) (9); this limit could be used for TT assays that are CDC certified. For laboratories that are not CDC certified and do not participate in an accuracy-based quality control program, the reference range may vary considerably depending on the assay and reference population used. Using the lower limit of the range established in local laboratories may not accurately identify men with hypogonadism. [†]Free testosterone (FT) should be measured by an equilibrium dialysis method or estimated from total testosterone, SHBG, and albumin using a formula that accurately reflects FT by equilibrium dialysis. A harmonized reference range for FT has not been established, so reference ranges may vary considerably depending on the specific equilibrium dialysis method or the algorithm used to calculate FT. Therefore, until a harmonized reference range is established, the lower limits established by the laboratory may be used. [‡]Conditions in which measurement of FT concentration is recommended, including those conditions that alter SHBG levels, are listed in Table 3. **TT may also be high in some conditions in which SHBG levels are high, such as HIV

Core tip: Symptomatic hypogonadism is both a common and growing health issue. Our four case-based scenarios assess different treatment options for hypogonadotropic male hypogonadism such as clomiphene citrate, human chorionic gonadotropin, and anastrozole. Furthermore, we provide clinical recommendations that can help physicians when confronted .

Testosterone Deficiency Guideline - American Urological Association

EVALUATION AND MANAGEMENT OF TESTOSTERONE DEFICIENCY: DIAGNOSTIC ALGORITHM



Go to: Introduction The importance of the therapeutic human chorionic gonadotropin (hCG) treatment has grown tremendously over the last couple decades due to an exponential increase in the prevalence of hypogonadism in younger men and the use of anabolic androgenic steroids (AAS).

- <https://publiclab.org/notes/print/42833>
- <https://publiclab.org/notes/print/46828>
- <https://noti.st/bojafedotovyp/OxBdKh/dragon-pharma-labs-testosterone>