



# Tahlequah Drug Compounding

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## Women's Health & Wellness

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### testosterone clinical pearls from your compounding pharmacists

Typical symptoms of low testosterone:

- 1) loss of libido
- 2) erectile dysfunction
- 3) depressed mood
- 4) lethargy (couch potato)

Poor man's testosterone test: loss of sleep related erections

Goal of therapy is a serum level between 400 to 700 ng/dl. Deficiency is less than 300 ng/dl.

Level needs to be greater than 500 for increased frequency of intercourse.

Drugs that lower TTS levels: Abilify, Geodon, spironolactone, cimetidine, ketoconazole, corticosteroids, opiate use, antihypertensives, SSRIs, marijuana and statins.

**Testosterone causes a hematocrit to rise & the blood gets thicker. MONITOR this.**

Signs of too much TTS on board? excessive snoring, anxiety, aggression and breast tenderness.

Getting fat is NOT good for your testosterone level. Why? Because fat cells make estrogen.

Two ways that estrogen affects Testosterone:

- 1) Estrogen mediates the hypothalamus/pituitary axis. A high estrogen level inhibits GnRH secretion ... which causes lower LH and FSH...when means decreased TTS production.
- 2) Estrogen mediates your level of Sex Hormone Binding Globulin SHBG. If estrogen is high this stimulates SHBG formation which binds TTS and bound hormones are inactive.

A certain percent of TTS will always be aromatized to estradiol. Men need some estrogen on board so they can avoid osteoporosis, have a better lipid panel and have better cardiovascular health.

Treatment for too much estrogen is Arimidex (an aromatase inhibitor) which decreases estrogen synthesis. It has a long T<sub>1/2</sub> so you need only dose it twice a week. Takes 30 to 60 days to work. Dosing is 0.25mg three times a week.

**Erectile Dysfunction: not necessarily a testosterone issue** .... more of a function of endothelial health. This is a marker of cardiovascular disease. If you have a waist size greater than 40 inches you are at risk for diabetic and cardiovascular issues.

31% of diabetic patients have ER      52% of heart patients have ER  
if patient has diabetes and cardiovascular issues 73% of patients will have ER

These men benefit from our Sublingual Sildenafil or Testosterone. Or consider our Triple-Mix Injections (papaverine, phentolamine, and prostaglandin) which combines 3 synergistic vasodilators for penile injection.

**Dosing of topical testosterone:** Testosterone absorption in topical forms is thought to be 10%. Trans dermal absorption is slow and extremely variable. The gold standard of testosterone replacement is weekly injections. Many men opt for the topical cream instead of IM injections.

A 50 to 150 mg topical testosterone gel should put their level between 500 to 1000 ng/dL

Monitoring levels can be frustrating: You can monitor a testosterone level by a blood test, a saliva test or a blood spot test. Visit ZRT Labs to read more about this and understand the differences between them.

Hormones have a circadian rhythm .... get a level before 10:00 AM

It can be difficult to monitor topical Testosterone levels with a venous blood draw. If using topically applied Testosterone the capillary blood levels will be remarkably higher (by 10 to 20 fold) than venous blood levels. This remarkable increase is NOT seen in oral, IM or SC pellets .... in these delivery systems capillary blood and venous serum levels are about the same. The disconnect between venous and capillary levels has created enormous confusion among physicians attempting to interpret hormone test results. ZRT Lab's Dr Zava feels topical delivery of testosterone should not be determined by venipuncture serum levels because it can lead to overdosing and a potential for toxicity.

**What if you are on an upward spiral with dosing?** Your patient has an excessive buildup of red blood cells but their serum levels remain low. This is a problem because too much testosterone on board has no choice but to convert to estradiol.

If patient had a good initial response that is waning we may need to go down with the dose. Recall the concept of Tachyphylaxis ..... one can get a diminished response to later increments in a sequence of applications of a physiologically active substance.

200mg of Testosterone gel is not soluble. That gritty gel remaining on the skin is the crystallized hormone. Some practitioners have good results with a 6% solution of Testosterone in 90% absolute alcohol with 10% propylene glycol.