

HormoneSynergy®
Laurelhurst Integrative Health, LLC
2705 E. Burnside, Suite 206
Portland, OR 97215
503.230.7990
www.hormonesynergy.com

Testosterone Supplementation Options

The purpose of this handout is to explain your testosterone supplementation options. Please note that not all men choose or need testosterone supplementation. Also, remember that testosterone supplementation is the 8th step in achieving HormoneSynergy—these steps form the foundation for healthy aging. For a thorough explanation of the steps, please read my book, *HormoneSynergy: Optimal Aging & Hormone Balance*. Briefly, the steps are listed here:

The 8 Steps for Achieving HormoneSynergy:

1. Decrease stress
2. Eat a healthy diet & keep your blood sugar balanced
3. Exercise
4. Sleep well & enough
5. Avoid toxins and do a yearly detox
6. Maintain a healthy weight, including muscle and fat percentages
7. Supplements: multi-vitamin & mineral, antioxidants including CoQ10, vitamin D, resveratrol, and fish oil
8. Bioidentical testosterone supplementation, weighing your individual risks and benefits

What to expect at your next appointment:

During your next appointment, I'll review your lab results and answer questions. We'll discuss the above steps & your testosterone supplementation options (if needed), and we'll form your treatment plan. In addition, I'll write your testosterone prescription or implant your pellet(s). Please note that we only have 30 minutes to cover all of this. **If you have not read and signed this handout, you may need to return for another appointment to receive treatment.** Please read this handout and write down your questions before your next appointment.

About testosterone supplementation:

Humans are a unique species when it comes to the fact that we live much of our lives outside our reproductive years. Most animals in the wild do not live beyond their ability to reproduce – many don't even live beyond puberty. Our increased life expectancy is relatively recent – only women and men in the past few generations have had a life expectancy beyond 50 years. There is certainly much controversy about whether or not it's appropriate to restore testosterone to youthful levels as men age. Some men use testosterone for symptom management alone; some use testosterone to age optimally or lower the likelihood of developing chronic diseases such as dementia, heart disease, and diabetes.

Symptoms of Low or Suboptimal Testosterone Deficiency

The following symptoms are possible with sub-optimal or low testosterone levels in men:

- Accelerated aging
- Decreased muscle mass and strength
- Weight gain
- Low energy
- Lack of motivation
- Loss of competitive edge
- Irritability or moodiness
- Depression
- Poor concentration or focus
- Memory problems
- Decreased exercise tolerance or stamina
- Joint stiffness or aching
- Low libido
- Erectile dysfunction

The following conditions have been shown to be associated with sub-optimal or low testosterone levels in men:

- Diabetes
- Obesity
- Heart disease
- Depression
- Alzheimer's disease
- Fibromyalgia
- Anemia
- Osteoporosis

Testosterone Supplementation Options

Several testosterone delivery methods exist. Choosing a specific therapy depends on effectiveness, preference of a particular delivery system, side effects, cost, and potential insurance reimbursement. This handout will review pros and cons (seen in clinical trials and from my experience with patients), and costs for different forms of testosterone supplementation. Testosterone supplementation options are separated into pharmaceutical medications (FDA-approved drugs, often covered by insurance companies), and compounded medications (individually prepared using FDA-approved testosterone, which may or may not be covered by insurance). Please note that costs are only approximate since pharmacies vary in what they charge.

Pharmaceuticals:

- **Injection.** Testosterone injections given in a muscle every week or every two weeks have been shown to be safe and effective. Pros include high peak concentration of testosterone (note, this is usually seen as a “con”), inexpensive cost, and possible insurance coverage. Cons include fluctuations in symptom relief (a peak followed by a valley—this can be alleviated by performing injections weekly rather than 1-2 times per

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month), conversion to estrogen, and having to give yourself a shot (or see a nurse or doctor). Cost depends on dosage, and whether or not the injection is self-administered: approximately \$30 to \$100 per month.

- **Patch.** The patch (Androderm®) contains testosterone in an alcohol matrix, and is applied each night to the back, abdomen, upper arm or thigh. The application site is rotated to maintain seven-day intervals between sites in order to lessen possibility of skin reactions. Pros are that the patch provides steady levels of testosterone for 24-hours and that many insurance companies will cover the cost. Cons include probable skin irritation (seen in most men), low effectiveness (levels rarely reach the optimal range) and high cost without insurance coverage. Approximate cost is \$240-\$500 per month.
- **Gel.** Testosterone gel (AndroGel®, Testim®) is rubbed into the skin of the lower abdomen, upper arm or shoulder. Gel application of testosterone causes fewer skin reactions than patches. Showering or bathing must be avoided for several hours after application to ensure adequate absorption. Pros include less skin irritation than patches, more steady-state delivery than injections, providing testosterone that can reach optimal levels, and possible insurance coverage. Cons include possible transfer of testosterone to partners, other family members, or pets, possible decrease in effectiveness over time, and high cost without insurance coverage. Approximate cost is \$230 to \$500 per month.
- **Gum and cheek (buccal cavity).** Striant®, a tablet that softens into a gel-like substance, is placed above the top teeth, between the gum and upper lip. The testosterone in Striant is absorbed directly into the bloodstream, which is safer than oral (swallowed) testosterone. Pros include rapid absorption into the blood stream (bypassing the liver), steady delivery state (especially if used twice a day), and possible insurance coverage. Cons include gum irritation, bitter taste, possible swallowing of the tablet, and high cost if out-of-pocket. Approximate cost is \$250 per month.

Compounded Forms of Testosterone

- **Sublingual troches or lozenges.** Troches are made by a compounding pharmacy and are dissolved between the cheek and gum, once or twice a day. The testosterone in a troche is absorbed directly into the bloodstream; therefore, troches may not have the same risks to the liver as oral testosterone. Pros of sublingual troches include relatively rapid peak in testosterone and effectiveness at increasing testosterone levels to the optimal range. Cons include the fact that troches may not provide a steady level of testosterone, may have to be used twice a day, and may increase estradiol more than other forms (this is because of the “burst” of testosterone that is delivered). In addition, some of the testosterone may be swallowed so this mode of delivery is not recommended for men with liver problems. Cost will depend on the dosage, number of

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troches used, and the choice of compounding pharmacy. Approximate cost for most pharmacies is \$30 to \$100 per month.

- **Oral.** Oral testosterone supplementation is not recommended due to increased risk for cholesterol problems, blood clots, hepatitis, and liver cancer.
- **Topical gel or cream.** Compounded testosterone creams or gels can be made in smaller amounts than the pharmaceutical (less cream or gel, more potent) and are applied the same way – rubbed into the skin of the lower abdomen, upper arm or shoulder. Pros include significantly lower cost than Androgel or Testim, less skin irritation than patches, and effectiveness for some men. Cons include possible transfer of testosterone to partners, other family members, or pets, poor absorption in some men, and possible decrease in effectiveness over time. Approximate cost is \$30 to \$100 per month.
- **Pellet implants.** Testosterone pellets are implanted in the buttocks (occasionally in the lower abdomen) and last an average of 4-6 months. The procedure requires local anesthesia (an injection of lidocaine) and small (~5mm) incision. Pellets provide a steady delivery of testosterone and have been shown in clinical studies to be very effective at helping with symptoms. Pros include effectiveness (most find pellets the most effective form of testosterone replacement), ease, and convenience (not having to use something daily). In addition, testosterone pellets do not expose family members or pets to testosterone (unlike topical gels or creams). Cons include having to have a minor surgical procedure, bruising, possible extrusion (rare), and soreness for a few days to one week after insertion. Some insurance companies cover the cost of pellet insertion; some will cover the insertion and pellets. Average monthly cost for testosterone pellets depends on the size and number of pellets used, and frequency of insertion, approximately \$40 to \$75 (not including cost of insertion).

I have read this handout thoroughly and am aware of my options for testosterone supplementation, as well as my option not to use any hormone replacement. I have also reviewed the Pellet FAQ handout. I understand that Dr. Retzler will discuss my personal risks and benefits of testosterone during my appointment, and that I can ask questions about my treatment during my appointment.

Signed: _____ **Date:** _____

Consent for Testosterone Implanted Pellets

Testosterone pellet implants have been used for hormone replacement since 1940. Current implants are well standardized and release testosterone at a very consistent rate. Testosterone pellets are placed under the skin of hip. This is performed by a physician as an outpatient office procedure under local anesthesia. The procedure takes minutes and is virtually pain free. Antibiotics may be given before the procedure or following the procedure to prevent an infection (in diabetics or men with a history of joint replacement).

Complications are rare and include extrusion of the pellet, bleeding, and infection. Risk of complications is lessened by following post-op instructions. Pellets are not removed and wear off on their own. The implanted pellets deliver testosterone for 4-6 months depending on the number of pellets used and the patient. The first time pellets are implanted testosterone and estradiol levels will be checked at 4 weeks, and month 3-5 (whenever the patient becomes symptomatic) to determine when additional pellets are needed. On average, testosterone pellets are implanted at 4-6 month intervals.

Many people (as well as doctors) haven't heard of pellets for testosterone supplementation. This is likely because most continuing medical education for doctors is funded by drug companies. Since pellet implants are relatively inexpensive and are compounded (except for the FDA-approved pellet Testopel®), there is no incentive for drug companies to teach doctors how to use them. Fortunately this is changing since there are a few physicians who now teach their colleagues how to use pellet implants in patients. In addition, the pharmaceutical FDA-approved testosterone pellet (Testopel®) is available for men.

Instructions for subcutaneous testosterone pellet implants

- It is required that you have a negative PSA and digital prostate exam prior to receiving testosterone.
- If you are diabetic or have had a joint replaced, an antibiotic (Keflex or Doxycycline) may be given prior to the procedure. If so, you are to take one dose of antibiotics before the procedure and one or two doses following the procedure.
- No vigorous physical activity for 48 hours following the procedure.
- You may apply an ice pack to the incision for 1-2 hours following the procedure.
- You may shower in 24 hours. A dry dressing (no antibiotic ointment) may be applied during the day to protect the incision. After the first 24 hours, leave the incision open to air at night.
- You may drive yourself to and from the procedure.

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- You must notify Dr. Retzler of any allergies or bleeding problems prior to the procedure including anti-coagulants (e.g. coumadin, Plavix) or aspirin therapy.
- You should notify other health care providers that you chosen to use testosterone implants.

I have read and understand the above information. I understand the procedure, benefits, risks, possible side effects/complications, and alternatives to the 'Implantation of Testosterone Pellets' and testosterone replacement therapy. I consent to subcutaneous hormone pellet treatment and I agree to allow Kathryn Retzler, ND to implant the testosterone pellets. I agree to the above-mentioned follow up and will notify other health care providers as well as Dr. Retzler of any side effects that I might experience. I agree to hold Dr. Retzler and Laurelhurst Integrative Health / HormoneSynergy harmless for any complications that may occur.

Patient Signature

Witness