

Laurelhurst Integrative Health

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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 replacement 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).

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 significant fluctuations in symptom relief (a peak followed by a valley), conversion to estrogen (common), 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 cost if out-of-pocket. Approximate cost is \$250 per month.

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Compounded Forms of Testosterone

- **Sublingual troches or lozenges.** Troches are made by a compounding pharmacy and are dissolved under the tongue once or twice a day. The testosterone in a troche is absorbed directly into the bloodstream, so it doesn't have the same risks to the liver as oral testosterone, and it can be administered at lower dosages than oral. Pros of sublingual troches include relatively rapid peak in testosterone, safety, 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 will be swallowed so this mode of delivery is not recommended for men with liver problems. Cost will depend on the dosage, number of troches used, and the choice of compounding pharmacy. Approximate cost for most pharmacies is \$30 to 100.
- **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 can be made in smaller amounts than the pharmaceutical (less cream, more potent) and is applied the same way – rubbed into the skin of the lower abdomen, upper arm or shoulder. Pros include significantly cheaper than Androgel or Testim, less skin irritation than patches, effective for some men, and low cost. 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 (a shot 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). Testosterone pellets also carry no risk for exposing 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 after insertion. Some insurance companies cover the cost of pellet insertion; some will cover the insertion and pellets. Average monthly cost for testosterone pellet implants, including insertion, is \$72 to \$112.