CONNECTICUT MEDICAL ASSISTANCE PROGRAM
DEPARTMENT OF SOCIAL SERVICES
&
ACENTRA HEALTH
QUARTERLY NEWSLETTER

Comprehending Male Hypogonadism

The March 2026 newsletter is the second part of a two-part series on testosterone use for age related male hypogonadism. The first part, published in December 2025, covered the etiology, epidemiology, and diagnosis of male hypogonadism, effects of direct-to-consumer advertising on prescribing, and landmark testosterone drug trials. This second series focuses on the risks and benefits of testosterone replacement therapy (TRT), warnings and contraindications associated with use, and the different formulations available in the US.

When considering prescribing TRT, it is important to weigh the risks and benefits of therapy, obtain an appropriate diagnosis and labs, and consider the entire clinical picture of the patient. Risks associated with TRT include infertility, polycythemia, pulmonary embolism (PE), deep vein thrombosis (DVT), atrial fibrillation (AFib), increased detection of subclinical prostate cancer, inconclusive cardiovascular (CV) risks, increased blood pressure (BP), hepatitis, hepatocellular carcinoma, and risk of abuse.[1] Benefits of TRT in appropriate patients include increased libido, and erection, correction of anemia, decreased dysthymia, increased mood, energy, and walking distance, and an increase in bone mass and strength. Testosterone promotes the growth of certain cancers, therefore, TRT is contraindicated in prostate and breast cancer.[1] Prior to initiating TRT recommended labs include confirmation of low testosterone with two or more levels for diagnosis, a baseline Prostate Specific Antigen (PSA) value, and hematocrit (Hct). It is recommended to monitor PSA levels while on therapy at three months and then every year. Referral to a urologist is recommended if PSA levels increase more than 1.4 ng/dL above baseline or exceed 4 ng/dL. It is recommended to monitor Hct at three months and then once yearly thereafter. It is recommended to decrease the TRT dose if Hct exceeds 52% and to discontinue TRT if Hct exceeds 54%, due to increased risk of erythrocytosis.[1,2] Assessment of BP and CV disease is also recommended prior to initiating therapy. It is important to note that older men may be at an increased risk of TRT related adverse events due to lower testosterone clearance rates, leading to higher-than-normal serum testosterone, compared to younger men.[1]

There are 5 different dosage forms of testosterone available in the United States (US): topical gels and solution, intranasal gel, oral capsules, injectables, and implantable pellets. Many formulations are available as both brand and generic. Note that, transdermal patches are no longer available in the US. It is important as healthcare professionals to be familiar with the nuances of the individual testosterone products to assist patients in selecting the best therapeutic option. Listed below are the five different testosterone formulations available detailing the clinical pearls and caveats of each product, as well as dosing, administration, and monitoring recommendations.[3]

Topical Testosterone Products carry the risk of accidental exposure to women and children. Counsel patients to cover application site. Do not wash application site until the absorption time has passed.[3]

- Testosterone gel 1% - generic products are available in three dosing/formulation options; a metered dose pump that delivers 12.5 mg per actuation, 25 mg packets, and 50 mg packets. Dose application is once daily to upper arms, shoulders, or stomach and it is advised not to wash application area for at least 5 hours. Recommended dosing range is 50-100 mg daily.

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Recommended serum testosterone monitoring is at 14 and 28 days after therapy is initiated, and after any dosage adjustment.[4]

- Androgel (testosterone gel) 1.62% - brand and generic products are available in three dosing/formulation options; a metered dose pump that delivers 20.25 mg per actuation, 20.25 mg packets, and 40.5 mg packets. Dose application is once daily to upper arms or shoulders. If using pump, prime 3 times prior to dispensing dose. Do not wash application area for at least 2 hours. Dosing range is 20.25 – 81 mg per day. Recommended serum testosterone monitoring at 14 and 28 days after therapy is initiated, and after any dosage adjustment.[5]

- Testosterone gel 10 mg/pump – generic products available in a metered dose pump that delivers 10 mg per actuation. Prime pump 8 times prior to dispensing dose. Application is once daily on thighs. Do not wash application area for at least 2 hours after application. Dosing range is 10 – 70 mg per day. Recommended serum testosterone monitoring is 14 and 35 days after therapy is initiated, and after any dosage adjustment.[6]

- Testim 1% and Vogelxo 1% - brand and generic products available. Testim is available in 50 mg unit dose tubes. Vogelxo is available in 3 options; 50 mg unit dose tube, 50 mg unit dose packet, and a metered dose pump that delivers 12.5 mg per actuation. Application is once daily to shoulders or upper arms. If using the pump, prime 3 times prior to use. Do not wash application area for at least 2 hours after medication is applied. Dosing range is 50 – 100 mg per day. Recommended serum testosterone monitoring is 14 days after therapy is initiated, and after any dosage adjustment.[7,8]

- Testosterone solution 30 mg/pump - generic products available in a metered dose pump that delivers 30 mg per actuation. Prime pump 3 times prior to dispensing dose. Once primed, dispense the dose directly into the applicator, which holds 1 pump at a time. Application is once daily into the armpit, wiped in via the applicator. If dose is greater than 30 mg, alternate armpits for application. It is recommended to apply deodorant prior to application of testosterone to avoid contaminating deodorant. Do not wash application area for at least 2 hours after medication is applied. Dosing range is 30 – 120 mg per day. Recommended serum testosterone monitoring is 14 days after therapy is initiated, and after any dosage adjustment.[9]

Nasal gel Product carries a decreased risk of accidental exposure compared to topical formulations. It is recommended not to use in patients with chronic nasal issues. Requires multiple daily applications. Most common side effects include headache, rhinorrhea, upper respiratory and sinus infections.[3]

- Natesto – available in brand only, in a metered dose pump that delivers 5.5 mg per actuation. To prime pump, invert and prime 10 times prior to dispensing dose. Prior to application, patients should blow their nose. The recommended dose is 11 mg (2 pump actuations, one per nostril), applied intranasally three times daily, at least 6-8 hours apart. Counsel patients to not blow their nose or sniff for at least 1 hour after application. Monitor serum testosterone after 1 month of treatment.[10]

Oral Capsule – Testosterone undecanoate, oral formulations are only available as branded products Jatenzo, Kyzatrex, and Tlando. Not recommended to use in men with uncontrolled hypertension. These products must be taken with food.[3]

- Jatenzo - capsules are available in the following strengths: 158 mg, 198 mg, 237 mg. Initiate treatment at 237 mg twice a day with food. After 7 days of treatment, serum testosterone levels should be taken 6 hours after the morning dose. Dosing range is 158 mg twice a day - 396 mg twice a day (max).[11]

- Kyzatrex - capsules are available in the following strengths: 100 mg, 140 mg, 200 mg. Initiate treatment at 200 mg twice a day with food. After 7 days of treatment, serum testosterone levels should be taken 6 hours after the morning dose. Dosing range is 100 mg twice a day - 400 mg twice a day (max).[12]

- Tlando – 112.5 mg capsules are avail-

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able. Recommended dose is 225 mg twice a day with food. Monitor serum testosterone (8 to 9 hours after the morning dose) 3 to 4 weeks after initiating therapy. There are no dose adjustment recommendations for this medication, therefore, if serum testosterone levels are not within range, discontinue medication.[13]

Injectable Products These products have a longer duration of action compared to other formulations but are associated with larger fluctuations in serum testosterone levels leading to mood swings and irritability. For this dosage form, patients should be comfortable with needles and may require in-office administration. There is a risk of injection site reactions.[1,3]

- Testosterone cypionate – available in brand and generic in 100 mg/ml (10 ml vials) or 200 mg/ml (1 ml and 10 ml vials). Administer intramuscularly into the gluteal muscle. Dosing recommendations differ based on source (ranging anywhere from 50 mg – 400 mg every 1-4 weeks), however, smaller and more frequent doses are recommended to keep patients within normal range. Monitor serum testosterone after cycle 4.[14]

- Testosterone enanthate (Delatestryl) - available in brand and generic as a 200 mg/ml (5 ml multi-use vial) for intramuscular gluteal injection. Dosing recommendations differ based on source (ranging anywhere from 50 mg – 400 mg every 1-4 weeks), however, smaller and more frequent doses are recommended to keep patients within normal range. It is recommended to monitor serum testosterone after cycle 4.[15]

- Testosterone enanthate (Xyosted) - available in brand only as a 50 mg/0.5ml (single-dose autoinjector), 75 mg/0.5ml (single-dose autoinjector), or 100 mg/0.5ml (single-dose autoinjector) for sub-cutaneous injection to the abdomen once a week. Initiate treatment with the 75 mg dose and measure serum trough levels after 6 weeks of treatment.[16]

- Testosterone undecanoate oil for injection (Aveed) - available in brand only through a Risk Evaluation and Mitigation Strategy (REMS) program due to risk of pulmonary oil microembolism (POME) reactions and anaphylaxis. Although rare, these adverse reactions were reported to occur immediately after injection, therefore patients must be monitored by a healthcare professional for 30 minutes after injection. Recommended dosing is 3 mL (750 mg) intramuscularly at initiation, at 4 weeks, and every 10 weeks thereafter. Monitor after cycle 4.[17]

Implantable Pellet This formulation has the longest duration of action. Administration requires an in-office procedure to implant. Risks associated with this dosage form include infection at implantation site and pellet extrusion after insertion.[3]

- Testopel (testosterone pellets) - available in brand only in a 75 mg pellet to be inserted under the skin in a fatty area such as the hip. Recommended dosing is 150 mg to 450 mg subcutaneously every 3 to 6 months, however, higher doses 450 mg – 750 mg have shown better therapeutic levels of testosterone. Testosterone levels should be measured at 2 and 12 weeks post insertion.[18]

When determining whether TRT is appropriate it is important to assess the entire clinical picture, establish a valid diagnosis, weigh the risks and benefits, rule out contraindications, consider warnings associated with use, and decide collaboratively with the patient if TRT is the best option for their individual situation. Knowing the differences between testosterone formulations can help patients make the best individual selection. As discussed in December 2025 newsletter, mass marketing through DTCA and low-T clinics have increased demand and off-label use of TRT in recent decades leading to increased consumer costs, adverse drug events, and risks to patient safety.[19] With the exception of urologists and endocrinologists, there is a lack of training on proper diagnosis and treatment of male hypogonadism, however, more medical professionals are entering the business of TRT without the proper training, education, or background.[2] Remembering that gradual testosterone decline is a normal part of aging and that clinical benefit and long-term safety of TRT for age related hypogonadism has not been established is key when addressing this health care topic.[1]

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3. Bookwalter C. A review of testosterone therapy options for men. *US Pharm*. 2023;48(6): 17-21.
4. Testosterone Gel 1%. Durham, NC: Encube Ethicals, Inc.; January 2025.
5. AndroGel 1.62% (testosterone). Morristown, NJ: ASCEND Therapeutics US, LLC; July 2025.
6. Testosterone gel. Parsippany, NJ: Actavis Laboratories UT, Inc. June 2020.
7. Testim 1% (testosterone). Malvern, PA: Endo USA; July 2025.
8. Vogelxo (testosterone). Maple Grove, MN: Upsher-Smith Laboratories, LLC; April 2020.
9. Testosterone solution. Salt Lake City, UT: Actavis Laboratories UT, Inc.; March 2025.
10. Natesto (testosterone). Toronto, Ontario: Acerus Pharmaceuticals Corporation; July 2025.
11. Jatenzo (testosterone undecanoate). Fort Collins, CO: Tolmar, Inc.; September 2025.
12. Kyzatrex (testosterone undecanoate). Raleigh, NC: Marius Pharmaceuticals; July 2025.
13. Tlando (testosterone undecanoate). Ewing, NJ: Verity Pharmaceuticals, Inc; July 2025.
14. Testosterone cypionate. Cockeysville, MD: Pharmaceutics International, Inc; June 2025.
15. Delatestryl (testosterone enanthate). E. Windsor, NJ: Eugia US LLC; July 2025.
16. Xyosted (testosterone enanthate). Ewing, NJ: Antares Pharma, Inc.; July 2025.
17. Aveed (testosterone undecanoate injection). Malvern, PA: Endo USA; July 2025.
18. Testopel (testosterone). Malvern, PA: Endo Pharmaceuticals Inc; July 2025.
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