
TESTOSTERONE (various) Fact Sheet [G]

Bottom Line:

Successful marketing has convinced the public that “low T” is a public health scourge, leading to over-prescribing of testosterone for patients who don’t need it. Prescribe it only for men with demonstrably low testosterone levels and accompanying symptoms.

FDA Indications:

Hypogonadism.

Dosage Forms:

- **Capsules (Android):** 10 mg methyltestosterone.
- **Buccal ER tablet (Striant):** 30 mg.
- **Topical gel (AndroGel, Androderm, others):** 1%, 2%.
- **Long-acting depot injection (Depo-Testosterone, [G]):** 100 mg/mL, 200 mg/mL.

Dosage Guidance:

- Dosing varies from daily dosing of oral, buccal, and topical agents to Q2–4 week or Q3–6 month dosing of injectable formulations.
- Schedule III controlled substance.

Monitoring: Hematocrit, bone density, LFTs.

Cost: Capsule: \$\$\$\$\$; buccal: \$\$\$\$\$; gel: \$\$\$\$; depot injectable: \$

Side Effects:

- Most common: Nausea, headache, insomnia, anxiety, acne, water and electrolyte retention, local effects (eg, gum irritation with buccal formulation, application site irritation with gel, injection site pain with injectables).
- Serious but rare: Thromboembolic events (DVT, PE), myocardial infarction, stroke, worsening BPH, risk of prostate cancer.

Mechanism, Pharmacokinetics, and Drug Interactions:

- Anabolic and androgenic testosterone receptor agonist.
- Metabolized primarily through liver (non-CYP450); t $\frac{1}{2}$: Varies.

Clinical Pearls:

- Hypogonadism may play a significant role in erectile dysfunction, and a threshold level of testosterone may be necessary for normal erectile function. However, testosterone levels needed for normal sexual function vary widely; some men may have normal function even with age-adjusted levels in the lower-normal range. Testosterone replacement may be appropriate when both clinical symptoms and biochemical evidence of hypogonadism exist.
- Available data indicate that all testosterone products may be equally effective and associated with similar side effect profiles.

Fun Fact:

Stephen Braun, a medical writer, described how he was funded by Abbott Pharmaceuticals to help write a “consensus panel” statement for a physician’s organization. Two of his paragraphs casting doubt on the dangers of low testosterone were deleted from the final document (Braun S, *JAMA Internal Medicine* 2013;173(15):1458–1460).