

## Testosterone

### **Indications:**

- Hypogonadism or androgen replacement therapy in males with low testosterone levels [1]
- Restoring physiological testosterone levels in women [1]

### **Before starting therapy, tell your doctor if you have any of the following conditions:**

- History of stroke, heart attack, or acute coronary syndrome [1] [5]
- History or diagnosis of prostate cancer [1] [5]
- History or diagnosis of breast cancer [1] [6]
- Heart failure [1] [6]
- Liver dysfunction [1] [6]
- Kidney dysfunction [1] [6]
- Severe or uncontrolled sleep apnea [1] [6]
- Enlarged prostate [1] [6]
- Pregnant [1] [6]
- Breastfeeding [1] [7]

### **Protect friends and family from exposure to testosterone:**

- Avoid Skin-to-skin contact with other people and pets where testosterone has been applied as well as secondary items such as sheets, towels, and laundry. If such contact does occur, wash the area well with soap and water right away. [5]
- If you expect to have skin-to-skin contact with another person, first wash the application area well [5]
- Safe Application [6]
  - Do not allow others to apply testosterone to your body.
  - Apply testosterone to areas that will be covered by a short sleeve shirt (eg. shoulders, upper arms, forearm) and wash your hands after application.)

- Wait 2 hours before showering or swimming to ensure that the full dose of testosterone is absorbed.

**Possible side effects of topical testosterone include:**

- Acne [\[2\]](#) [\[3\]](#)
- Skin irritation where testosterone is applied [\[2\]](#) [\[3\]](#)
- Adverse changes in cholesterol levels [\[2\]](#) [\[3\]](#)
- Increased red blood cell count (increased risk of clotting) [\[2\]](#) [\[3\]](#)
- Worsening of symptoms from enlarged prostate (urinary hesitancy or change of frequency) [\[2\]](#) [\[3\]](#)
- Hypoglycemia [\[2\]](#) [\[3\]](#)
- Aggressive behavior or changes in mood [\[2\]](#) [\[3\]](#)
- Enlarged or tender breasts [\[2\]](#) [\[3\]](#)
- Lower sperm count and testicular atrophy at high doses [\[2\]](#) [\[3\]](#)

**The following are serious adverse effects and require immediate medical attention:**

- Leg pain, swelling, warmth, and redness. [\[4\]](#) [\[7\]](#)
  - Signs and symptoms of a blood clot in your lungs include difficulty breathing or chest pain. [\[4\]](#) [\[7\]](#)
- Excessive urinary frequency or retention [\[4\]](#) [\[8\]](#)
- Severe allergic reaction indicated by swelling of the face/lips/throat, severe rash, difficulty breathing [\[4\]](#) [\[8\]](#)

**Drug Interactions**

- Insulin - testosterone may increase the blood sugar lowering effects of insulin and other diabetes medications [\[1\]](#) [\[9\]](#)
- Corticosteroids - testosterone may increase fluid retention [\[1\]](#) [\[9\]](#)
- Blood thinners - testosterone can enhance the effects of blood thinning medications [\[1\]](#) [\[9\]](#)
- Contraindications: Pregnancy, breastfeeding

**Storage:**

- Store this medication at 68°F to 77°F (20°C to 25°C) and away from heat, moisture and light. Keep all medicine out of the reach of children. [\[4\]](#)

Note: Clinical data with testosterone supplementation has been primarily in studies with men only. If you notice other side effects that you think are caused by this medicine, tell your doctor. Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088

### **How to Use:**

#### Topical

- 1) Wash hands thoroughly before applying medication.
- 2) Place topically onto the outer arm/shoulder, top of thigh, or as directed by doctor. Rub in well for 30-60 seconds.
- 3) Wash hands thoroughly after applying medication.
- 4) Wait 2 hours before showering or swimming to ensure that the full dose of the hormone is absorbed.

#### IM

- 1) Wash hands thoroughly and make sure to clean your work area prior to drawing up testosterone.
- 2) Wipe puncture site of medication bottle with alcohol swab.
- 3) Use a syringe with an 18g needle to puncture and draw up prescribed amount of medication.
- 4) Make sure there are minimal air bubbles in the syringe.
- 5) Swap needle to the size in which you will be injecting yourself (typically 25-27g).
- 6) Swab desired area of injection with alcohol swab (upper arm, thigh, or buttocks).
- 7) Inject medication by inserting syringe at 90 degree angle and pushing down on plunger slowly until all medication is out of the syringe.
- 8) You can apply a band-aid to prevent bleeding. Clean up and wash hands.
- 9) Make sure to dispose of needles into sharps container.

#### SQ

- 1) Wash hands thoroughly and make sure to clean your work area prior to drawing up testosterone.
- 2) Wipe puncture site of medication bottle with alcohol swab.
- 3) Use a syringe with an 18g needle to puncture and draw up prescribed amount of medication.
- 4) Make sure there are minimal air bubbles in the syringe.
- 5) Swap needle to the size in which you will be injecting yourself (typically 28-31g).

- 6) Swab desired area of injection with alcohol swab (abdomen or top of thigh).
- 7) Inject medication by pinching fatty tissue around the stomach (at least 2 inches away from belly button), inserting syringe into subcutaneous tissue and pushing down on plunger slowly until all medication is out of the syringe.
- 8) You can apply a band-aid to prevent bleeding. Clean up and wash hands.
- 9) Make sure to dispose of needles into sharps container.

#### References:

- [1] <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4212439/>
- [2] <https://www.ncbi.nlm.nih.gov/books/NBK534853/>
- [3] <https://www.aafp.org/pubs/afp/issues/2017/1001/p441.html>
- [4] [https://www.accessdata.fda.gov/drugsatfda\\_docs/label/2014/085635s029lbl.pdf](https://www.accessdata.fda.gov/drugsatfda_docs/label/2014/085635s029lbl.pdf)
- [5] <https://www.rxlist.com/depo-testosterone-side-effects-drug-center.htm#consumer>
- [6] <https://www.fda.gov/drugs/drug-safety-and-availability/fda-drug-safety-communication-fda-cautions-about-using-testosterone-products-low-testosterone-due#:~:text=Safety%20and%20Availability-,FDA%20Drug%20Safety%20Communication%3A%20FDA%20cautions%20about%20using%20testosterone%20products,attack%20and%20stroke%20with%20use&text=The%20testosterone%20product%20labels%20have%20been%20updated.>
- [7] <https://medlineplus.gov/druginfo/meds/a614041.html>
- [8] <https://www.fda.gov/drugs/postmarket-drug-safety-information-patients-and-providers/testosterone-information>
- [9] <https://www.goodrx.com/testosterone-cypionate/what-is>