

MALE HORMONE THERAPY OPTIONS

The following tables have been compiled by Women's International Pharmacy staff pharmacists to represent some of the more frequently prescribed regimens for men. The Women's International Pharmacy logo is placed throughout the tables to signify the hormones and dosage forms Women's International Pharmacy compounds. Other therapies may be considered and appropriate depending on individual differences.

This material is for informational purposes. It is not intended as a substitute for medical advice. Please consult a qualified health care professional for individual health and medical advice.



= Compounded by Women's International Pharmacy

Oral Testosterone

| ORAL TESTOSTERONE | | | | |
|--|----------------------------|------------------------------|--|--|
| BIOIDENTICAL | DOSAGES Available | DOSING REGIMEN | COMMENTS/REFERENCES | |
| Testosterone capsules (compounding pharmacies) | Any | 25-120 mg daily | Brownstein D. The Miracle of Natural Hormones, 3rd Edn. (W. Bloomfield, MI: Medical Alternatives Press) 2003:128. | |
| NON-BIOIDENTICAL | DOSAGES AVAILABLE | DOSING REGIMEN | COMMENTS/REFERENCES | |
| Jatenzo® testosterone undecanoate capsule (Clarus Therapeutics) | 158 mg 198 mg 237 mg | 158 mg 396 mg twice daily | Twice daily dosing with food. (Jatenzo® [package insert]. Clarus therapeutics, Inc., Northbrook, IL; 2019) | |
| Methitest® methyltestosterone tablets (Amneal Pharmaceuticals) | 10 mg 25 mg | 10-50 mg daily | Generics available. Periodic liver function tests needed because of association with hepatotoxicity with oral methylated androgens. (Drug Facts And Comparisons; 2006:259a.) | |
| Testred ®methyltestosterone capsules (Valeant) | 10 mg | 10-50 mg daily | Generics available. See Android® for further comments. | |

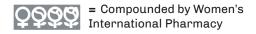
enzyme conversion from testosterone to estrogen. (Schmidt M, et al. *Journal of Endocrinology* 1998; 158:401-407.)

| ORAL DHEA | | | | |
|---|----------------------|-------------------|---|--|
| BIOIDENTICAL | DOSAGES AVAILABLE | DOSING REGIMEN | COMMENTS/REFERENCES | |
| DHEA (dehydroepiandrosterone) capsules (compounding pharmacies) | Any | 5-50 mg daily | Brownstein D. The Miracle of Natural Hormones, 3rd Edn. (W. Bloomfield, MI: Medical Alternatives Press) 2003:128. Hertoghe T. The Hormone Solution, (New York, NY: Harmony Books) 2002:264. | |

| ORAL PROGESTERONE | | | | |
|--|----------------------|-------------------|--|--|
| BIOIDENTICAL | DOSAGES AVAILABLE | DOSING REGIMEN | COMMENTS/REFERENCES | |
| Progesterone capsules (compounding pharmacies) | Any | 2-10 mg daily | Brownstein D. The Miracle of Natural Hormones, 3rd Edn. (W. Bloomfield, MI: Medical Alternatives Press) 2003:99. Progesterone may inhibit the 5α reductase enzyme reaction from testosterone to dihydrotestosterone. (Giacomini M, et al. <i>Journal of Steroid Biochemistry</i> 1980; 13:645-651.) Progesterone may inhibit the aromatase | |

| ORAL PREGNENOLONE | | | |
|--|----------------------|---------------------------------|---|
| BIOIDENTICAL | DOSAGES AVAILABLE | DOSING REGIMEN | COMMENTS/REFERENCES |
| Pregnenolone capsules (compounding pharmacies) | Any | 10-50mg daily to twice daily | Brownstein D. The Miracle of Natural Hormones, 3rd Edn. (W. Bloomfield, MI: Medical Alternatives Press) 2003:178. Regelson W. The Super Hormone Promise (New York, NY: Simon & Schuster) 1996:255. |

| TRANSDERMAL PATCHES - TESTOSTERONE | | | | |
|--|---------------------|-----------------------------------|---|--|
| BIOIDENTICAL | COMMENTS/REFERENCES | | | |
| Androderm® testosterone (Allergan) | 2 mg 4 mg | 1 patch nightly every 24 hours | Apply to clean, dry skin on the back, abdomen, upper arms or thighs, but DO NOT apply to scrotum. (<i>Drug Facts And Comparisons</i> ; 2006:261.) Patch should not be cut. (<i>Pharmacist Letter</i> 1998; 14(7):140712.) | |

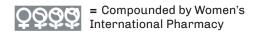


TOPICAL CREAMS/GELS/SOLUTIONS - TESTOSTERONE

| BIOIDENTICAL | DOSAGES AVAILABLE | DOSING REGIMEN | COMMENTS/REFERENCES |
|---|---|--|---|
| Testosterone cream, gel or non-alcohol gel (compounding pharmacies) | Any | 25-100 mg once to twice daily | Shippen E. The Testosterone Syndrome, (New York, NY: M. Evans and Company) 1998:197. Brownstein D. The Miracle of Natural Hormones, 3rd Edn. (W. Bloomfield, MI: Medical Alternatives Press) 2003:128. |
| Androgel® testosterone topical gel (AbbVie Inc.) | 10mg/gram packet 16.2mg/gram packet or metered dose pump | 25-100 mg daily | Contains 67% ethanol. Each 10mg/gm packet contains 2.5 grams or 5 grams of gel (25-50mg testosterone). Each 16.2mg/gm packet contains 1.25 grams or 2.5 grams of gel (20.25-40.5mg testosterone). Each 16.2mg/gm pump dispenses 1.25 grams of gel (20.25mg testosterone). Should not be applied to genitals or abdomen. (Androgel [package insert]. AbbVie, North Chicago, IL; 2014) |
| Testim® testosterone topical gel (Auxilium, Inc.) | 10 mg/gram | 50-100 mg daily | Contains 74% ethanol. Available in unit dose tubes. Each tube contains 5 grams of gel. Should not be applied to genitals or to the abdomen. (Drug Facts And Comparisons; 2006:261.) |
| Axiron® testosterone topical solution (Lily) | 30 mg per pump | 1-4 pumps to axilla daily | Alcohol based solution. Each pump is 1.5 ml of solution. Use applicator to apply directly to axilla. Apply in 1 pump increments. Alternate axilla for dosing greater than 1 pump. Allow site to dry completely before dressing. Apply deodorant prior to Axiron application. (Drug Facts and Comparisons; 2011:261a-261c.) |
| Fortesta® testosterone topical gel (Endo Pharmaceuticals Inc) | 10 mg per pump | 1-7 pumps daily starting with a dose of 4 pumps. | Alcohol based gel. Each pump is 0.5 grams of gel. Apply with 1 finger to inner thighs. If dosing more than 1 pump alternate thighs. (Drug Facts and Comparisons; 2011:261a-261b.) |

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| BIOIDENTICAL | DOSAGES AVAILABLE | DOSING REGIMEN | COMMENTS/REFERENCES |
|--|----------------------|-------------------|---|
| DHEA (dehydroepiandrosterone) cream, gel or non-alcohol gel (compounding pharmacies) | Any | 25-50 mg daily | Sahelian R. <i>DHEA: A Practical Guide</i> (Marina Del Rey, CA: Be Happier Press) 1996:77-79. |



| TOPICAL CREAMS/GELS - PROGESTERONE | | | |
|---|----------------------|-------------------|---|
| BIOIDENTICAL | DOSAGES AVAILABLE | DOSING REGIMEN | COMMENTS/REFERENCES |
| Progesterone cream, gel or non-alcohol gel (compounding pharmacies) | Any | 2-10 mg daily | Brownstein D. The Miracle of Natural Hormones 3rd edn (W. Bloomfield, MI: Medical Alternative Press) 2003:99. Progesterone may inhibit the 5α reductase enzyme reaction from testosterone to dihydrotestosterone. (Giacomini M, et al. Journal of Steroid Biochemistry 1980; 13:645-651.) Progesterone may inhibit the aromatase enzyme conversion from testosterone to estrogen. (Schmidt M, et al. Journal of Endocrinology 1998; 158:401-407.) |

| SUBLINGUAL/BUCCAL LOZENGES, DROPS, TABLETS - TESTOSTERONE | | | | |
|---|----------------------|---|---|--|
| BIOIDENTICAL | DOSAGES AVAILABLE | DOSING REGIMEN | COMMENTS/REFERENCES | |
| Testosterone lozenges (compounding pharmacies) | Any | 25mg once to three times daily | Shippen E. <i>The Testosterone Syndrome</i> , (New York, NY: M. Evans and Company) 1998:197. | |
| Testosterone drops (compounding pharmacies) | Any | 25mg once to three times daily | See reference in Testosterone lozenges. | |
| Striant® testosterone buccal system (Actient) | 30mg | 1 buccal system twice daily to gum region | Each buccal system adheres to the gum or inner cheek to provide a controlled and sustained release of testosterone. (Drug Facts And Comparisons; 2006:262.) | |

| NASAL GEL - TESTOERONE | | | |
|--|----------------------|---|---|
| BIOIDENTICAL | DOSAGES AVAILABLE | DOSING REGIMEN | COMMENTS/REFERENCES |
| Natesto® testosterone nasal gel (Aytu Bioscience, Inc) | 5.5 mg per pump | 2 pump actuations (1 in each nostril) three times per day | The product is self-administered into the nostrils via a metered-dose pump applicator. Total daily dose of 33mg per day. (Natesto [package insert]. Aytu Bioscience, Inc. Englewood, CO; 2016) |

| INJECTABLES/PELLETS | | | | |
|---|--------------------------------|---|---|--|
| BIOIDENTICAL | DOSAGES AVAILABLE | DOSING REGIMEN | COMMENTS/REFERENCES | |
| Pregnyl® human chorionic gonadotropin (Merck & Co, Inc) | 10,000 units per 10 ml vial | Injected intramuscularly | Generics available. Maintains intratesticular testosterone in normal men with testosterone induced gonadotropin suppression. Coviello AD, Matsumoto AM, Bremner WJ, Herbst KL, Amory JK, Anawalt BD, Sutton PR, Wright WW, Brown TR, Yan X, Zirkin BR, Jarrow JP. J Clin Endocrinol Metab. 2005 May; 90(5):2595-602. Epub 2005 Feb 15. Low-dose human chorionic gonadotropin maintains intratesticular testosterone in normal men with testosterone-induced gonadotropin suppression. | |
| Testosterone pellets (some compounding pharmacies) | Various | 4–6 200 mg pellets implanted subcutaneously | Testosterone blood levels peak at 1 month then sustained in normal range for 4 to 6 months. Requires surgical incision for insertions; pellets may extrude spontaneously. (Bhasin S, et al. Journal of Clinical Endocrinology & Metabolism, Vol 91, Issue 6:1995-2010) | |

| INJECTABLES/PELLETS | | | | |
|--|---|--|---|--|
| NON-BIOIDENTICAL | DOSAGES Available | DOSING REGIMEN | COMMENTS/REFERENCES | |
| Depo-Testosterone ® testosterone cypionate∧ in cottonseed oíl (Pfizer) | 100 mg/ml 200 mg/ml | Injected intramuscularly 50–400 mg every 2 to 4 weeks | Generics available. Long acting testosterone ester. (Drug Facts and Comparisons: 2007:260a.) | |
| Delatestryl ® testosterone enanthate∧ in sesame oíl (Endo) | 200 mg/ml | Injected intramuscularly 50–400 mg every 2 to 4 weeks | Long acting testosterone ester. (Drug Facts and Comparisons; 2007:260.) Inject deep into muscle. | |
| Xyosted ® testosterone enanthate in sesame oíl (Antares Pharma) | 50 mg/0.5 ml 75 mg/0.5 ml 100mg/0.5ml | 75 mg SQ every week | Supplied in a single dose syringe assembled in an autoinjector. Inject into stomach region. Preservative-free. (Xyosted [package insert]. Antares Pharma, Inc. Ewing, NJ; 2018) | |

ABioidentical hormones may be bound to various esters to increase the length of activity. Only when the ester is removed from the hormone by the body does the hormone become bioidentical.

| INJECTABLES/PELLETS | | | | | |
|--|----------------------|-------------------------------|--|--|--|
| NON-BIOIDENTICAL | DOSAGES AVAILABLE | DOSING REGIMEN | COMMENTS/REFERENCES | | |
| Testopel® testosterone propionate pellets (Endo) | 75mg | 150-450mg every 3-6 months | This product contains a bioidentical testosterone, but is chemically bound to other substances. About 1/3 of the pellets is absorbed in the first month, ¼ in the second month, and 1/6 in the third month. (Drug Facts And Comparisons; 2006:260.) | | |

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