testosterone gel (tess-toss-te-rone gel)
AndroGel, Fortesta, Testim

Classifications: Therapeutic: hormones
Pharmacologic: androgens

Schedule III

Indications
Hypogonadism in androgen-deficient men.

Action

Therapeutic Effects: Correction of hormone deficiency in male hypogonadism.

Pharmacokinetics
Absorption: Skin serves as reservoir for sustained release of testosterone into systemic circulation; 10% absorbed into systemic circulation during 24–hr period.
Distribution: Crosses the placenta.
Protein Binding: 98%.
Metabolism and Excretion: Metabolized by the liver; 90% eliminated in urine as metabolites.
Half-life: 10–100 min.

TIME/ACTION PROFILE (androgenic effects†)

ROUTE ONSET PEAK DURATION
Transdermal (gel) 30 min unknown 24 hr

†Response is highly variable among individuals; may take months

Contraindications/Precautions
Contraindicated in: Hypersensitivity; OB, Lactation: Pregnancy and lactation; Male patients with breast or prostate cancer; Women.
Use Cautiously in: Pre-existing cardiac, renal, or liver disease; Sleep apnea; Obesity; Chronic lung disease; Ethnic: ↑ risk of prostate hyperplasia/carcinoma; Pediatric: Safety and effectiveness not established.

Adverse Reactions/Side Effects

Interactions
Drug-Drug: May ↑ action of oral hypoglycemic agents and insulin. Concurrent use with corticosteroids may ↑ risk of edema formation.

Route/Dosage
Topical
Testosterone products are not interchangeable.

Transdermal (Adults): Androgel 1% or Testim—5 g (contains 50 mg of testosterone; 5 mg systemically absorbed) applied once daily (morning preferable), if needed may be q3 to maximum of 10 g (contains 100 mg of testosterone; 10 mg systemically absorbed); Androgel 1.62%—40.5 mg of testosterone (2 pump actuations) applied once daily (morning preferable); dose may be adjusted down to a minimum of 20.25 mg or up to a maximum of 81 mg of testosterone, if needed (dose based on serum testosterone levels). Fortesta—40 mg of testosterone (4 pump actuations) applied once daily (morning preferable); dose may be adjusted down to a minimum of 10 mg or up to a maximum of 70 mg of testosterone, if needed (dose based on serum testosterone levels).

NURSING IMPLICATIONS
Assessment
● Monitor intake and output ratios, weigh patient twice weekly, and assess patient for edema. Report significant changes indicative of fluid retention.

● Monitor for breast enlargement, persistent erection, and increased urge to urinate in men. Monitor for difficulty urinating in elderly men, because prostate enlargement may occur.

● Sub Test Considerations: Monitor hemoglobin and hematocrit periodically during therapy, may cause polycythemia.

Use Cautiously: in: Pre-existing cardiac, renal, or liver disease; Sleep apnea; Obesity; Chronic lung disease; Ethnic: ↑ risk of prostate hyperplasia/carcinoma; Pediatric: Safety and effectiveness not established.

Indications: Hypogonadism in androgen-deficient men.
Monitor hepatic function tests, prostate specific antigen, and serum cholesterol levels periodically during therapy. May q serum AST, ALT, and bilirubin, q choles-
terol levels, and suppress clotting factors II, V, VII, and X.

Monitor blood glucose closely in patients with diabetes who are receiving oral hy-
poglycemic agents or insulin.

Monitor serum testosterone concentrations 14 days after starting therapy.

Potential Nursing Diagnoses
Sexual dysfunction (Indications) (Side Effects)

Implementation

● Apply gel once daily, preferably in the morning, to clean dry intact skin of shoul-
derds and upper arms (Androgel™ and Testim™) or abdomen (Androgel™
only) or front or inner thighs (Fortesta™). Gel should not be applied to scrotum
(5–30x more permeable than other sites). Refer to the chart on the pump label to
determine how many full pump depressions are required for the daily prescribed
dose.

● The dose of Fortesta™ should be titrated based on the serum testosterone con-
centration from a single blood draw 2 hours after applying Fortesta™ and at ap-
proximately 14 days and 35 days after starting treatment or following dose adjust-
ments.

Patient/Family Teaching

● Instruct patient to apply gel to clean, dry, intact skin. Gel should not be applied to
the genital area.

● Advise patient to avoid showering or swimming for at least 5–6 hr after applying
the gel.

● Instruct patient using Androgel™ multi-dose pump or Fortesta™ to prime pump
before using it for the first time by completely depressing the pump three times (An-
drogel™) or 8 times (Fortesta™) and then discarding the dispensed gel. Each depres-
sion of the multi-dose pump delivers 1.25 g of product.

● Advise patient to wash their hands immediately after applying the gel. Instruct pa-
tient not to wash the application site for at least 8 hrs after applying gel.

● Advise patient not to apply gel to areas that are irritated, inflamed, abnor-
mally dry, or reddened.

● Advise patient to apply gel once daily, preferably in the morning, to clean dry in-
tact skin of shoulders and upper arms (Androgel™ and Testim™) or abdomen (An-
drogel™ only) or front or inner thighs (Fortesta™). Gel should not be applied to
scrotum (5–30x more permeable than other sites). Refer to the chart on the pump label to
determine how many full pump depressions are required for the daily prescribed
dose.

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drogel™ only) or front or inner thighs (Fortesta™). Gel should not be applied to
scrotum (5–30x more permeable than other sites). Refer to the chart on the pump label to
determine how many full pump depressions are required for the daily prescribed
dose.

● The dose of Fortesta™ should be titrated based on the serum testosterone con-
centration from a single blood draw 2 hours after applying Fortesta™ and at ap-
proximately 14 days and 35 days after starting treatment or following dose adjust-
ments.