

## HIGHLIGHTS OF PRESCRIBING INFORMATION

These highlights do not include all the information needed to use TESTOSTERONE GEL safely and effectively. See full prescribing information for TESTOSTERONE GEL.

TESTOSTERONE gel, for topical use, CIII  
Initial U.S. Approval: 1953

### WARNING: SECONDARY EXPOSURE TO TESTOSTERONE See Full Prescribing Information for complete boxed warning.

Virilization has been reported in children who were secondarily exposed to testosterone gel (5.2, 6.2).

- Children should avoid contact with unwashed or unclothed application sites in men using testosterone gel (2.2, 5.2).
- Healthcare providers should advise patients to strictly adhere to recommended instructions for use (2.2, 5.2).

## RECENT MAJOR CHANGES

Warnings and Precautions (5.6)

10/2016

## INDICATIONS AND USAGE

Testosterone gel is an androgen indicated for replacement therapy in males for conditions associated with a deficiency or absence of endogenous testosterone (1):

- Primary Hypogonadism (Congenital or Acquired)
- Hypogonadotropic Hypogonadism (Congenital or Acquired)

Limitations of use:

- Safety and efficacy of testosterone gel in men with age-related hypogonadism have not been established (1).
- Safety and efficacy of testosterone gel in males less than 18 years old have not been established. (1, 8.4)
- Topical testosterone products may have different doses, strengths, or application instructions that may result in different systemic exposure (1, 12.3).

## DOSAGE AND ADMINISTRATION

- Prior to initiating testosterone gel, confirm the diagnosis of hypogonadism by ensuring that serum testosterone has been measured in the morning on at least two separate days and that these concentrations are below the normal range (2).
- Recommended starting dose: 50 mg for adult males, applied topically once daily (2.1).
- Apply to clean, dry, intact skin of shoulders and upper arms and/or abdomen. Do NOT apply testosterone gel to the genitals (2.1, 12.3).
- Dose adjustment for adult males: If serum testosterone concentration is below the normal range, adjust dose from 50 mg to 75 mg and from 75 mg to 100 mg. If the serum testosterone concentration exceeds the normal range, the daily dose should be decreased from 100 mg to 75 mg, and from 75 mg to 50 mg. If the serum testosterone concentration consistently exceeds the normal range at 50 mg, testosterone gel should be discontinued (2.1).
- Patients should wash hands immediately with soap and water after applying testosterone gel and cover the application site(s) with clothing after the gel has dried. Wash the application site thoroughly with soap and water prior to any situation where skin-to-skin contact of the application site with another person is anticipated. (2.2)

## DOSAGE FORMS AND STRENGTHS

Testosterone gel for topical use is available as:

- 25 mg of testosterone per packet
- 50 mg of testosterone per packet (3)

## CONTRAINDICATIONS

- Men with carcinoma of the breast or known or suspected prostate cancer (4, 5.1)
- Pregnant or breast-feeding women. Testosterone may cause fetal harm (4, 8.1, 8.3).

## WARNINGS AND PRECAUTIONS

- Monitor patients with benign prostatic hyperplasia (BPH) for worsening of signs and symptoms of BPH (5.1)
- Avoid unintentional exposure of women or children to testosterone gel. Secondary exposure to testosterone can produce signs of virilization. Testosterone gel should be discontinued until the cause of virilization is identified (5.2)
- Venous thromboembolism (VTE), including deep vein thrombosis (DVT) and pulmonary embolism (PE) have been reported in patients using testosterone products. Evaluate patients with signs or symptoms consistent with DVT or PE. (5.4)
- Some postmarketing studies have shown an increased risk of myocardial infarction and stroke associated with use of testosterone replacement therapy. (5.5)
- Exogenous administration of androgens may lead to azoospermia (5.8)
- Edema with or without congestive heart failure (CHF) may be a complication in patients with preexisting cardiac, renal, or hepatic disease (5.10)
- Sleep apnea may occur in those with risk factors (5.12)
- Monitor serum testosterone, prostate specific antigen (PSA), hemoglobin, hematocrit, liver function tests and lipid concentrations periodically (5.1, 5.3, 5.9, 5.13)
- Testosterone gel is flammable until dry (5.16)

## ADVERSE REACTIONS

Most common adverse reactions (incidence  $\geq$  5%) are acne, application site reaction, abnormal lab tests, and prostatic disorders (6.1).

To report SUSPECTED ADVERSE REACTIONS, contact ANI Pharmaceuticals, Inc. at 1-800-308-6755 or FDA at 1-800-FDA-1088 or [www.fda.gov/medwatch](http://www.fda.gov/medwatch)

## DRUG INTERACTIONS

- Androgens may decrease blood glucose, and therefore insulin requirement in diabetic patients (7.1).
- Changes in anticoagulant activity may be seen with androgens. More frequent monitoring of INR and prothrombin time is recommended (7.2).
- Use of testosterone with ACTH or corticosteroids may result in increased fluid retention. Use with caution, particularly in patients with cardiac, renal, or hepatic disease (7.3).

## USE IN SPECIFIC POPULATIONS

- There is insufficient long-term safety data in geriatric patients to assess the potential risks of cardiovascular disease and prostate cancer (8.5).

See 17 for PATIENT COUNSELING INFORMATION and Medication Guide

Revised: 10/2016

**FULL PRESCRIBING INFORMATION: CONTENTS\***

**WARNING: SECONDARY EXPOSURE TO TESTOSTERONE**

**1 INDICATIONS AND USAGE**

**2. DOSAGE AND ADMINISTRATION**

2.1 Dosing and Dose Adjustment

2.2 Administration Instructions

**3 DOSAGE FORMS AND STRENGTHS**

**4 CONTRAINDICATIONS**

**5 WARNINGS AND PRECAUTIONS**

5.1 Worsening of Benign Prostatic Hyperplasia (BPH) and Potential Risk of Prostate Cancer

5.2 Potential for Secondary Exposure to Testosterone

5.3 Polycythemia

5.4 Venous Thromboembolism

5.5 Cardiovascular Risk

5.6 Abuse of Testosterone and Monitoring of Serum Testosterone Concentrations

5.7 Use in Women

5.8 Potential for Adverse Effects on Spermatogenesis

5.9 Hepatic Adverse Effects

5.10 Edema

5.11 Gynecomastia

5.12 Sleep Apnea

5.13 Lipids

5.14 Hypercalcemia

5.15 Decreased Thyroxine-binding Globulin

5.16 Flammability

**6 ADVERSE REACTIONS**

6.1 Clinical Trials Experience

6.2 Postmarketing Experience

**7 DRUG INTERACTIONS**

7.1 Insulin

7.2 Oral Anticoagulants

7.3 Corticosteroids

**8 USE IN SPECIFIC POPULATIONS**

8.1 Pregnancy

8.3 Nursing Mothers

8.4 Pediatric Use

8.5 Geriatric Use

8.6 Renal Impairment

8.7 Hepatic Impairment

**9 DRUG ABUSE AND DEPENDENCE**

9.1 Controlled Substance

9.2 Abuse

9.3 Dependence

**10 OVERDOSAGE**

**11. DESCRIPTION**

**12 CLINICAL PHARMACOLOGY**

12.1 Mechanism of Action

12.2 Pharmacodynamics

12.3 Pharmacokinetics

**13 NONCLINICAL TOXICOLOGY**

13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility

**14 CLINICAL STUDIES**

14.1 Clinical Trials in Adult Hypogonadal Males

**16 HOW SUPPLIED/STORAGE AND HANDLING**

**17 PATIENT COUNSELING INFORMATION**

17.1 Use in Men with Known or Suspected Prostate or Breast Cancer

17.2 Potential for Secondary Exposure to Testosterone and Steps to Prevent Secondary Exposure

17.3 Potential Adverse Reactions with Androgens

17.4 Patients Should Be Advised of the Following Instructions for Use

\*Sections or subsections omitted from the full prescribing information are not listed.

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**FULL PRESCRIBING INFORMATION**

**WARNING: SECONDARY EXPOSURE TO TESTOSTERONE**

- **Virilization has been reported in children who were secondarily exposed to testosterone gel (5.2, 6.2).**
- **Children should avoid contact with any unwashed or unclothed application sites in men using testosterone gel (2.2, 5.2).**
- **Healthcare providers should advise patients to strictly adhere to recommended instructions for use (2.2, 5.2).**

**1 INDICATIONS AND USAGE**

Testosterone gel is indicated for replacement therapy in adult males for conditions associated with a deficiency or absence of endogenous testosterone:

- Primary hypogonadism (congenital or acquired) - testicular failure due to cryptorchidism, bilateral torsion, orchitis, vanishing testis syndrome, orchiectomy, Klinefelter's syndrome, chemotherapy, or toxic damage from alcohol or heavy metals. These men usually have low serum testosterone concentrations and gonadotropins (FSH, LH) above the normal range.
- Hypogonadotropic hypogonadism (congenital or acquired) - gonadotropin or luteinizing hormone-releasing hormone (LHRH) deficiency or pituitary-hypothalamic injury from tumors, trauma, or radiation. These men have low testosterone serum concentrations, but have gonadotropins in the normal or low range.

**Limitations of use**

- Safety and efficacy of testosterone gel in men with "age-related hypogonadism" (also referred to as "late-onset

- hypogonadism”) have not been established.
- Safety and efficacy of testosterone gel in males less than 18 years old have not been established [see *Use in Specific Populations* (8.4)].
  - Topical testosterone products may have different doses, strengths, or application instructions that may result in different systemic exposure [see *Clinical Pharmacology* (12.3)].

## 2 DOSAGE AND ADMINISTRATION

Prior to initiating testosterone gel, confirm the diagnosis of hypogonadism by ensuring that serum testosterone concentrations have been measured in the morning on at least two separate days and that these serum testosterone concentrations are below the normal range.

### 2.1 Dosing and Dose Adjustment

The recommended starting dose of testosterone gel is 50 mg of testosterone applied topically once daily in the morning to the shoulders and upper arms.

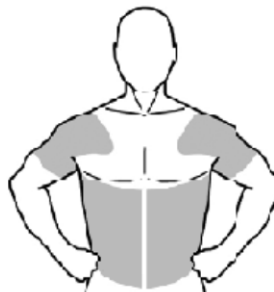
The dose can be adjusted between a minimum of 50 mg of testosterone and a maximum of 100 mg of testosterone. To ensure proper dosing, the serum testosterone concentrations should be measured periodically and dose should be adjusted so that serum testosterone concentrations remain in the normal range (298 ng/dL to 1043 ng/dL).

If the serum testosterone concentration is below the normal range, the dose may be increased from 50 mg to 75 mg of testosterone, and from 75 mg to 100 mg of testosterone. If the serum testosterone concentration exceeds the normal range, the daily dose should be decreased from 100 mg to 75 mg of testosterone, and from 75 mg to 50 mg of testosterone. If the serum testosterone concentration consistently exceeds the normal range at a daily dose of 50 mg of testosterone, therapy with testosterone gel should be discontinued.

### 2.2 Administration Instructions

Testosterone gel should be applied to clean, dry, intact skin of the upper arms and shoulders and/or abdomen. Do not apply testosterone gel to any other parts of the body, including the genitals [see *Clinical Pharmacology* (12.3)]. Area of application should be limited to the area that will be covered by the patient’s short sleeve t-shirt. Patients should be instructed to use the palm of the hand to apply testosterone gel and spread across the maximum surface area as directed in **Figure 1**.

The prescribed daily dose of testosterone gel should be applied to the right and left upper arms and shoulders and/or abdomen as shown in the shaded areas in **Figure 1**.



**Figure 1: Application Sites for Testosterone gel**

Once the application is dry, the site should be covered with clothing [see *Clinical Pharmacology* (12.3)]. Wash hands thoroughly with soap and water. Avoid fire, flames or smoking until the gel has dried since alcohol based

products, including testosterone gel, are flammable.

The patient should avoid swimming or showering or washing the application site for a minimum of 5 hours after application.

To obtain a full dose, the entire packet contents should be squeezed into the palm of the hand and immediately applied to the application sites. Alternately, patients may squeeze a portion of the gel from the packet into the palm of the hand and apply to application sites. Repeat until entire contents have been applied.

**Strict adherence to the following precautions is advised in order to minimize the potential for secondary exposure to testosterone from testosterone gel-treated skin:**

- Children and women should avoid contact with unwashed or unclothed application site(s) of men using testosterone gel.
- Testosterone gel should only be applied to the upper arms and shoulders and/or abdomen. The area of application should be limited to the area that will be covered by a short sleeve t-shirt.
- Patients should wash their hands with soap and water immediately after applying testosterone gel.
- Patients should cover the application site(s) with clothing (e.g., a t-shirt) after the gel has dried.
- Prior to situations in which direct skin-to-skin contact is anticipated, patients should wash the application site(s) thoroughly with soap and water to remove any testosterone residue.
- In the event that unwashed or unclothed skin to which testosterone gel has been applied comes in direct contact with the skin of another person, the general area of contact on the other person should be washed with soap and water as soon as possible.

### 3 DOSAGE FORMS AND STRENGTHS

Testosterone gel, for topical use only, is supplied in unit-dose packets:

- 25 mg of testosterone per packet
- 50 mg of testosterone per packet

### 4 CONTRAINDICATIONS

- Testosterone gel is contraindicated in men with carcinoma of the breast or known or suspected carcinoma of the prostate [see *Warnings and Precautions (5.1)* and *Adverse Reactions (6.1)*].
- Testosterone gel is contraindicated in women who are or may become pregnant, or who are breastfeeding. Testosterone gel may cause fetal harm when administered to a pregnant woman. Testosterone gel may cause serious adverse reactions in nursing infants. Exposure of a fetus or nursing infant to androgens may result in varying degrees of virilization. Pregnant women or those who may become pregnant need to be aware of the potential for transfer of testosterone from men treated with testosterone gel. If a pregnant woman is exposed to testosterone gel, she should be apprised of the potential hazard to the fetus [see *Warnings and Precautions (5.2)* and *Use in Specific Populations (8.1, 8.3)*].

### 5 WARNINGS AND PRECAUTIONS

#### 5.1 Worsening of Benign Prostatic Hyperplasia (BPH) and Potential Risk of Prostate Cancer

- Patients with BPH treated with androgens are at an increased risk of worsening of signs and symptoms of BPH. Monitor patients with BPH for worsening signs and symptoms.
- Patients treated with androgens may be at increased risk for prostate cancer. Evaluation of patients for prostate

cancer prior to initiating and during treatment with androgens is appropriate [see *Contraindications (4)*].

## 5.2 Potential for Secondary Exposure to Testosterone

Cases of secondary exposure resulting in virilization of children have been reported in postmarketing surveillance of testosterone gel products. Signs and symptoms have included enlargement of the penis or clitoris, development of pubic hair, increased erections and libido, aggressive behavior, and advanced bone age. In most cases, these signs and symptoms regressed with removal of the exposure to testosterone gel. In a few cases, however, enlarged genitalia did not fully return to age-appropriate normal size, and bone age remained modestly greater than chronological age. The risk of transfer was increased in some of these cases by not adhering to precautions for the appropriate use of the topical testosterone product. Children and women should avoid contact with unwashed or unclothed application sites in men using testosterone gel [see *Dosage and Administration (2.2)*, *Use in Specific Populations (8.1)* and *Clinical Pharmacology (12.3)*].

Inappropriate changes in genital size or development of pubic hair or libido in children, or changes in body hair distribution, significant increase in acne, or other signs of virilization in adult women should be brought to the attention of a physician and the possibility of secondary exposure to testosterone gel should also be brought to the attention of a physician. Testosterone gel should be promptly discontinued until the cause of virilization has been identified.

## 5.3 Polycythemia

Increases in hematocrit, reflective of increases in red blood cell mass, may require lowering or discontinuation of testosterone. Check hematocrit prior to initiating treatment. It would also be appropriate to re-evaluate the hematocrit 3 to 6 months after starting treatment, and then annually. If hematocrit becomes elevated, stop therapy until hematocrit decreases to an acceptable concentration. An increase in red blood cell mass may increase the risk of thromboembolic events.

## 5.4 Venous Thromboembolism

There have been postmarketing reports of venous thromboembolic events, including deep vein thrombosis (DVT) and pulmonary embolism (PE), in patients using testosterone products, such as testosterone gel. Evaluate patients who report symptoms of pain, edema, warmth and erythema in the lower extremity for DVT and those who present with acute shortness of breath for PE. If a venous thromboembolic event is suspected, discontinue treatment with testosterone gel and initiate appropriate workup and management [see *Adverse Reactions (6.2)*].

## 5.5 Cardiovascular Risk

Long term clinical safety trials have not been conducted to assess the cardiovascular outcomes of testosterone replacement therapy in men. To date, epidemiologic studies and randomized controlled trials have been inconclusive for determining the risk of major adverse cardiovascular events (MACE), such as non-fatal myocardial infarction, non-fatal stroke, and cardiovascular death, with the use of testosterone compared to non-use. Some studies, but not all, have reported an increased risk of MACE in association with use of testosterone replacement therapy in men. Patients should be informed of this possible risk when deciding whether to use or to continue to use testosterone gel.

## 5.6 Abuse of Testosterone and Monitoring Serum Testosterone Concentrations

Testosterone has been subject to abuse, typically at doses higher than recommended for the approved indication and in combination with other anabolic androgenic steroids. Anabolic androgenic steroid abuse can lead to serious cardiovascular and psychiatric adverse reactions [see *Drug Abuse and Dependence (9)*].

If testosterone abuse is suspected, check serum testosterone concentrations to ensure they are within therapeutic range. However, testosterone levels may be in the normal or subnormal range in men abusing synthetic testosterone derivatives. Counsel patients concerning the serious adverse reactions associated with abuse of testosterone and anabolic androgenic steroids. Conversely, consider the possibility of testosterone and anabolic androgenic steroid

abuse in suspected patients who present with serious cardiovascular or psychiatric adverse events.

### **5.7 Use in Women**

Due to the lack of controlled evaluations in women and potential virilizing effects, testosterone gel is not indicated for use in women [see *Contraindications (4)* and *Use in Specific Populations (8.1, 8.3)*].

### **5.8 Potential for Adverse Effects on Spermatogenesis**

With large doses of exogenous androgens, including testosterone gel, spermatogenesis may be suppressed through feedback inhibition of pituitary FSH which could possibly lead to adverse effects on semen parameters including sperm count.

### **5.9 Hepatic Adverse Effects**

Prolonged use of high doses of orally active 17-alpha-alkyl androgens (e.g., methyltestosterone) has been associated with serious hepatic adverse effects (peliosis hepatis, hepatic neoplasms, cholestatic hepatitis and jaundice). Peliosis hepatis can be a life-threatening or fatal complication. Long-term therapy with intramuscular testosterone enanthate has produced multiple hepatic adenomas. Testosterone gel is not known to cause these adverse effects.

### **5.10 Edema**

Androgens, including testosterone gel, may promote retention of sodium and water. Edema, with or without congestive heart failure, may be a serious complication in patients with pre-existing cardiac, renal, or hepatic disease [see *Adverse Reactions (6.2)*].

### **5.11 Gynecomastia**

Gynecomastia may develop and persist in patients being treated with androgens, including testosterone gel, for hypogonadism.

### **5.12 Sleep Apnea**

The treatment of hypogonadal men with testosterone may potentiate sleep apnea in some patients, especially those with risk factors such as obesity or chronic lung diseases.

### **5.13 Lipids**

Changes in serum lipid profile may require dose adjustment or discontinuation of testosterone therapy.

### **5.14 Hypercalcemia**

Androgens, including testosterone gel, should be used with caution in cancer patients at risk of hypercalcemia (and associated hypercalciuria). Regular monitoring of serum calcium concentrations is recommended in these patients.

### **5.15 Decreased Thyroxine-binding Globulin**

Androgens, including testosterone gel, may decrease concentrations of thyroxin-binding globulins, resulting in decreased total T4 serum concentrations and increased resin uptake of T3 and T4. Free thyroid hormone concentrations remain unchanged, however, and there is no clinical evidence of thyroid dysfunction.

### **5.16 Flammability**

**Alcohol based products, including testosterone gel, are flammable; therefore, patients should be advised to avoid smoking, fire or flame until the testosterone gel has dried.**

## **6 ADVERSE REACTIONS**

### **6.1 Clinical Trials Experience**

Because clinical trials are conducted under widely varying conditions, adverse reaction rates observed in the clinical trials of a drug cannot be directly compared to rates in the clinical trials of another drug and may not reflect the rates observed in practice.

### *Clinical Trials in Hypogonadal Men*

**Table 1** shows the incidence of all adverse reactions with testosterone gel and reported by > 1% of patients in a 180 Day, Phase 3 study.

**Table 1: Adverse Reactions to Testosterone Gel in the 180 Day Controlled Clinical Trial**

Adverse Reaction	Dose of Testosterone		
	50 mg N = 77	75 mg N = 40	100 mg N = 78
Acne	1%	3%	8%
Alopecia	1%	0%	1%
Application Site Reaction	5%	3%	4%
Asthenia	0%	3%	1%
Depression	1%	0%	1%
Emotional Lability	0%	3%	3%
Gynecomastia	1%	0%	3%
Headache	4%	3%	0%
Hypertension	3%	0%	3%
Lab Test Abnormal*	6%	5%	3%
Libido Decreased	0%	3%	1%
Nervousness	0%	3%	1%
Pain Breast	1%	3%	1%
Prostate Disorder**	3%	3%	5%
Testis Disorder***	3%	0%	0%

\**Lab test abnormal* occurred in nine patients with one or more of the following events reported: elevated hemoglobin or hematocrit, hyperlipidemia, elevated triglycerides, hypokalemia, decreased HDL, elevated glucose, elevated creatinine, elevated total bilirubin.

\*\**Prostate disorders* included five patients with enlarged prostate, one with BPH, and one with elevated PSA results.

\*\*\**Testis disorders* were reported in two patients: one with left varicocele and one with slight sensitivity of left testis.

Other less common adverse reactions, reported in fewer than 1% of patients included: amnesia, anxiety, discolored hair, dizziness, dry skin, hirsutism, hostility, impaired urination, paresthesia, penis disorder, peripheral edema, sweating, and vasodilation.

In this 180 day clinical trial, skin reactions at the site of application were reported with testosterone gel, but none was severe enough to require treatment or discontinuation of drug.

Six patients (4%) in this trial had adverse events that led to discontinuation of testosterone gel. These events included: cerebral hemorrhage, convulsion, depression, sadness, memory loss, elevated prostate specific antigen, and hypertension. No testosterone gel patient discontinued due to skin reactions.

In a separate uncontrolled pharmacokinetic study of 10 patients, two had adverse reactions; these were asthenia and depression in one patient and increased libido and hyperkinesia in the other.

In a 3 year, flexible dose, extension study, the incidence of all adverse reactions to testosterone gel and reported by > 1% of patients is shown in **Table 2**.

**Table 2: Adverse Reactions to Testosterone Gel in the 3 Year, Flexible Dose, Extension Study**

Adverse Reaction	Percent of Subjects
	(N = 162)
Lab Test Abnormal+	9.3
Skin Dry	1.9
Application Site Reaction	5.6
Acne	3.1
Pruritus	1.9
Enlarged Prostate	11.7
Carcinoma of Prostate	1.2
Urinary Symptoms*	3.7
Testis Disorder**	1.9
Gynecomastia	2.5
Anemia	2.5

+*Lab test abnormal* occurred in 15 patients with one or more of the following events reported: elevated AST, elevated ALT, elevated testosterone, elevated hemoglobin or hematocrit, elevated cholesterol, elevated cholesterol/LDL ratio, elevated triglycerides, elevated HDL, elevated serum creatinine.

\**Urinary symptoms* included nocturia, urinary hesitancy, urinary incontinence, urinary retention, urinary urgency and weak urinary stream.

\*\**Testis disorders* included three patients. There were two with a non-palpable testis and one with slight right testicular tenderness.

Two patients reported serious adverse events: deep vein thrombosis (DVT) and prostate disorder requiring a transurethral resection of the prostate (TURP).

Discontinuation for adverse events in this study included: two patients with application site reactions, one with kidney failure, and five with prostate disorders (including increase in serum PSA in 4 patients, and increase in PSA with prostate enlargement in a fifth patient).

#### ***Increases in Serum PSA Observed in Clinical Trials of Hypogonadal Men***

During the initial 6-month study, the mean change in PSA values had a statistically significant increase of 0.26 ng/mL. Serum PSA was measured every 6 months thereafter in the 162 hypogonadal men on testosterone gel in the 3 year extension study. There was no additional statistically significant increase observed in mean PSA from 6 months through 36 months. However, there were increases in serum PSA observed in approximately 18% of individual patients. The overall mean change from baseline in serum PSA values for the entire group from month 6 to 36 was 0.11 ng/mL.

Twenty-nine patients (18%) met the per-protocol criterion for increase in serum PSA, defined as > 2X the baseline or any single serum PSA > 6 ng/mL. Most of these (25/29) met this criterion by at least doubling of their PSA from baseline. In most cases where PSA at least doubled (22/25), the maximum serum PSA value was still < 2 ng/mL. The first occurrence of a pre-specified, post-baseline increase in serum PSA was seen at or prior to Month 12 in most of the patients who met this criterion (23 of 29; 79%).

Four patients met this criterion by having a serum PSA > 6 ng/mL and in these, maximum serum PSA values were 6.2 ng/mL, 6.6 ng/mL, 6.7 ng/mL, and 10.7 ng/mL. In two of these patients, prostate cancer was detected on biopsy. The first patient's PSA levels were 4.7 ng/mL and 6.2 ng/mL at baseline and at Month 6/Final, respectively. The second patient's PSA levels were 4.2 ng/mL, 5.2 ng/mL, 5.8 ng/mL, and 6.6 ng/mL at baseline, Month 6, Month 12, and Final, respectively.

## 6.2 Postmarketing Experience

The following adverse reactions have been identified during post approval use of testosterone gel. Because the reactions are reported voluntarily from a population of uncertain size, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug exposure.

### *Secondary Exposure to Testosterone in Children*

Cases of secondary exposure to testosterone resulting in virilization of children have been reported in postmarket surveillance. Signs and symptoms of these reported cases have included enlargement of the clitoris (with surgical intervention) or the penis, development of pubic hair, increased erections and libido, aggressive behavior, and advanced bone age. In most cases with a reported outcome, these signs and symptoms were reported to have regressed with removal of the testosterone gel exposure. In a few cases, however, enlarged genitalia did not fully return to age appropriate normal size, and bone age remained modestly greater than chronological age. In some of the cases, direct contact with the sites of application on the skin of men using testosterone gel was reported. In at least one reported case, the reporter considered the possibility of secondary exposure from items such as the testosterone gel user's shirts and/or other fabric, such as towels and sheets [see *Warnings and Precautions (5.2)*].

### *Hypogonadal Men*

**Table 3** includes adverse reactions that have been identified postmarketing.

**Table 3: Adverse Reactions from Postmarketing Experience of Testosterone Gel by MedDRA System Organ Class**

Blood and the lymphatic system disorders:	Elevated Hgb, Hct (polycythemia)
Cardiovascular disorders:	Myocardial infarction, stroke
Endocrine disorders:	Hirsutism
Gastrointestinal disorders:	Nausea
General disorders and administration site reactions:	Asthenia, edema, malaise
Genitourinary disorders:	Impaired urination
Hepatobiliary disorders:	Abnormal liver function tests (e.g., transaminases, elevated GGTP, bilirubin)
Investigations:	Elevated PSA, electrolyte changes (nitrogen, calcium, potassium, phosphorus, sodium), changes in serum lipids (hyperlipidemia, elevated triglycerides, decreased HDL), impaired glucose tolerance, fluctuating testosterone levels, weight increase
Neoplasms benign, malignant and unspecified (cysts and polyps):	Prostate cancer
Nervous system:	Headache, dizziness, sleep apnea, insomnia
Psychiatric disorders:	Depression, emotional lability, decreased libido, nervousness, hostility, amnesia, anxiety
Reproductive system and breast disorders:	Gynecomastia, mastodynia, prostatic enlargement, testicular atrophy, oligospermia, priapism (frequent or prolonged erections)
Respiratory disorders:	Dyspnea
Skin and subcutaneous tissue disorders:	Acne, alopecia, application site reaction (pruritus, dry skin, erythema, rash, discolored hair, paresthesia), sweating

Vascular disorders:	Hypertension, vasodilation (hot flushes), venous thromboembolism [see <i>Warnings and Precautions (5.4)</i> ]
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## 7 DRUG INTERACTIONS

### 7.1 Insulin

Changes in insulin sensitivity or glycemic control may occur in patients treated with androgens. In diabetic patients, the metabolic effects of androgens may decrease blood glucose and, therefore, insulin requirements.

### 7.2 Oral Anticoagulants

Changes in anticoagulant activity may be seen with androgens. More frequent monitoring of INR and prothrombin time are recommended in patients taking anticoagulants, especially at the initiation and termination of androgen therapy.

### 7.3 Corticosteroids

The concurrent use of testosterone with ACTH or corticosteroids may result in increased fluid retention and should be monitored cautiously, particularly in patients with cardiac, renal or hepatic disease.

## 8 USE IN SPECIFIC POPULATIONS

### 8.1 Pregnancy

#### *Teratogenic Effects*

*Pregnancy Category X* [see *Contraindications (4)*].

Testosterone gel is contraindicated during pregnancy or in women who may become pregnant. Testosterone is teratogenic and may cause fetal harm. Exposure of a female fetus to androgens may result in varying degrees of virilization. If this drug is used during pregnancy, or if the patient becomes pregnant while taking this drug, the patient should be apprised of the potential hazard to a fetus.

### 8.3 Nursing Mothers

Although it is not known how much testosterone transfers into human milk, testosterone gel is contraindicated in nursing women because of the potential for serious adverse reactions in nursing infants. Testosterone and other androgens may adversely affect lactation [see *Contraindications (4)*].

### 8.4 Pediatric Use

Safety and effectiveness of testosterone gel in males < 18 years old have not been established. Improper use may result in acceleration of bone age and premature closure of epiphyses.

### 8.5 Geriatric Use

There have not been sufficient numbers of geriatric patients involved in controlled clinical studies utilizing testosterone gel to determine whether efficacy in those over 65 years of age differs from younger subjects. Additionally, there is insufficient long-term safety data in geriatric patients to assess the potentially increased risk of cardiovascular disease and prostate cancer. Geriatric patients treated with androgens may also be at risk for worsening of signs and symptoms of BPH.

### 8.6 Renal Impairment

No formal studies were conducted involving patients with renal impairment.

## 8.7 Hepatic Impairment

No formal studies were conducted involving patients with hepatic impairment.

## 9 DRUG ABUSE AND DEPENDENCE

### 9.1 Controlled Substance

Testosterone Gel contains testosterone, a Schedule III controlled substance in the Controlled Substances Act.

### 9.2 Abuse

Drug abuse is intentional non-therapeutic use of a drug, even once, for its rewarding psychological and physiological effects. Abuse and misuse of testosterone are seen in male and female adults and adolescents. Testosterone, often in combination with other anabolic androgenic steroids (AAS), and not obtained by prescription through a pharmacy, may be abused by athletes and bodybuilders. There have been reports of misuse by men taking higher doses of legally obtained testosterone than prescribed and continuing testosterone despite adverse events or against medical advice.

#### *Abuse-Related Adverse Reactions*

Serious adverse reactions have been reported in individuals who abuse anabolic androgenic steroids and include cardiac arrest, myocardial infarction, hypertrophic cardiomyopathy, congestive heart failure, cerebrovascular accident, hepatotoxicity, and serious psychiatric manifestations, including major depression, mania, paranoia, psychosis, delusions, hallucinations, hostility and aggression.

The following adverse reactions have also been reported in men: transient ischemic attacks, convulsions, hypomania, irritability, dyslipidemias, testicular atrophy, subfertility, and infertility.

The following additional adverse reactions have been reported in women: hirsutism, virilization, deepening of voice, clitoral enlargement, breast atrophy, male-pattern baldness, and menstrual irregularities.

The following adverse reactions have been reported in male and female adolescents: premature closure of bony epiphyses with termination of growth, and precocious puberty.

Because these reactions are reported voluntarily from a population of uncertain size and may include abuse of other agents, it is not always possible to reliably estimate their frequency or establish a causal relationship to drug exposure.

### 9.3 Dependence

#### *Behaviors Associated with Addiction*

Continued abuse of testosterone and other anabolic steroids, leading to addiction is characterized by the following behaviors:

- Taking greater dosages than prescribed
- Continued drug use despite medical and social problems due to drug use
- Spending significant time to obtain the drug when supplies of the drug are interrupted
- Giving a higher priority to drug use than other obligations
- Having difficulty in discontinuing the drug despite desires and attempts to do so
- Experiencing withdrawal symptoms upon abrupt discontinuation of use

Physical dependence is characterized by withdrawal symptoms after abrupt drug discontinuation or a significant dose reduction of a drug. Individuals taking supratherapeutic doses of testosterone may experience withdrawal symptoms lasting for weeks or months which include depressed mood, major depression, fatigue, craving, restlessness, irritability, anorexia, insomnia, decreased libido and hypogonadotropic hypogonadism.

Drug dependence in individuals using approved doses of testosterone for approved indications has not been documented.

## 10 OVERDOSAGE

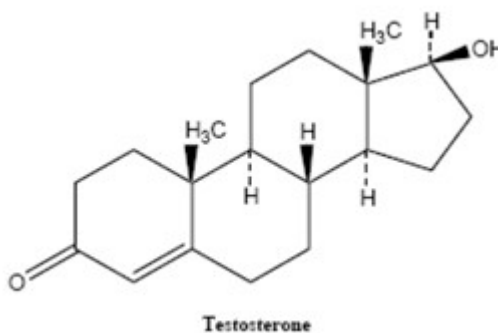
There is one report of acute overdosage with use of an approved injectable testosterone product: this subject had serum testosterone levels of up to 11,400 ng/dL with a cerebrovascular accident.

Treatment of overdosage would consist of discontinuation of testosterone gel together with appropriate symptomatic and supportive care.

## 11 DESCRIPTION

Testosterone gel is a clear, colorless hydroalcoholic gel containing testosterone. Topical administration of testosterone gel is to be applied daily to the skin's surface. Testosterone gel is supplied as 25 mg of testosterone in 2.5 g of gel and 50 mg of testosterone in 5 g of gel.

The active pharmacologic ingredient in testosterone gel is testosterone. Testosterone USP is a white to slightly creamy white crystalline powder chemically described as 17-beta hydroxyandrost-4-en-3-one. The structural formula is:



$C_{19}H_{28}O_2$

M.W. 288.42

Inactive ingredients in testosterone gel are carbomer homopolymer type C, dehydrated alcohol 67%, isopropyl palmitate, purified water, and sodium hydroxide.

## 12 CLINICAL PHARMACOLOGY

### 12.1 Mechanism of Action

Endogenous androgens, including testosterone and dihydrotestosterone (DHT), are responsible for the normal growth

and development of the male sex organs and for maintenance of secondary sex characteristics. These effects include the growth and maturation of prostate, seminal vesicles, penis and scrotum; the development of male hair distribution, such as facial, pubic, chest and axillary hair; laryngeal enlargement, vocal chord thickening, alterations in body musculature and fat distribution. Testosterone and DHT are necessary for the normal development of secondary sex characteristics.

Male hypogonadism, a clinical syndrome resulting from insufficient secretion of testosterone, has two main etiologies. Primary hypogonadism is caused by defects of the gonads, such as Klinefelter's syndrome or Leydig cell aplasia, whereas secondary hypogonadism is the failure of the hypothalamus (or pituitary) to produce sufficient gonadotropins (FSH, LH).

## 12.2 Pharmacodynamics

No specific pharmacodynamic studies were conducted using testosterone gel.

## 12.3 Pharmacokinetics

### *Absorption*

In a single-dose, two-way crossover clinical study conducted in 72 hypogonadal males under fasting conditions, the testosterone exposure ( $AUC_{0-60}$ ) and maximum testosterone concentration ( $C_{max}$ ) following a topical administration of 100 mg testosterone administered as 2 x 5 g testosterone gel packets (1 packet applied on each shoulder/upper arm) on a designated area of 500 cm<sup>2</sup> were comparable to those following a topical administration of an approved testosterone gel product.

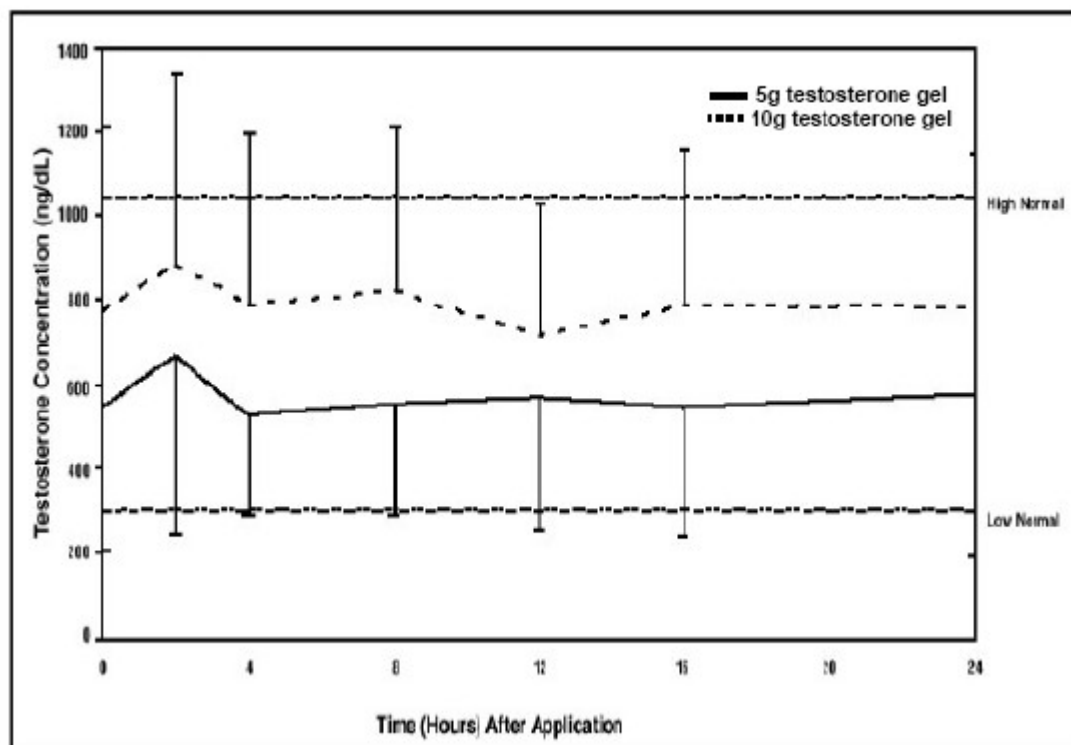
Testosterone gel delivers physiologic amounts of testosterone, producing circulating testosterone concentrations that approximate normal concentrations (298 to 1043 ng/dL) seen in healthy men.

Testosterone gel provides continuous transdermal delivery of testosterone for 24 hours following a single application to intact, clean, dry skin of the shoulders, upper arms and/or abdomen.

Testosterone gel is a hydroalcoholic formulation that dries quickly when applied to the skin surface. The skin serves as a reservoir for the sustained release of testosterone into the systemic circulation. Approximately 10% of the testosterone dose applied on the skin surface from testosterone gel is absorbed into systemic circulation. Therefore, 5 g and 10 g of testosterone gel systemically deliver approximately 5 mg and 10 mg of testosterone, respectively. In a study with 10 g of testosterone gel, all patients showed an increase in serum testosterone within 30 minutes, and eight of nine patients had a serum testosterone concentration within normal range by 4 hours after the initial application. Absorption of testosterone into the blood continues for the entire 24 hour dosing interval. Serum concentrations approximate the steady-state concentration by the end of the first 24 hours and are at steady state by the second or third day of dosing.

With single daily applications of testosterone gel, follow-up measurements 30, 90, and 180 days after starting treatment have confirmed that serum testosterone concentrations are generally maintained within the eugonadal range. **Figure 2** summarizes the 24-hour pharmacokinetic profiles of testosterone for hypogonadal men (< 300 ng/dL) maintained on 5 g or 10 g of testosterone gel for 30 days. The average ( $\pm$  SD) daily testosterone concentration produced by 10 g on Day 30 was 792 ( $\pm$  294) ng/dL and by testosterone gel 5 g was 566 ( $\pm$  262) ng/dL.

### **Figure 2: Mean ( $\pm$ SD) Steady-State Serum Testosterone Concentrations on Day 30 in Patients Applying Testosterone Gel Once Daily**



When testosterone gel treatment is discontinued after achieving steady state, serum testosterone concentrations remain in the normal range for 24 to 48 hours but return to their pretreatment levels by the fifth day after the last application.

### ***Distribution***

Circulating testosterone is primarily bound in the serum to sex hormone-binding globulin (SHBG) and albumin. Approximately 40% of testosterone in plasma is bound to SHBG, 2% remains unbound (free) and the rest is bound to albumin and other proteins.

### ***Metabolism***

There is considerable variation in the half-life of testosterone as reported in the literature, ranging from 10 to 100 minutes. Testosterone is metabolized to various 17-keto steroids through two different pathways. The major active metabolites of testosterone are estradiol and DHT.

DHT concentrations increased in parallel with testosterone concentrations during testosterone gel treatment. After 180 days of treatment in adult males, mean DHT concentrations were within the normal range with 5 g testosterone gel and were about 7% above the normal range after a 10 g dose. The mean steady-state DHT/T ratio during 180 days of testosterone gel treatment remained within normal limits and ranged from 0.23 to 0.29 (5 g/day) and from 0.27 to 0.33 (10 g/day).

### ***Excretion***

About 90% of a dose of testosterone given intramuscularly is excreted in the urine as glucuronic and sulfuric acid conjugates of testosterone and its metabolites; about 6% of a dose is excreted in the feces, mostly in the unconjugated form. Inactivation of testosterone occurs primarily in the liver.

### ***Potential for testosterone transfer***

The potential for testosterone transfer following testosterone gel use was evaluated in a clinical study between males dosed with testosterone gel and their untreated female partners. Two (2) hours after application of 100 mg of testosterone from 10 g of testosterone gel to upper arm and shoulder of one side by the male subjects, the couples (N = 48 couples) engaged in a 15 minute sessions of vigorous skin-to-skin contact so that the female partners gained maximum exposure to the testosterone gel application sites. Serum concentrations of testosterone were monitored in the female subjects for 24 hours after the transfer procedure. Under these study conditions, all unprotected female partners had a serum testosterone concentration > 2 times the baseline value derived from a 24 hour testosterone concentration measurement during the study. When a shirt covered the application site, study results show an 11% and 16% increase in testosterone AUC<sub>0-24</sub> and testosterone C<sub>max</sub>, respectively, compared to baseline in these females. The potential for dermal testosterone transfer following testosterone gel application on the abdomen has not been evaluated.

In a separate clinical study conducted to evaluate the effect of hand washing on the residual amount of testosterone, 39 healthy male subjects received 100 mg of testosterone from 10 g (2 x 5 g packets) of testosterone gel on the upper arm and shoulder of one side. Subjects washed their hands with liquid soap and warm tap water 5 minutes after drug application. Then hands were wiped with 3 ethanol dampened gauzes per hand which were then combined together and analyzed for testosterone content. A mean (SD) of 284.9 (131) mcg of residual testosterone (i.e., approximately 0.29% of the theoretical dose of 100 mg testosterone administered) was recovered after washing hands with liquid soap and warm tap water.

The effect of washing on the residual amount of testosterone at the application site (i.e., upper arm/shoulder) following a single topical application of 50 mg of testosterone to each upper arm/shoulder (i.e., 500 cm<sup>2</sup> area) was evaluated in 22 healthy male subjects. Two (2) hours following application, one of the application areas was swabbed using an ethanol dampened gauze sponge prior to washing the application site, and the other after the application site was washed and dried. The pre-wash and postwash samples were analyzed for testosterone content. A mean (SD) of 1.2 (0.6) mg of residual testosterone (2.9% of the actual applied dose of testosterone, and a 66.6% reduction compared to when upper arm/shoulder was not washed) was recovered after washing this area with soap and water.

## **13 NONCLINICAL TOXICOLOGY**

### **13.1 Carcinogenesis, Mutagenesis, Impairment of Fertility**

Testosterone has been tested by subcutaneous injection and implantation in mice and rats. In mice, the implant induced cervical-uterine tumors, which metastasized in some cases. There is suggestive evidence that injection of testosterone into some strains of female mice increases their susceptibility to hepatoma. Testosterone is also known to increase the number of tumors and decrease the degree of differentiation of chemically induced carcinomas of the liver in rats. Testosterone was negative in the *in vitro* Ames and in the *in vivo* mouse micronucleus assays. The administration of exogenous testosterone has been reported to suppress spermatogenesis in the rat, dog and non-human primates, which was reversible on cessation of the treatment.

## **14 CLINICAL STUDIES**

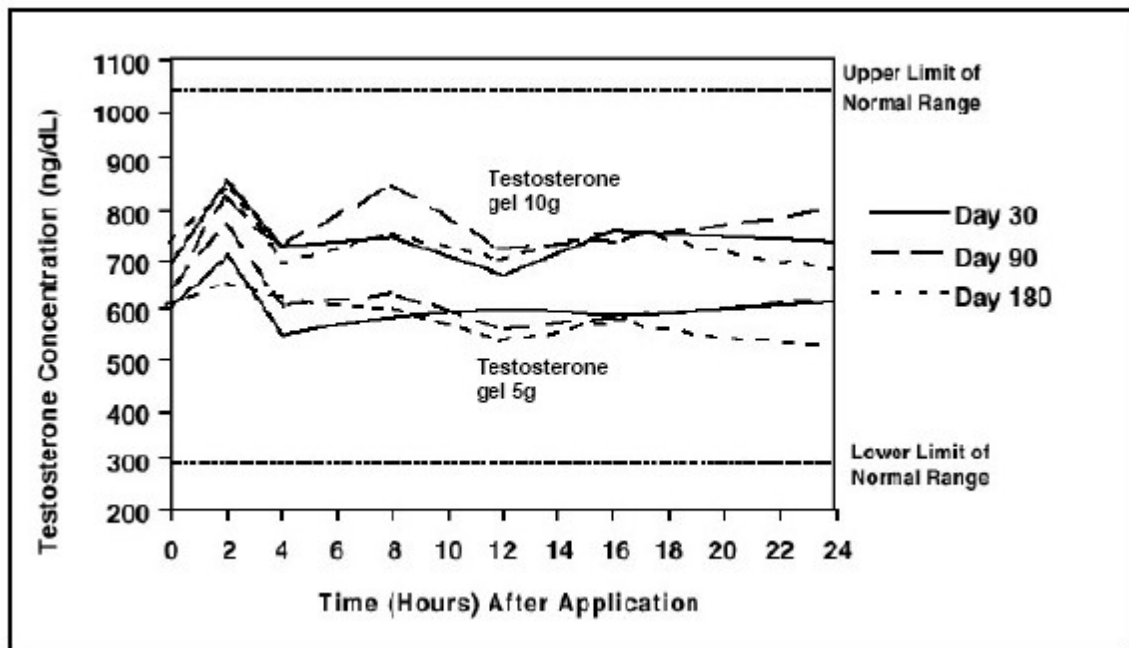
### **14.1 Clinical Trials in Adult Hypogonadal Males**

Testosterone gel was evaluated in a multi-center, randomized, parallel-group, active-controlled, 180 day trial in 227 hypogonadal men. The study was conducted in 2 phases. During the Initial Treatment Period (Days 1 to 90), 73 patients were randomized to testosterone gel 5 g daily, 78 patients to testosterone gel 10 g daily, and 76 patients to a

non-scrotal testosterone transdermal system. The study was double-blind for dose of testosterone gel but open-label for active control. Patients who were originally randomized to testosterone gel and who had single-sample serum testosterone levels above or below the normal range on Day 60 were titrated to 7.5 g daily on Day 91. During the Extended Treatment Period (Days 91 to 180), 51 patients continued on testosterone gel 5 g daily, 52 patients continued on testosterone gel 10 g daily, 41 patients continued on a non-scrotal testosterone transdermal system (5 mg daily), and 40 patients received testosterone gel 7.5 g daily. Upon completion of the initial study, 163 enrolled and 162 patients received treatment in an open-label extension study of testosterone gel for an additional period of up to 3 years.

Mean peak, trough and average serum testosterone concentrations within the normal range (298 to 1043 ng/dL) were achieved on the first day of treatment with doses of 5 g and 10 g. In patients continuing on testosterone gel 5 g and 10 g, these mean testosterone levels were maintained within the normal range for the 180-day duration of the original study. **Figure 3** summarizes the 24 hour pharmacokinetic profiles of testosterone administered as testosterone gel for 30, 90 and 180 days. Testosterone concentrations were maintained as long as the patient continued to properly apply the prescribed testosterone gel treatment.

**Figure 3: Mean Steady State Testosterone Concentrations in Patients with Once-Daily Testosterone Gel Therapy**



**Table 4** summarizes the mean testosterone concentrations on Treatment Day 180 for patients receiving 5 g, 7.5 g, or 10 g of testosterone gel. The 7.5 g dose produced mean concentrations intermediate to those produced by 5 g and 10 g of testosterone gel.

**Table 4: Mean ( $\pm$  SD) Steady-State Serum Testosterone Concentrations During Therapy (Day 180)**

	5 g N = 44	7.5 g N = 37	10 g N = 48
$C_{avg}$	555 $\pm$ 225	601 $\pm$ 309	713 $\pm$ 209
$C_{max}$	830 $\pm$ 347	901 $\pm$ 471	1083 $\pm$ 434
$C_{min}$	371 $\pm$ 165	406 $\pm$ 220	485 $\pm$ 156

Of 129 hypogonadal men who were appropriately titrated with testosterone gel and who had sufficient data for analysis, 87% achieved an average serum testosterone level within the normal range on Treatment Day 180.

In patients treated with testosterone gel, there were no observed differences in the average daily serum testosterone concentrations at steady-state based on age, cause of hypogonadism, or body mass index.

DHT concentrations increased in parallel with testosterone concentrations at testosterone gel doses of 5 g/day and 10 g/day, but the DHT/T ratio stayed within the normal range, indicating enhanced availability of the major physiologically active androgen. Serum estradiol (E2) concentrations increased significantly within 30 days of starting treatment with testosterone gel 5 or 10 g/day and remained elevated throughout the treatment period but remained within the normal range for eugonadal men. Serum levels of SHBG decreased very slightly (1 to 11%) during testosterone gel treatment. In men with hypergonadotropic hypogonadism, serum levels of LH and FSH fell in a dose- and time-dependent manner during treatment with testosterone gel.

## 16 HOW SUPPLIED/STORAGE AND HANDLING

Testosterone gel is supplied in unit-dose foil packets in cartons of 30.

- 25 mg of testosterone per packet. Each packet contains 2.5 g of gel.
- 50 mg of testosterone per packet. Each packet contains 5 g of gel.

Store at 20° to 25°C (68° to 77°F) [See USP Controlled Room Temperature].

Used testosterone gel packets should be discarded in household trash in a manner that prevents accidental application or ingestion by children or pets.

KEEP THIS AND ALL MEDICATIONS OUT OF THE REACH OF CHILDREN.

## 17 PATIENT COUNSELING INFORMATION

See FDA-approved patient labeling (Medication Guide)

### 17.1 Use in Men with Known or Suspected Prostate or Breast Cancer

Men with known or suspected prostate or breast cancer should not use testosterone gel.

### 17.2 Potential for Secondary Exposure to Testosterone and Steps to Prevent Secondary Exposure

Secondary exposure to testosterone in children and women can occur with the use of testosterone gel in men. Cases of secondary exposure to testosterone have been reported in children with signs and symptoms including enlargement of the penis or clitoris, premature development of pubic hair, increased erections, and aggressive behavior.

Physicians should advise patients of the reported signs and symptoms of secondary exposure which may include the following:

- In children; unexpected sexual development including inappropriate enlargement of the penis or clitoris, premature development of pubic hair, increased erections, and aggressive behavior.
- In women; changes in hair distribution, increase in acne, or other signs of testosterone effects.

- The possibility of secondary exposure to testosterone gel should be brought to the attention of a healthcare provider.
- Testosterone gel should be promptly discontinued until the cause of virilization is identified.

Strict adherence to the following precautions is advised to minimize the potential for secondary exposure to testosterone from testosterone gel in men [see Medication Guide]:

- **Children and women should avoid contact with unwashed or unclothed application site(s)** of men using testosterone gel.
- **To minimize the potential for transfer** to others, patients using testosterone gel should apply the product as directed and strictly adhere to the following:
  - **Wash hands** with soap and water after application.
  - **Cover the application site(s)** with clothing after the gel has dried.
  - **Wash the application site(s) thoroughly** with soap and water prior to any situation where skin-to-skin contact of the application site with another person is anticipated.
  - In the event that unwashed or unclothed skin to which testosterone gel has been applied comes in contact with the skin of another person, the general area of contact on the other person should be washed with soap and water as soon as possible.

### **17.3 Potential Adverse Reactions with Androgens**

Patients should be informed that treatment with androgens may lead to adverse reactions which include:

- Changes in urinary habits such as increased urination at night, trouble starting your urine stream, passing urine many times during the day, having an urge that you have to go to the bathroom right away, having a urine accident, being unable to pass urine and weak urine flow.
- Breathing disturbances, including those associated with sleep, or excessive daytime sleepiness.
- Too frequent or persistent erections of the penis.
- Nausea, vomiting, changes in skin color, or ankle swelling.

### **17.4 Patients Should Be Advised of the Following Instructions for Use**

- **Read the Medication Guide before starting testosterone gel therapy and to reread it each time the prescription is renewed.**
- **Testosterone gel should be applied and used appropriately to maximize the benefits and to minimize the risk of secondary exposure in children and women.**
- Keep testosterone gel out of the reach of children.
- **Testosterone gel is an alcohol based product and is flammable; therefore avoid fire, flame or smoking until the gel has dried.**
- **Testosterone gel should be used only in the prescribed doses and application instructions.**
- It is important to adhere to all recommended monitoring.
- Report any changes in their state of health, such as changes in urinary habits, breathing, sleep, and mood.
- Testosterone gel is prescribed to meet the patient's specific needs, therefore, the patient should never share testosterone gel with anyone.
- Wait 5 hours before showering or swimming. This will ensure that the greatest amount of testosterone gel is absorbed into their system.

Manufactured In India By:  
Cipla Ltd.  
Goa, India

This label may not be the latest approved by FDA.  
For current labeling information, please visit <https://www.fda.gov/drugsatfda>

Manufactured For:  
ANI Pharmaceuticals, Inc.  
Baudette, MN 56623



9946 Revised: 10/2016

## MEDICATION GUIDE

### Testosterone (tes-TOS-te-rōn) Gel CIII

Read the Medication Guide that comes with testosterone gel before you start taking it and each time you get a refill. There may be new information. This Medication Guide does not take the place of talking to your healthcare provider about your medical condition or your treatment.

#### What is the most important information I should know about testosterone gel?

1. **Early signs and symptoms of puberty have happened in young children who were accidentally exposed to testosterone through contact with men using testosterone gel.**

#### Signs and symptoms of early puberty in a child may include:

- enlarged penis or clitoris
- early development of pubic hair
- increased erections or sex drive
- aggressive behavior

#### Testosterone gel can transfer from your body to others.

2. **Women and children should avoid contact with the unwashed or unclothed area where testosterone gel has been applied to your skin.**

**Stop using testosterone gel and call your healthcare provider right away if** you see any signs and symptoms in a child or a woman that may have occurred through accidental exposure to testosterone gel:

#### Signs and symptoms of exposure to testosterone gel in children may include:

- enlarged penis or clitoris
- early development of pubic hair
- increased erections or sex drive
- aggressive behavior

#### Signs and symptoms of exposure to testosterone gel in women may include:

- changes in body hair
- a large increase in acne

#### To lower the risk of transfer of testosterone gel from your body to others, you should follow these important instructions:

- Apply testosterone gel **only** to areas that will be covered by a short sleeve t-shirt. These areas are your shoulders and upper arms, or stomach area (abdomen), or shoulders, upper arms and stomach area.

- Wash your hands **right away** with soap and water after applying testosterone gel.
- After the gel has dried, **cover the application area with clothing**. Keep the area covered until you have washed the application area well or have showered.
- **If you expect to have skin-to-skin contact with another person, first wash the application area well with soap and water.**
- **If a woman or child makes contact with the testosterone gel application area, that area on the woman or child should be washed well with soap and water right away.**

### What is testosterone gel?

Testosterone gel is a prescription medicine that contains testosterone. Testosterone gel is used to treat adult males who have low or no testosterone due to certain medical conditions.

Your healthcare provider will test your blood before you start and while you are taking testosterone gel.

It is not known if testosterone gel is safe or effective to treat men who have low testosterone due to aging.

It is not known if testosterone gel is safe or effective in children younger than 18 years old. Improper use of testosterone gel may affect bone growth in children.

Testosterone gel is a controlled substance (CIII) because it contains testosterone that can be a target for people who abuse prescription medicines. Keep your testosterone gel in a safe place to protect it. Never give your testosterone gel to anyone else, even if they have the same symptoms you have. Selling or giving away this medicine may harm others and is against the law.

Testosterone gel is not meant for use in women.

### Who should not use testosterone gel?

#### Do not use testosterone gel if you:

- have breast cancer
- have or might have prostate cancer
- are pregnant or may become pregnant or breast-feeding. Testosterone gel may harm your unborn or breast-feeding baby.

Women who are pregnant or who may become pregnant should avoid contact with the area of skin where testosterone gel has been applied.

- are allergic to testosterone or any of the ingredients in testosterone gel including soy. See the end of this Medication Guide for a complete list of ingredients in testosterone gel.

Talk to your healthcare provider before taking this medicine if you have any of the above conditions.

### What should I tell my healthcare provider before using testosterone gel?

### **Before you use testosterone gel, tell your healthcare provider if you:**

- have breast cancer or prostate cancer
- have urinary problems due to an enlarged prostate
- have heart problems
- have liver or kidney problems
- have problems breathing while you sleep (sleep apnea)
- have any other medical conditions

Tell your healthcare provider about all the medicines you take, including prescription and non-prescription medicines, vitamins, and herbal supplements.

Using testosterone gel with certain other medicines can affect each other. Especially, tell your healthcare provider if you take:

- insulin
- corticosteroids
- medicines that decrease blood clotting

Ask your healthcare provider or pharmacist for a list of these medicines, if you are not sure.

Know the medicines you take. Keep a list of them and show it to your healthcare provider and pharmacist when you get a new medicine.

### **How should I use testosterone gel?**

- It is important that you apply testosterone gel exactly as prescribed by your healthcare provider. Your healthcare provider will tell you how much testosterone gel to apply and when to apply it.
- Your healthcare provider may change your testosterone gel dose. Do not change your testosterone gel dose without talking to your healthcare provider.
- Testosterone gel is for skin use only.
- **Do not allow others to apply testosterone gel to your body.**

### **Applying testosterone gel:**

- Tear open the packet completely at the dotted line.
- Squeeze all of the testosterone gel out of the packet into the palm of your hand. Squeeze from the bottom of the packet to the top.
- Throw away the packet in the trash out of the reach of children to avoid accidental exposure.
- Squeeze the medicine into the palm of your hand and apply to clean, dry, intact skin at the same time each day.
- You may also apply testosterone gel from the packet directly to your skin.
- **Apply testosterone gel only to areas that will be covered by a short sleeve t-shirt, as shown in the shaded areas in the figure below. These areas are your shoulders and upper**

**arms, or stomach area, or shoulders, upper arm and stomach area.**



- **Do not apply testosterone gel to your penis or scrotum.**
- **Wash your hands with soap and water right after you apply testosterone gel.**
- Let the application areas dry for a few minutes before putting on a shirt.
- To prevent transfer of testosterone gel to others, clothes (such as a t-shirt) should **always** be worn to cover the testosterone gel application areas until you have washed the application areas well with soap and water.
- **Wait 5 hours before showering or swimming. This will ensure that the greatest amount of testosterone gel is absorbed into your system.**
- **Testosterone gel is flammable until dry. Let the gel dry before smoking or going near an open flame.**

Your healthcare provider will test your blood before you start and while you take testosterone gel.

**What are the possible side effects of testosterone gel?**

**Testosterone gel can cause serious side effects including:**

See **“What is the most important information I should know about testosterone gel?”**

- If you already have enlargement of your prostate gland your signs and symptoms can get worse while using testosterone gel. This can include:
  - increased urination at night
  - trouble starting your urine stream
  - having to pass urine many times during the day
  - having an urge that you have to go to the bathroom right away
  - having a urine accident
  - being unable to pass urine or weak urine flow
- **Possible increased risk of prostate cancer.** Your healthcare provider should check you for prostate cancer or any other prostate problems before you start and while you use testosterone gel.
- Blood clots in the legs or lungs. Signs and symptoms of a blood clot in your leg can include leg pain, swelling or redness. Signs and symptoms of a blood clot in your lungs can include difficulty breathing or chest pain.

- Possible increased risk of heart attack or stroke.
- In large doses testosterone gel may lower your sperm count.
- Swelling of your ankles, feet, or body, with or without heart failure.
- Enlarged or painful breasts.
- Have problems breathing while you sleep (sleep apnea).

**Call your healthcare provider right away if you have any of the serious side effects listed above.**

**The most common side effects of testosterone gel include:**

- acne
- skin irritation where testosterone gel is applied
- increased cholesterol levels
- increased prostate specific antigen (a test used to screen for prostate cancer)
- increased red blood cell count
- increased liver function tests

**Other side effects include** more erections than are normal for you or erections that last a long time.

Tell your healthcare provider if you have any side effect that bothers you or that does not go away.

These are not all the possible side effects of testosterone gel. For more information, ask your healthcare provider or pharmacist.

Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.

**How should I store testosterone gel?**

- Store testosterone gel at 20°C to 25°C (68°F to 77°F)
- Safely throw away used testosterone gel in household trash. Be careful to prevent accidental exposure of children or pets.
- Keep testosterone gel away from fire.

**Keep testosterone gel and all medicines out of the reach of children.**

**General information about testosterone gel**

Medicines are sometimes prescribed for purposes other than those listed in a Medication Guide. Do not use testosterone gel for a condition for which it was not prescribed. Do not give testosterone gel to other people, even if they have the same symptoms you have. It may harm them.

This Medication Guide summarizes the most important information about testosterone gel. If you would like more information, talk to your healthcare provider. You can ask your pharmacist or healthcare provider for information about testosterone gel that is written for health professionals.

For more information, call 1-800-308-6755.

**What are the ingredients in testosterone gel?**

**Active ingredient:** testosterone

**Inactive ingredients:** carbomer homopolymer type C, dehydrated alcohol 67%, isopropyl palmitate, purified water, and sodium hydroxide.

This Medication Guide has been approved by the U.S. Food and Drug Administration.

**Manufactured In India By:**

Cipla Ltd.  
Goa, India

**Manufactured for:**

ANI Pharmaceuticals, Inc.  
Baudette, MN 56623



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