



## U.S. FDA Approves AVEED™ (Testosterone Undecanoate) Injectable Testosterone Replacement Therapy For Men Living With Hypogonadism, Or Low-T

March 6, 2014

**AVEED offers distinct dosing schedule to increase testosterone levels in hypogonadal men, and underscores Endo's strategy and commitment to addressing health issues facing men**

DUBLIN, March 6, 2014 /PRNewswire/ -- Endo International plc (NASDAQ: ENDP) (TSX: ENL) announced today that its operating company Endo Pharmaceuticals Inc. received U.S. Food and Drug Administration (FDA) approval of AVEED™ (testosterone undecanoate) injection for the treatment of adult men with hypogonadism (commonly known as Low-T) that is associated with a deficiency or absence of the male hormone testosterone. AVEED is a new prescription medicine indicated to produce serum testosterone levels in the normal range by administration of a single 3-mL (750 mg) intramuscular injection given once at initiation of therapy, at 4 weeks, and then every 10 weeks thereafter. It is expected to be available in early March.

To view the multimedia assets associated with this release, please click: <http://www.multivu.com/mnr/65167-u-s-fda-approves-endo-aveed-for-men-with-hypogonadism-low-t>

"Today's FDA approval of AVEED is a significant milestone for Endo. AVEED expands our branded portfolio of men's health products and highlights our passion and commitment to providing high quality therapies that improve patient care," said Rajiv De Silva, president and chief executive officer of Endo. "With AVEED, Endo can now offer men living with hypogonadism different treatment options to raise testosterone levels. We are focused on getting AVEED to market to ensure that appropriate patients have access to it."

The approval of AVEED is based on data from an 84-week Phase 3 trial of hypogonadal men in the U.S. Men enrolled in the study had an average age of 54 years and a serum total testosterone level of less than 300 ng/dL. In the Phase 3 study, AVEED increased mean serum testosterone levels, maintaining them for up to 10 weeks at steady state (between weeks 14-24). AVEED is approved with a Risk Evaluation and Mitigation System (REMS) requiring prescriber education and certification as well as restricted product distribution.

"Physicians have prescribed FDA-approved testosterone replacement therapies for many years to help treat men diagnosed with testosterone deficiency, or hypogonadism. AVEED is an important new option that may be suitable for some men given its dosing schedule and administration," said Martin Miner, M.D., co-director of the Men's Health Center at Miriam Hospital and a clinical associate professor of Family Medicine and Urology at Brown University's Warren Alpert School of Medicine, Providence. "As with any prescription therapy, hypogonadal men should talk to their doctor about the potential risks and benefits of testosterone replacement therapy so they can make an informed treatment decision."

"Men's Health Network is pleased to see the FDA approval of a new treatment for hypogonadism as we believe men with this condition should have access to a broad range of treatment options," said Ana Fadich, MPH, vice president of the national non-profit organization Men's Health Network. "Men diagnosed with hypogonadism and their partners need to have an open discussion, with each other and the man's doctor, about the condition and ways to manage it so they can find the right treatment that best suits their individual needs."

### About AVEED (testosterone undecanoate)

AVEED injection is an androgen indicated for replacement therapy in adult males for conditions associated with a deficiency or absence of endogenous testosterone, including primary hypogonadism (congenital or acquired) and hypogonadotropic hypogonadism (congenital or acquired). AVEED has a Boxed Warning for serious pulmonary oil microembolism (POME) reactions and anaphylaxis. It should be used in patients who require therapy and in whom the benefits of the product outweigh the serious risks of POME and severe allergic reaction (anaphylaxis).

AVEED is available as a single-use vial. Dosage titration is not necessary. Following the first intramuscular injection of 3 mL of AVEED (750 mg), a second 3 mL dose is injected 4 weeks later, and then 3 mL is injected every 10 weeks thereafter. AVEED is prescribed and administered by trained healthcare providers in a doctor's office, clinic, or hospital.

AVEED contains testosterone undecanoate, which Endo licensed through its subsidiary Endo Pharmaceuticals Solutions Inc. from Bayer Pharma AG. Outside the U.S., Bayer Pharma AG and its subsidiaries have been marketing testosterone undecanoate injections since 2003.

Additional safety data for testosterone undecanoate injections are available from 18 clinical trials conducted worldwide in 3,556 subjects treated outside the U.S.

### Indications and Important Safety Information

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

#### AVEED may cause serious side effects, including:

- **A serious lung problem.** AVEED can cause a serious lung problem called a pulmonary oil microembolism (POME) reaction. POME is caused by tiny droplets of oil that have traveled to the lungs. Symptoms of a POME reaction may include:
  - cough or urge to cough

- difficulty breathing
  - sweating
  - tightening of your throat
  - chest pain
  - dizziness
  - fainting
- **Serious allergic reactions (anaphylaxis).** AVEED can cause a serious allergic reaction right after receiving the injection. Some of these allergic reactions may be life threatening.

These reactions can happen after you receive your first dose of AVEED or may happen after receiving more than 1 dose.

**You may need emergency treatment in a hospital,** especially if these symptoms get worse over the 24 hours after your AVEED injection.

**These side effects may happen during or right after each injection. To be sure that you are not having one of these reactions:**

- **You need to stay in the doctor's office, clinic, or hospital for 30 minutes after having your AVEED injection so that your doctor can watch you for symptoms of POME or a serious allergic reaction.**
- **You can only get AVEED at your doctor's office, clinic, or hospital.**

AVEED is only available through a restricted program called the AVEED Risk Evaluation and Mitigation Strategy (REMS) Program. For more information about the AVEED REMS Program go to [www.AveedREMS.com](http://www.AveedREMS.com) or call 1-855-755-0494.

#### **What is AVEED?**

AVEED is a prescription medicine that contains testosterone. AVEED is used to treat adult males who have low or no testosterone and conditions associated with low or no testosterone.

AVEED is only for adult males who need testosterone replacement therapy and when the benefit of receiving AVEED is more than the risk of POME and anaphylaxis.

It is not known if AVEED is safe and effective for use in children younger than 18 years old. Improper use of AVEED may affect bone growth in children.

AVEED is a controlled substance (CIII) because it contains testosterone that can be a target for people who abuse prescription medicines.

AVEED is not meant for use in women.

#### **Who should not receive AVEED?**

**Do not receive AVEED if you:**

- have breast cancer
- have or might have prostate cancer
- are pregnant or may become pregnant or are breastfeeding. AVEED may harm your unborn or breastfeeding baby.
- are allergic to AVEED or to any of the ingredients in AVEED. See the active and inactive ingredients at the end for a complete list of ingredients in AVEED.

Talk to your doctor before receiving this medicine if you have any of the above conditions.

#### **What should I tell my doctor before receiving AVEED?**

**Before receiving AVEED, tell your doctor if you:**

- have breast cancer
- have or might have 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 doctor about all the medicines you take, including prescription and over-the-counter medicines, vitamins, and herbal supplements.

Receiving AVEED with certain other medicines can affect each other. Especially tell your doctor if you take:

- insulin
- medicines that decrease blood clotting
- corticosteroids

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

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

### **How will I receive AVEED?**

See "**What is the most important information I should know about AVEED?**"

Your doctor will inject AVEED deep into the muscle of your buttock. You will get 1 injection when you start, 1 injection 4 weeks later and then 1 injection every 10 weeks.

Your doctor will test your blood before you receive and while you are receiving AVEED.

### **What are the possible side effects of AVEED?**

**AVEED can cause serious side effects including:**

- see "**What is the most important information I should know about AVEED?**"
- **if you already have enlargement of your prostate gland, your signs and symptoms can get worse** while receiving AVEED. 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
- changes in certain blood tests
- **possible increased risk of prostate cancer.** Your doctor should check you for prostate cancer or any other prostate problems before you receive and while you are receiving AVEED.
- **in large doses AVEED may lower your sperm count.**
- **liver problems.** Symptoms of liver problems may include:
  - nausea or vomiting
  - yellowing of your skin or whites of your eyes
  - dark urine
  - pain on the right side of your stomach area (abdominal pain)
- **swelling of your ankles, feet, or body, with or without heart failure.** This may cause serious problems for people who have heart, kidney, or liver disease.
- **enlarged or painful breasts.**
- **have problems breathing while you sleep (sleep apnea).**
- **blood clots in the legs. This can include pain, swelling or redness of your legs.**

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

**The most common side effects of AVEED include:**

- acne
- pain at the injection site
- increased prostate specific antigen (a test used to screen for prostate cancer)
- increased estradiol level
- low testosterone level
- feeling tired
- irritability
- increased red blood cell count
- difficulty sleeping
- mood swings

**Other side effects include** more erections than are normal for you or erections that last for a long time. Tell your doctor if you have any side effect that bothers you or that does not go away. These are not all the possible side effects with AVEED. For more information, ask your doctor or pharmacist. Call your doctor for medical advice about side effects. You may report side effects to FDA at 1-800-FDA-1088.

### **General information about AVEED**

This Important Safety Information summarizes the most important information about AVEED. If you would like more information, talk with your doctor. You can ask your doctor or nurse for information about AVEED that is written for health professionals.

The active ingredient is testosterone undecanoate.

The inactive ingredients are benzyl benzoate, refined castor oil.

[Please see full Prescribing Information, including Boxed Warning](#)

## **About Endo International plc**

Endo International plc is a global specialty healthcare company focused on improving patients' lives while creating shareholder value. Endo develops, manufactures, markets, and distributes quality branded pharmaceutical, generic and device products through its operating companies. Endo has global headquarters in Dublin, Ireland and US headquarters in Malvern, PA. Learn more at [www.endo.com](http://www.endo.com).

## **About Endo Pharmaceuticals Inc.**

Endo Pharmaceuticals Inc., headquartered in Malvern, PA, is focused on developing and delivering high-value branded pharmaceutical products that meet the unmet needs of patients. Endo Pharmaceuticals is an operating company of Endo International plc (NASDAQ: ENDP) (TSX: ENL), a global specialty healthcare company focused on improving patients' lives while creating shareholder value. Learn more at [www.endo.com](http://www.endo.com).

## **Forward-Looking Statements**

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Statements including words such as "believes," "expects," "anticipates," "intends," "estimates," "plan," "will," "may," "look forward," "intend," "guidance," "future" or similar expressions are forward-looking statements. Because these statements reflect our current views, expectations and beliefs concerning future events, these forward-looking statements involve risks and uncertainties. Investors should note that many factors, as more fully described under the caption "Risk Factors" in Endo's Form 10-K, Form 10-Q and Form 8-K filings with the Securities and Exchange Commission and as otherwise enumerated herein or therein, could affect Endo's future financial results and could cause Endo's actual results to differ materially from those expressed in forward-looking statements contained in our Annual Report on Form 10-K. The forward-looking statements in this press release are qualified by these risk factors. These are factors that, individually or in the aggregate, could cause our actual results to differ materially from expected and historical results. Endo assumes no obligation to publicly update any forward-looking statements, whether as a result of new information, future developments or otherwise.

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SOURCE Endo Pharmaceuticals

Investors/Media, Blaine Davis, (484) 216-7158; Investors, Jonathan Neely, (484) 216-6645; Media, Brian O'Donnell, (484) 216-6726