## Patient Satisfaction with Testosterone Replacement Therapies: The Reasons Behind the Choices

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#### ABSTRACT-

*Introduction.* Testosterone replacement therapy (TRT) for male hypogonadism is rapidly gaining popularity and acceptance. Options include gels, injections, and implantable subcutaneous pellets.

*Aims.* The aim of this study was to determine rates of patient satisfaction and reasons for patient preferences in hypogonadal men on TRT.

*Methods.* An anonymous, prospective survey was distributed to men presenting for TRT at an academic urology clinic. The survey was organized into multiple domains including patient satisfaction and treatment motivation.

Main Outcome Measures. Patient satisfaction responses obtained via anonymous survey.

**Results.** Average patient age was  $49 \pm 0.7$  years (n = 382). Injectable testosterone was chosen by 53%, gel-based regimens by 31%, and pellets by 17%. Overall, 70% of patients were satisfied with their TRT and 14% reported dissatisfaction. Satisfaction rates were similar between gels (68%), injections (73%), and implantable pellets (70%). Doctor recommendation was the sole significant reason for patients preferring gel-based TRT (66% vs. 37% injection users vs. 31% pellet users). Injectable TRT was favored because of lower cost (35% vs. 21% gel users vs. 19% pellet users). Pellets were favored for ease of use (64% vs. 44% injection users vs. 43% gel users) and convenience (58% vs. 26% injection users vs. 19% gel users). Pellets had increased rates of satisfaction within the first 12 months. Improvements in concentration and mood occurred at higher percentages in satisfied patients.

*Conclusions.* Patients are satisfied with TRT. Lower costs are important to patients on injections. Convenience and ease of use are central in choosing pellet therapy. Men on TRT should be questioned about mood and concentration because these factors exhibited the greatest improvements in satisfied patients. Kovac JR, Rajanahally S, Smith RP, Coward RM, Lamb DJ, and Lipshultz LI. Patient satisfaction with testosterone replacement therapies: The reasons behind the choices. J Sex Med 2014;11:553–562.

Key Words. Testosterone Replacement Therapy; Patient Satisfaction; Patient Preferences; Male Hypogonadism

#### Introduction

T ypified by low serum testosterone levels and pervasive, nonspecific symptoms of diminished libido, fatigue, poor concentration, erectile dysfunction, lack of concentration, and depressed mood, male hypogonadism is currently characterized as a male health epidemic [1–5]. Indeed, idiopathic age-related declines in testosterone affect a range between 5% and nearly 40% of men [2,6] with recognized associations between low levels of testosterone and obesity, diabetes, metabolic syndrome, dyslipidemia, osteoporosis, cardio-vascular disease as well as all-cause mortality [7-17].

Testosterone replacement therapy (TRT) unequivocally increases levels of serum testosterone [18–26]. Additionally, clinicians note improvements in quality of life [27–31] as well as in body weight and waist circumference occur [32,33]. In recent years, increased awareness of male hypogonadism and the benefits of TRT, partially driven by the media and pharmaceutical marketing strategies, has led more men to seek diagnosis and treatment. In a recent study examining prescribing patterns in the United States, 2.91% of men aged greater than 40 years and 3.75% of men greater than 60 years of age were prescribed some form of TRT [34]. Indeed, the current popularity of TRT is evidenced by the fact that testosterone prescriptions have increased by over 170% since 2007 and 500% since 1993 [6,35,36].

Presently, several U.S. Food and Drug Administration-approved methods of TRT exist including transdermal gel formulations, intramuscular injectables, and subcutaneous testosterone pellets. Each modality has its own advantages based upon their method of administration, pharmacokinetic, economic, and safety profiles. For example, while injectable TRT is traditionally cheaper than other methods, it is associated with increased variability in testosterone levels over time [24]. Specifically, following injection of 200 mg intramuscular testosterone cypionate, a threefold increase in serum testosterone is observed between days 2-5 with basal levels returning by days 13-14 [24]. On the contrary, gel formulations provide more stable testosterone levels [37] but tend to be more costly and are possibly transferred to others via skin-to-skin contact [38]. Implantable subcutaneous pellets (Testopel, Auxilium Pharmaceuticals, Malvern, PA, USA) have the advantage of only requiring treatment every 3 to 4 months, but are relatively expensive and negate the ability to control a patients exogenous testosterone dose within this window of time [21,25]. The testosterone formulations discussed within this study are limited to those available only in the United States. Other options for treatment in hypogonadal men include antiestrogens, selective estrogen receptor modulators as well as human chorionic gonadotropin [39].

In spite of the rapidly increasing diagnosis of hypogonadism and the acceptance of TRT within the medical community and general population [21,24,25,40], the factors contributing to patient preferences and satisfaction with TRT have yet to be described. As such, the current study was devised with the goal of giving physicians a perspective into the reasons why patients in the United States choose specific methods of TRT and how this choice impacts patient satisfaction.

### Methods

Following approval by the Institutional Review Board (IRB), an anonymous, prospective survey was distributed to all patients with a diagnosis of "hypogonadism" listed as the reason for their follow-up clinic appointment. The survey was selfadministered in a physician's office waiting room. The physician is a high-volume, academic urologist with a specialization in Andrology located in the United States. As such, all testosterone formulations prescribed and discussed within the manuscript are limited to those available in America. Written instructions were provided explaining the purpose of the questionnaire and emphasizing its confidential and anonymous nature. A private and secure drop box was located in the clinic waiting room to assure patients that no physician would have access to the questionnaire prior to the appointment. The box was locked and emptied daily. The surveys were stored in a secured cabinet with the collected data encrypted on password-protected computers in accordance with IRB policy.

Patients were excluded from analysis if their surveys contained multiple incomplete or conflicting responses and if the respondents indicated that they were not currently using TRT for hypogonadism at the time of survey completion. In some instances, patients documented only certain parameters (i.e., height but not weight). When this occurred, results were compiled using only those patients where complete data were obtained. Within the tables, the number of patients included is listed in parenthesis. For parameters such as for body mass index (BMI) where values were dependent on the patient responding to two questions (i.e., height and weight), the value was not calculated if a patient neglected to answer one of the necessary components.

The survey was designed to assess all patients presenting for TRT and included basic patient demographics such as age, sexual orientation, marital status, level of education, and income. Further questions examined the patient's current modality of TRT and specifically focused on the domains of self-worth, embarrassment, satisfaction, and motivation. The majority of the questions produced single-answer responses via multiple choice or yes/no answers. Several questions gave patients the option to provide additional written details. Assessment of energy, libido, mood, muscle mass, and concentration were conducted via self-report. Patients were given a chart and asked to check the most representative section. Download English Version:

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