

# Sustanon

Testosterone mix 250mg/ml U.S.P. (10x1ml amp)

**Read all of this leaflet carefully before you start taking this medicine because it contains important information for you.**

- Keep this leaflet. You may need to read it again.
- If you have any further questions, ask your doctor, pharmacist or nurse.
- This medicine has been prescribed for you only. Do not pass it on to others. It may harm them, even if their signs of illness are the same as yours.
- If you get any side effects, talk to your doctor, pharmacist or nurse. This includes any possible side effects not listed in this leaflet.

## About

Sustanon 250 is an oil-based injectable testosterone blend that contains four different testosterone esters: testosterone propionate (30 mg); testosterone phenylpropionate (60 mg); testosterone isocaproate (60 mg); and testosterone decanoate (100 mg). Sustanon is designed to provide a fast yet extended release of testosterone, usually requiring injections once every 3 to 4 weeks in a clinical setting. This is an improvement from standard testosterone products such as cypionate or enanthate, which provide a shorter duration of activity. As with all testosterone products, Sustanon 250 is a very strong anabolic drug with pronounced androgenic activity. It is most commonly used in bulking cycles, providing exceptional gains in strength and muscle mass. A shorter-acting version of Sustanon, called Sustanon 100, is also made in certain areas.

## Side Effects (Estrogenic)

Testosterone is readily aromatized in the body to estradiol (estrogen). The aromatase (estrogen synthetase) enzyme is responsible for this metabolism of testosterone. Elevated estrogen levels can cause side effects such as increased water retention, body fat gain, and gynecomastia. Testosterone is considered a moderately estrogenic steroid. An anti-estrogen such as clomiphene citrate or tamoxifen citrate may be necessary to prevent estrogenic side effects. One may alternately use an aromatase inhibitor like Arimidex (anastrozole), which more efficiently controls estrogen by preventing its synthesis. Aromatase inhibitors can be quite expensive in comparison to anti-estrogens, however, and may also have negative effects on blood lipids. Estrogenic side effects will occur in a dose-dependant manner, with higher doses (above normal therapeutic levels) of Sustanon 250 more likely to require the concurrent use of an anti-estrogen or aromatase inhibitor. Since water retention and loss of muscle definition are common with higher doses of testosterone, this drug is usually considered a poor choice for dieting or cutting phases of training. Its moderate estrogenicity makes it more ideal for bulking phases, where the added water retention will support raw strength and muscle size, and help foster a stronger anabolic environment.

## Side Effects (Androgenic)

Testosterone is the primary male androgen, responsible for maintaining secondary male sexual characteristics. Elevated levels of testosterone are likely to produce androgenic side effects including oily skin, acne, and body/facial hair growth. Men with a genetic predisposition for hair loss (androgenetic alopecia) may notice accelerated male pattern balding. Those concerned about hair loss may find a more comfortable option in nandrolone decanoate, which is a comparably less androgenic steroid. Women are warned of the potential virilizing effects of anabolic/androgenic steroids, especially with a strong androgen such as testosterone. These may include deepening of the voice, menstrual irregularities, changes in skin texture, facial hair growth, and clitoral enlargement.

In androgen-responsive target tissues such as the skin, scalp, and prostate, the high relative androgenicity of testosterone is dependant on its reduction to dihydrotestosterone (DHT). The 5-alpha reductase enzyme is responsible for this metabolism of testosterone. The concurrent use of a 5-alpha reductase inhibitor such as finasteride or dutasteride will interfere with site-specific potentiation of testosterone action, lowering the tendency of testosterone drugs to produce androgenic side effects. It is important to remember that anabolic

and androgenic effects are both mediated via the cytosolic androgen receptor. Complete separation of testosterone's anabolic and androgenic properties is not possible, even with total 5-alpha reductase inhibition.

## Side Effects (Hepatotoxicity)

Testosterone does not have hepatotoxic effects; liver toxicity is unlikely. One study examined the potential for hepatotoxicity with high doses of testosterone by administering 400 mg of the hormone per day (2,800 mg per week) to a group of male subjects. The steroid was taken orally so that higher peak concentrations would be reached in hepatic tissues compared to intramuscular injections. The hormone was given daily for 20 days, and produced no significant changes in liver enzyme values including serum albumin, bilirubin, alanine-amino-transferase, and alkaline phosphates.

## Side Effects (Cardiovascular)

Anabolic/androgenic steroids can have deleterious effects on serum cholesterol. This includes a tendency to reduce HDL (good) cholesterol values and increase LDL (bad) cholesterol values, which may shift the HDL to LDL balance in a direction that favors greater risk of arteriosclerosis. The relative impact of an anabolic/androgenic steroid on serum lipids is dependant on the dose, route of administration (oral vs. injectable), type of steroid (aromatizable or non-aromatizable), and level of resistance to hepatic metabolism. Anabolic/androgenic steroids may also adversely affect blood pressure and triglycerides, reduce endothelial relaxation, and support left ventricular hypertrophy, all potentially increasing the risk of cardiovascular disease and myocardial infarction.

Testosterone tends to have a much less dramatic impact on cardiovascular risk factors than synthetic steroids. This is due in part to its openness to metabolism by the liver, which allows it to have less effect on the hepatic management of cholesterol. The aromatization of testosterone to estradiol also helps to mitigate the negative effects of androgens on serum lipids. In one study, 280 mg per week of testosterone ester (enanthate) had a slight but not statistically significant effect on HDL cholesterol after 12 weeks, but when taken with an aromatase inhibitor a strong (25%) decrease was seen. Studies using 300 mg of testosterone ester (enanthate) per week for 20 weeks without an aromatase inhibitor demonstrated only a 13% decrease in HDL cholesterol, while at 600 mg the reduction reached 21%. The negative impact of aromatase inhibition should be taken into consideration before such drug is added to testosterone therapy.

Due to the positive influence of estrogen on serum lipids, tamoxifen citrate or clomiphene citrate are preferred to aromatase inhibitors for those concerned with cardiovascular health, as they offer a partial estrogenic effect in the liver. This allows them to potentially improve lipid profiles and offset some of the negative effects of androgens. With doses of 600 mg or less of testosterone per week, the impact on lipid profile tends to be noticeable but not dramatic, making an anti-estrogen (for cardioprotective purposes) perhaps unnecessary. Doses of 600 mg or less per week have also failed to produce statistically significant changes in LDL/VLDL cholesterol, triglycerides, apolipoprotein B/C-III, C-reactive protein, and insulin sensitivity, all indicating a relatively weak impact on cardiovascular risk factors.<sup>590</sup> When used in moderate doses, injectable testosterone esters are usually considered to be the safest of all anabolic/androgenic steroids.

To help reduce cardiovascular strain it is advised to maintain an active cardiovascular exercise program and minimize the intake of saturated fats, cholesterol, and simple carbohydrates at all times during active AAS administration. Supplementing with fish oils (4 grams per day) and a natural cholesterol/antioxidant formula such as Lipid Stabil or a product with comparable ingredients is also recommended.

## Side Effects (Testosterone Suppression)

All anabolic/androgenic steroids when taken in doses sufficient to promote muscle gain are expected to suppress endogenous testosterone production. Testosterone is the primary male androgen, and offers strong negative feedback on endogenous testosterone production. Testosterone-based drugs will, likewise, have a strong effect on the hypothalamic regulation of natural steroid hormones. Without the intervention of testosterone-stimulating substances, testosterone levels should return to normal within 1-4 months of drug secession. Note that prolonged hypogonadotropic hypogonadism can develop secondary to steroid abuse, necessitating medical intervention.

## **Administration (General)**

Testosterone propionate is often regarded as a painful injection. This is due to the very short carbon chain of the propionic acid ester, which can be irritating to tissues at the site of injection. Many sensitive individuals choose to stay away from this steroid completely, their bodies reacting with a pronounced soreness and low-grade fever that may last for a few days after each injection.

## **Administration (Men)**

To treat androgen insufficiency, the prescribing guidelines for Sustanon 250 call for a dosage of 250 mg every 3 weeks. Although active in the body for a longer time, Sustanon 250 is usually injected every 7 to 10 days for muscle-building purposes. This schedule will allow for the higher doses most commonly applied by athletes, and more stable elevations in hormone level. The usual dosage among male athletes is in the range of 250-750 mg per injection, taken in cycles 6 to 12 weeks in length. This level is sufficient for most users to notice exceptional gains in muscle size and strength.

Sustanon 250 is usually incorporated into bulking phases of training, when added water retention will be of little consequence, the user more concerned with raw mass than definition. Some do incorporate this drug into cutting cycles as well, but typically in lower doses (125- 250 mg every 7-10 days) and/or when accompanied by an aromatase inhibitor to keep estrogen levels under control. Sustanon 250 is a very effective anabolic drug, and is often used alone with great benefit. Some, however, find a need to stack it with other anabolic/androgenic steroids for a stronger effect, in which case an additional 200-400 mg per week of boldenone undecylenate, methenolone enanthate, or nandrolone decanoate should provide substantial results with no significant hepatotoxicity. Testosterone is ultimately very versatile, and can be combined with many other anabolic/androgenic steroids to tailor the desired effect.

Some bodybuilders have been known to use excessively high dosages of this drug (1,000 mg per week or more), although this practice is generally not advised. At dosages above 750 mg per week, water retention will likely account for more of the additional weight gain than new muscle tissue. The practice of “megadosing” is inefficient (not to mention potentially dangerous), especially when we take into account the typical high cost of Sustanon 250. Such use is usually not justified outside of aggressive bodybuilding regimens.

## **Administration (Women)**

Sustanon 250 is rarely used with women in clinical medicine. When applied, it is most often used to induce masculinization in female to male transsexuals. Sustanon 250 is not recommended for women for physique- or performance-enhancing purposes due to its strong androgenic nature, tendency to produce virilizing side effects, and slow-acting characteristics (making blood levels difficult to control).