

Thyroid

Thyroxine is a hormone made by the thyroid gland in the neck. It moves around the body in the bloodstream. It helps keep the body's functions (the metabolism) working at the correct rate. Many cells and tissues in the body need thyroxine to keep them working properly.

Most frequently, supplementing with thyroid meds are used to increase metabolism and aid fat loss. It's most commonly used as part of contest prep, though becoming increasingly popular for simple cosmetic purposes. Often thyroid is used as it allows a slightly higher calorie intake when dieting. But be very careful. Everything comes at a price. And the cost of fiddling about with this stuff can be very high indeed. If you fuck it up, you will die.

Thyroid is also reported to be often used alongside Human Growth Hormone, due to the decreased conversion of T4 to T3 by HGH. It is of note that there is limited literature to support this. It is not a recommended practice as it will suppress natural Thyroid Stimulating Hormone (TSH). This results in not producing correct amounts of thyroid hormone.

It's very similar to what happens when taking testosterone. Too much shuts down the natural production. Sometimes it never bounces back and requires replacement therapy.

Those with poor thyroid output have a tendency to feel tired and put on weight very easily. This is a classic symptom of an 'underactive thyroid' also called hypothyroidism (hypo = low). This is usually detected by a simple blood test for Thyroid Stimulating Hormone (TSH).

Its job is to ensure that there is an adequate amount of thyroid hormone in play. When things go wrong and levels become too low, TSH levels raise. It needs to shout at the thyroid gland to "Make some more!!" Unfortunately, sometimes the thyroid gland needs a hearing aid. It can't hear the instructions. So, raised TSH translates to an underactive thyroid. This will require medication of additional thyroid hormone (as thyroxine) to boost the levels back up to within a normal range.

- Thyroid stimulating Hormone - (reference range 0.35 – 5.50 mu/L)

The following are for the two main thyroid hormones; T4, the inactive form, and T3 which is converted from T4 and four times more potent.

- Free T3 – (reference range 3.5 – 6.5 pmol/L)
- Free T4 – (reference range 11 – 23 pmol/L)

Treatment of hypothyroidism involves taking a daily tablet of thyroid hormone to replace the missing thyroxine. Fortunately, treatment works very well for most people with hypothyroidism but is required for life. Let's hope it never comes to that, eh?

If you have an untreated underactive thyroid gland, you have an increased risk of developing heart disease. This is because a low thyroxine level causes the blood fats (lipids), such as cholesterol, to rise.

Females need to be extra careful when messing about with thyroid meds. If you knacker up your thyroid gland then become pregnant, you have an increased risk of developing complications - for example: Pre-eclampsia, anaemia, premature labor, low birth weight, stillbirth or serious bleeding after birth.

Acute overdoses of thyroid medications can be lethal. As mentioned, T3 is considerably more potent than T4. This makes it more popular for bodybuilding. T4 is used to correct low thyroid levels as it a far more manageable compound.

Other medicines can interfere with the action of thyroid drugs, so always check the patient information leaflet. This should be included in the box of any legit thyroid products.

If you take too much thyroid it can lead to symptoms and problems of an *overactive* thyroid gland (hyperthyroidism). These include; the sensation of a 'thumping heart' (palpitations), diarrhoea, irritability and sweating.

Be warned, there is an even worse case scenario called *Hyperthyroid crisis, or thyrotoxic storm*. It is an extreme set of symptoms from taking excessive amounts of thyroid hormone.

Often, there is sudden onset of very dangerous symptoms which include; VERY high temperature (over 41°C) and dehydration. Heart rate greater than 140 beats per minute, low blood pressure and palpitations.

Nausea, jaundice, vomiting, diarrhoea, abdominal pain is added to the fun. To top (or finish) it off, confusion, agitation, delirium, psychosis, seizures and coma can happen. Untreated hyperthyroid crisis is usually fatal. Although hyperthyroid storm is rare, usually in the event of acute overdose, it is a critical illness that can lead to multiorgan failure and carries a high death rate.

It has a fatality rate of 50-90% if left untreated. That's bad odds in anyone's books.

Interestingly, cocaine intoxication and hyperthyroid crisis are very similar in presentation. They have overlapping symptoms. Coke and T3 are probably not a great cocktail...

Too much circulating thyroid hormone can elevate SHBG. This is a protein that binds very strongly to total testosterone. The result of this is lowered levels of free testosterone. This is the small amount of T (usually about 2%) that is readily available for the body to use.

Given the risks of thyroid drugs, if you feel the need to use them, use them wisely – if at all. Always introduce them at a low dose before gradually increasing. This allows for a safer side effect recognition. They also need to be tapered off when stopping. This allows the body to gradually adapt and make the required adjustments back to natural production levels, assuming it does.

Time spent using thyroid hormone must be strictly limited. We're talking weeks here, rather than months. Or just eat less and train better instead?

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