

My Guide to Porcine Thyroid for Humans, Why it Matters

My Guide to Pig Thyroid for Humans

WHY IT MATTERS AND HOW TO SWITCH FROM LEVOTHYROXINE

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Have you been taking levothyroxine for several years but you still experience a number of hypothyroid symptoms ([including weight gain, fatigue, brain fog, lack of motivation, itchy skin, etc.](#)) or you are not sure if your symptoms are related to the low thyroid function?

Has any of your friends or family members mentioned taking WP Thyroid, NP Thyroid, Nature-Throid or a different brand of Natural Desiccated Thyroid (short NDT) hormone replacement? Would you benefit from trying NDT? What is NDT and how is it different from commonly prescribed levothyroxine (Synthroid)?

Natural Desiccated Thyroid Hormone (NDT) vs. Synthroid

(Levothyroxine)

Levothyroxine is a synthetic hormone that consists only of T4 hormone.

So, what exactly is SYNTHROID made of? You can refer to this useful excerpt and find the rest of it [here](#).

“SYNTHROID tablets for oral administration are supplied in the following strengths: 25 mcg, 50 mcg, 75 mcg, 88 mcg, 100 mcg, 112 mcg, 125 mcg, 137 mcg, 150 mcg, 175 mcg, 200 mcg, and 300 mcg. Each SYNTHROID tablet contains the inactive ingredients acacia, **confectioner's sugar** (contains corn starch), **lactose monohydrate**, magnesium stearate, povidone, and talc.”

Good news is that Synthroid tablets DO NOT contain gluten, but if you are taking generic levothyroxine, then you may need to check in with the manufacturer to find out the list of ingredients.

“SYNTHROID tablets contain no ingredients made from a gluten-containing grain (wheat, barley, or rye). *Mechanism of Action.* ... **The physiological actions of thyroid hormones are produced predominantly by T3, the majority of which (approximately 80%) is derived from T4 by deiodination in peripheral tissues.**” Here is an “Aha!” moment! Read it again! “The physiological actions of thyroid hormones are produced predominantly by T3”!

So, if you have impaired conversion of Free T4 to Free T3, you may not benefit from taking T4-ONLY medication, which levothyroxine is! My point is why not take a thyroid supplemental hormone that is very close to one we are producing and that contains a little bit of an active T3 in it!

Continued:

“Oral levothyroxine sodium is a synthetic T4 hormone that exerts the same physiologic effect as endogenous T4, thereby maintaining normal T4 levels when a deficiency is present. Absorption of orally administered T4 from the gastrointestinal tract **ranges from 40% to 80%**. The majority of the SYNTHROID dose is absorbed from the jejunum and upper ileum... T4 absorption is increased by fasting and decreased in malabsorption syndromes and by certain foods such as soybeans. Dietary fiber decreases bioavailability of T4. Absorption may also decrease with age. In addition, many drugs and foods affect T4 absorption.”

If you experience indigestion, bloating, SIBO (Small Intestinal Bacterial Overgrowth) or other issues with the stomach or gut.

Most people who are diagnosed with hypothyroidism and/or Hashimoto's autoimmune thyroiditis are started on levothyroxine (generic name) or Synthroid (brand name). Some people feel better on it for a while until they experience the decreased Free T4 to Free T3 conversion due to stomach issues, liver problems, etc. After 5 or so years on levothyroxine, things may stay stable or start changing. Unexplained weight gain, fatigue, brain fog, dry skin, constipation are some symptoms that may re-appear after being on levothyroxine for a while.

There are [a number of causes why levothyroxine does not work](#) in the beginning or stops working after a while. But what else may be influencing this process and why it is happening?

T4 has to be converted to T3 (active thyroid hormone) before

the body can use it.

1. Impaired conversion of T4 to T3 due to a lack of nutrients and minerals that are needed to make this conversion possible (for example, stomach and gut symptoms may decrease the absorption of nutrients and minerals from the diet).
2. Impaired liver function: The conversion of T4 to T3 happens in the liver. These cells convert T4 to T3 with the help of an enzyme tetraiodothyronine-5'-deiodinase, that cleaves one molecule of iodine off of T4 and leaves only 3 molecules of iodine in active T3. The conversion also happens in cells of the muscle, gut, and nerves, heart.
3. Impaired digestion, gastrointestinal symptoms of bloating, gas, acid reflux, diarrhea, and constipation. The above-mentioned symptoms may prevent the absorption of T4 in the small intestine.
4. SAD (Standard American Diet) high in empty calories and carbohydrates and poor in minerals, nutrients, and vitamins needed for your thyroid to function properly.
5. Lack of sunshine in our lives! Vitamin D deficiency is ubiquitous even here, in Arizona. In order to get Vitamin D, you need to expose yourself to the sunshine at certain times when the sun is the highest in the orbit. [Dminder App](#) for your phone may help you figure out how long and when you should stay in the sun!
6. Age! As we are aging, our stomach acid and digestive enzymes needed to digest food and break it down to smaller units (proteins to amino acids, fats to fatty acids, and carbs to glucose, fructose, lactose, etc.) DECREASES! Thus, we may have an impaired ability to break down levothyroxine that consists of different fillers that are hard to break down.

So, what is Natural Desiccated Thyroid Hormone or Porcine

(Pig) Thyroid Hormone?

Natural Desiccated Thyroid Hormone (NDT):

“NP Thyroid® (thyroid tablets, USP) for oral use is a natural preparation derived from porcine thyroid glands. They contain both tetraiodothyronine sodium (T4 levothyroxine) and triiodothyronine sodium (T3 liothyronine) providing 38 mcg levothyroxine (T4) and 9 mcg liothyronine (T3) per grain of thyroid. The inactive ingredients are calcium stearate, dextrose (agglomerated) and mineral oil.”

Plus, it has unmeasured amounts of T2, T1 and calcitonin.

“The mechanisms by which thyroid hormones exert their physiologic action are *not well understood*. **These hormones enhance oxygen consumption by most tissues of the body, increase the basal metabolic rate, and the metabolism of carbohydrates, lipids, and proteins. Thus, they exert a profound influence on every organ system in the body and are of particular importance in the development of the central nervous system.** ...The normal thyroid gland contains approximately 200 mcg of levothyroxine (T4) per gram of gland, and 15 mcg of liothyronine (T3) per gram. The ratio of these two hormones in the circulation does not represent the ratio in the thyroid gland, since about 80 percent of peripheral triiodothyronine comes from monodeiodination of levothyroxine. Peripheral monodeiodination of levothyroxine at the 5 position (inner ring) also results in the formation of reverse triiodothyronine (T3), which is calorigenically inactive. Triiodothyronine (T3) levels are low in the

fetus and newborn, in old age, in chronic caloric deprivation, hepatic cirrhosis, renal failure, surgical stress, and chronic illnesses representing what has been called the "T3 thyronine syndrome."

The Indications for the Use of NDT (NP Thyroid in this case):

"NP Thyroid® tablets (thyroid tablets, USP) are indicated: 1. As replacement or supplemental therapy in patients with hypothyroidism of any etiology, except transient hypothyroidism during the recovery phase of subacute thyroiditis. This category includes cretinism, myxedema, and ordinary hypothyroidism in patients of any age (children, adults, the elderly), or state (including pregnancy); primary hypothyroidism resulting from functional deficiency, primary atrophy, partial or total absence of thyroid gland, or the effects of surgery, radiation, or drugs, with or without the presence of goiter; and secondary (pituitary), or tertiary (hypothalamic) hypothyroidism. 2. **As pituitary TSH suppressants, in the treatment or prevention of various types of euthyroid goiters, including thyroid nodules, subacute or chronic lymphocytic thyroiditis (Hashimoto's), multinodular goiter, and in the management of thyroid cancer."**

The instructions for NP Thyroid D0 mention the possible TSH suppression that may happen with the addition of the thyroid hormone to the patient suffering from Hashimoto's, goiters, thyroid nodules or thyroid cancer. So, when I see patients whose TSH is 1.0-2.0, but their Free T3 <2.5 and Free T4 < 1.0, AND they have a multitude of hypothyroid symptoms, I wonder if they would benefit from a higher dose of thyroid supplemental hormone.

What to Be Aware of while Starting Thyroid Hormone Replacement?

Any signs or symptoms of too much thyroid hormone:

- Chest pain
- Anxiety (increased)
- Increased pulse rate
- Insomnia
- Heart palpitations
- Heat intolerance
- Or anything else that is unusual
- Jitteriness

It is worth mentioning that these symptoms may happen for 2-3 days when you start the thyroid hormone replacement or when you increase its' dose. In this case, I recommend taking thyroid tablets with food for 2-3 days as it will decrease the rate of absorption of T3 into the bloodstream. After that, one may try taking it without food. Once you get to the dose of 120 mg or higher of thyroid replacement hormone, it may benefit to split the dose and take 3/4 of the dose in the morning and 1/4 in the evening.

Patients who are using beta-blockers for high blood pressure or Oral contraception (pills) may need a higher dose of thyroid hormone as the above-mentioned medications cause the suppression of thyroid function.

What if you are pregnant? Or trying to get pregnant?

Why are there not many healthcare providers who recommend NDT during the pregnancy? Why 99% of pregnant women get a prescription for levothyroxine?

Regarding NP Thyroid:

“Pregnancy – Category A – Thyroid hormones do not readily cross the placental barrier. The clinical experience to date does not indicate any adverse effect on fetuses when thyroid hormones are administered to pregnant women. On the basis of current knowledge, thyroid replacement therapy to hypothyroid women should not be discontinued during pregnancy.”

Furthermore,

“Nursing Mothers – Minimal amounts of thyroid hormones are excreted in human milk. Thyroid is not associated with serious adverse reactions and does not have a known tumorigenic potential. However, caution should be exercised when thyroid is administered to a nursing woman.”

Well, caution should be exercised with any patient, nursing or non-nursing, male or female, as too much of a good thing may be bad for anyone!

“Readjustment of thyroid hormone dosage should be made **within the first four weeks** of therapy, after proper clinical and laboratory evaluations, including serum levels of T4, bound and free, and TSH.”

So, the instruction manual to NP Thyroid states that checking the thyroid hormone levels should be done within the first 4 weeks – not 6-8 weeks guidelines for Synthroid (levothyroxine) dose adjustment! It means that if the dose increase is warranted, the patient may feel better faster (1 month vs 2 months!) For some people, it may not make much difference, but for others it may make all the difference in the world, because they will be able to function better, to get rid of brain fog, itchy skin, sluggishness in movement and thinking, cold hands and feet, hair loss, etc! If one needs more than 4

dose adjustments, we are talking about getting the results faster!

4 dose adjustments x 4 weeks = 16 weeks = 4 months

4 adjustments x 6-8 weeks = 24 – 32 weeks = 6-8 months!

Now, you decide if it is worth trying NDT vs. levothyroxine!

Bottomline: You may benefit from trying a different form of thyroid medication.

*You can find the full instructions here:

<http://stage.acellapharma.com/product/npthyroid/> and download them

here: https://www.acellapharma.com/wp-content/uploads/2018/08/AC-015_NP-Thyroid-flat-PI-9-10-18A.pdf