

HYPERTHYROIDISM (THYROTOXICOSIS)

Hyperthyroidism means **over-activity** of the thyroid gland, or having too much thyroid hormones in my blood.

HOW WOULD I FEEL?

ANY of the following things:

- **MY NECK MAY GET BIG** (because my thyroid is getting bigger; a kind of “goiter,” which is any sort of enlargement of the thyroid, whether it is with or without overactivity).
- **MY EYES MAY BULGE** (Exophthalmos)
- **MY HEART MAY POUND**, or beat fast or irregular (palpitations or heart arrhythmia).
- I may get **SNAPPY**, edgy, anxious, irritable, etc.
- I may **FIDGET** or tremble.
- I may feel **HIGH OR DEPRESSED**.
- I may **LOSE WEIGHT** because of faster chemical reactions in my body (faster metabolism) OR **GAIN WEIGHT** because of bigger appetite. The balance between faster metabolism and bigger appetite decides whether I ultimately lose or gain weight from too much thyroid. Regardless, what thyroid does to my weight (up or down) is **not as big** as many people think; there are other factors that decide my weight, and I need to work on them anyway.
- I may be too **WARM** when people around me are comfortable or feel cold.
- I may have **TROUBLE SLEEPING**.
- My **HAIR MAY FALL OUT** when I wash it and comb it.
- I may have **FREQUENT BOWEL MOVEMENTS** (diarrhea).
- I may **BREAK SOME BONES** (because my bones get thinner).
- Sometimes, **NOTHING**; I may just feel fine (but I **still better get treatment** for it because, over time, it can thin my bones, or mess up my heart).

WHAT SHOULD I DO THEN?

These symptoms are general and non-specific; they can be caused by many other causes. Tell your doctors about them; they may do tests for your thyroid.

COMMON CAUSES

1. **GRAVES' DISEASE**: It is a type of autoimmune disease (the immune system gets confused and fights the body's own organs, in this case the thyroid, thinking they are harmful foreign things).
2. **TOXIC NODULE(S)** [Benign Thyroid Tumor(s)]
3. **THYROIDITIS**: It is an inflammation in the thyroid gland. It can also be an autoimmune disease. The overactivity in this case is short-lived, as the thyroid hormones level later becomes normal or even lower than normal.
4. **TOO MUCH IODINE IN FOOD OR PILLS**
5. Taking more than I need of **THYROID PILLS** for low thyroid level (hypothyroidism), instead of being low, it becomes high.

TREATMENT

1. Pills

A) **Thionamides**:

- They **decrease thyroid** hormones production from my thyroid.
- They do **NOT cure** the disease, I just hope that my thyroid disease goes away on its own in the future, I could then quit them; this may happen in 40% of the time, or sometimes less, depending on the nature of my thyroid disease.
- Examples: **Tapazole** (Methimazole) or **PTU** (Propylthiouracil)
- Doctor **monitors** thyroid hormones in my blood every few weeks or months to adjust the dose.
- **Common side effects**:
 1. rash (allergy)
 2. joint pain
 3. fever
 4. rarely, white blood cells (which fight infection) may decrease (agranulocytosis). I feel sick and have sore throat. Whenever I feel that way, I should have my blood count checked in any hospital or clinic (it is a simple blood test). It is usually normal, in which case, I should then deal with it as any regular sore throat. If it is low, I should stop these pills, and contact my doctor.

B) **Beta Blockers**:

- They **slow down my heart** racing.

- They just **treat the symptoms**; they do NOT even decrease my thyroid hormones. They are like a band-aid or aspirin, they make me feel better.
- They are not always used, as they may cause some **side effects**, e.g. fatigue.
- Examples: Inderal (Propranolol), Toprol (Lopressor), etc.

2. *Radioactive Iodine Treatment (RAI Treatment)*

- Since my **thyroid picks up most of the iodine** I take, if the doctor gives me iodine that is radioactive, most of the radiation is focused on the thyroid, sparing the rest of the body.
- It is a **one-time** deal, taken as a drink.
- It is usually given to me in a hospital (without staying, in and out), or a specialized clinic.
- It **destroys the overactive** cells of my thyroid, hopefully just enough to get me down to a normal level, and spare some of its function to keep me going.
- A few days later, it goes out through the urine, or becomes non-radioactive.
- However, it commonly overdoes its job, and I end up having underactive thyroid (Hypothyroidism), which requires me to take a pill (e.g. Synthroid) to make up for the deficiency in my thyroid hormones. However, underactivity of the thyroid (hypothyroidism) is less of a problem, because it is easier to handle than overactivity of the thyroid (hyperthyroidism).
- **Side effects** are uncommon and transient
 1. Neck ache (radiation thyroiditis)
 2. Aches in the back of my jaw (inflammation in the parotid salivary glands)
 3. Thyroid storm (a lot of thyroid hormones released from my thyroid after its destruction makes my heart beat very fast, and I feel very sick, and have to be treated in the hospital).
 4. If I have Eye bulge, it may get worse.
 5. Low thyroid (see above)
- It is **not** used during **pregnancy or breast-feeding**, as it can hurt the baby. Women should not get pregnant for about 6 months after radioactive iodine treatment.
- Doctor **monitors** thyroid hormones in my blood every few weeks or months to see if pills are needed to make up for any deficiency in my thyroid hormones that could occur.
- It may take **2-3 months to have full effect**, sometimes longer. Meanwhile, doctor may prescribe pills that slow down my thyroid hormones production (thionamides), and/or those which slow down my heart racing (beta blockers) to make me feel better in the interim.
- No risk of cancer or infertility

3. *Thyroid Surgery (Thyroidectomy)*

- **Most or all** of the thyroid is removed.
- It is done **less** frequently nowadays, usually when there are problems with other ways of treatment.
- It is **fast**; it fixes my thyroid hormones level same day.
- Potential **Complications**:
 1. Thyroid part taken out might be **too much** (leading to hypothyroidism requiring thyroid hormone pills (Synthroid)), or **too little** (leading to residual hyperthyroidism)

requiring other methods of treatment). The doctor monitored the thyroid hormones in the blood regularly following surgery to find out.

2. **Regular surgical complications**, like bleeding, infection and anesthesia problems, but these generally are uncommon.
3. **Low calcium** in the blood (Hypocalcemia):
 - There is a group of glands near my thyroid, called **Parathyroid Glands** (para = neighbor of).
 - They **ensure that calcium level** in blood does not drop. Whenever they sense that calcium is dropping, they release their hormone, Parathyroid Hormone (PTH), which goes to bones to carve some calcium and put it in blood, and to the kidney to save more calcium from being dumped in the urine.
 - They have **gentle** blood supply. Surgery in that area may inadvertently disturb their blood supply, and make them **lazy** (Hypoparathyroidism).
 - This is **uncommon**, and usually transient; but it rarely is permanent.
 - If it happens, I **need extra calcium and vitamin D** to keep my calcium blood level up.
4. **Hoarseness of Voice**:
 - There is a **nerve** (Recurrent Laryngeal Nerve) that passes near the thyroid gland, and works on the voice box (larynx).
 - This nerve is very **gentle**. Surgery in that area may inadvertently hurt it.
 - It is **uncommon** to happen, and usually transient; but it can be permanent, causing permanent hoarseness of voice.
5. **Thyroid storm**:
 - It happens when **a lot of thyroid** hormones are released because of manipulating the thyroid during surgery. They make my heart beat very fast, and I feel very sick.
 - It has to be treated in the **hospital**.
 - It is an **uncommon** complication after surgery
 - **Pills** that calm thyroid function and protect the heart may be used before surgery to help prevent this problem.

THIS INFORMATION IS NOT A SUBSTITUTE FOR YOUR DOCTOR'S ADVICE