Thyroid Drugs: Levothyroxine is a medicine used to treat an underactive thyroid gland (hypothyroidism). The thyroid gland makes thyroid hormones which help to control energy levels and growth. Levothyroxine is taken to replace the missing thyroid hormone thyroxin. Levothyroxine is a synthetic version of a hormone called thyroxin. It replaces thyroxin if your thyroid gland cannot produce it and prevents the symptoms of hypothyroidism. Levothyroxine starts working straight away, but it may be several weeks before your symptoms start to improve. The most common side effects of levothyroxine are caused by taking a bigger dose than you need. Your doctor can lower your dose to help reduce any side effects.

Starting on Thyroid Hormone Treatment

1. Age
2. Health
3. Thyroid hormone levels
4. Weight

Who can and cannot take levothyroxine?

1. have ever had an allergic reaction to levothyroxine or any other medicine
2. you have an overactive thyroid that produces too much thyroid hormone (thyrotoxicosis).
3. have a health problem that affects your adrenal glands.
4. have a heart problem including angina, heart disease or heart failure.
5. have high blood pressure.
6. have ever had a heart attack.
7. have diabetes – the dose of your diabetes medicine may need to change because levothyroxine can raise blood sugar levels.

How and when to take levothyroxine

1. Take levothyroxine once a day in the morning, ideally at least 30 minutes before having breakfast or a drink containing caffeine, like tea or coffee.
2. Food and caffeinated drinks can both stop your body taking in levothyroxine properly so it does not work as well.
3. If you stop taking levothyroxine, your symptoms are likely to come back.

Anti-Thyroid Drugs:

Hyperthyroidism is a condition where the thyroid produces more thyroid hormones than are needed by the body. It is also referred to as thyrotoxicosis, or an overactive thyroid. There are two antithyroid drugs commonly used: Carbimazole (CMZ) and Propylthiouracil (PTU). They both work by reducing the amount of thyroid hormone released into the circulation.

Anti-Thyroid drugs decrease the levels of two hormones produced by the thyroid gland (located at the front of the neck)--thyroxin (T4) and triiodothyronine (T3), which are formed by combining iodine (from food) and a protein called "thyroglobulin" with the assistance of an enzyme called "peroxidase".

These hormones play an important role in the regulation of weight, energy levels, internal temperature, skin, hair, nail growth, etc. The hypothalamus and the pituitary gland, which are located in the brain, help control the thyroid gland. The hypothalamus releases thyrotropin-releasing hormone (TRH), which stimulates the pituitary gland to release thyroid-stimulating hormone (TSH

Hyperthyroidism (overactive thyroid) occurs when the thyroid gland produces too much of the hormone thyroxine and the symptoms include:

1. **Weight loss**
2. **Fast heart rate**
3. **High irritability/nervousness**
4. **Muscle weakness**
5. **Tremors (involuntary, rhythmic muscle contraction leading to shaking movements in one or more parts of the body).**
6. **Infrequent menstrual periods**
7. **Sleep problems**
8. **Eye irritations**
9. **Heat sensitivity**

Side Effects of Antithyroid rash, itching, abnormal hair loss, and fever. Less common side effects include nausea, swelling, heartburn, muscle and joint aches, numbness, and headache. In very rare instances, both drugs can cause liver damage. In the most severe of cases, this can result in death.