

## Medications for Hyperthyroidism

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The thyroid gland makes two hormones in our body. In some people it can become overactive, which is called hyperthyroidism. One option for treating an overactive thyroid is antithyroid drugs. These medications block the thyroid gland from making thyroid hormone. When taken, antithyroid drugs decrease the levels of both hormones made by the thyroid in the body.

### REASONS FOR USE

There are many reasons your doctor may recommend you take antithyroid drugs:

- If you have Grave's Disease:
  - For short-term treatment to prepare for thyroid surgery or radioiodine treatment.
  - As an initial treatment for one or two years to see if the disease resolves. Approximately 30% of people with Graves' disease will have remission after this treatment.
- If you have a toxic multinodular goitre or toxic adenoma:
  - For short-term treatment to prepare for thyroid surgery or radioiodine treatment.
- To treat overactive thyroid during pregnancy.
- For long-term treatment of hyperthyroidism if you want to avoid permanent treatment with thyroid surgery or radioiodine treatment.

### HOW THEY WORK

You will need to take antithyroid drugs for six to eight weeks to lower thyroid hormone levels. This is because the medication only blocks the formation of new thyroid hormones; they do not remove thyroid hormones that are already in the body. If you miss doses of your medication the body will quickly start making thyroid hormone again, slowing or preventing good control of your overactive thyroid.

### TYPES OF ANTITHYROID DRUGS

There are two antithyroid drugs used in Canada.

#### 1. Methimazole

Methimazole is usually the preferred medication because it works more quickly and has fewer side effects. It is taken once per day.

#### 2. Propylthiouracil (PTU)

PTU is only used when methimazole is not appropriate. It does not reverse hyperthyroidism as quickly as methimazole and has more side effects. PTU must be taken two or three times per day. PTU is also used during the first trimester of pregnancy as it has a lower risk of birth defects. Discuss your treatment with your doctor before becoming pregnant.

## POSSIBLE SIDE EFFECTS

Most side effects from antithyroid drugs are minor, but major side effects can occur. If you cannot tolerate antithyroid medications you can consider thyroid surgery or radioiodine treatment.

- Minor Side Effects:
  - Up to 15% of people experience minor side effects with antithyroid drugs.
  - Both methimazole and PTU can cause **itching, rash, hives, joint pain, fever, taste changes, nausea, and vomiting**. If you have side effects with one medication, switching to the other may be helpful.
- Major Side Effects:
  - Major side effects from antithyroid drugs are very rare.
  - A severe decrease in white blood cells (agranulocytosis) is seen in 1 out of every 200 to 500 people. If you have symptoms of sore throat, fever, or other signs of infection you should contact your doctor immediately. This side effect usually occurs in the first three months after starting treatment. Once treatment is stopped it usually resolves within a week.
  - Other very rare complications include liver damage and vasculitis (inflammation of the blood vessels). These are more commonly seen with PTU treatment.

## MONITORING & FOLLOW-UP

During your treatment your thyroid hormone levels will be monitored periodically with blood tests. If antithyroid drugs are stopped, blood tests are usually done four to eight weeks later. They are repeated over one year to monitor for a recurrence of high thyroid hormone levels. If your hormone levels remain normal for one year, recurrence is unlikely.