

Thiopurines (Mercaptopurine and Azathioprine) for IBD

Points to remember

- Thiopurines are oral medications used to treat inflammatory bowel disease (IBD). They include mercaptopurine and azathioprine.
- The dose of thiopurines may vary between people and over time. You will be told what your daily dose is.
- Regular blood tests and contact with the IBD team after starting thiopurines are important to monitor for and address side effects quickly.

Why have I been prescribed a thiopurine and how does it work?

Thiopurines (azathioprine and mercaptopurine) are medications that are used to treat IBD, including Crohn's disease and ulcerative colitis. The immune system is important for fighting infections but in IBD, there is an imbalance in the immune system. This imbalance can cause inflammation and damage to the bowel.

Thiopurines reduce and control inflammation in your bowel by dampening down the immune system. They may help to reduce the need for steroid medication. If you respond well to thiopurines you should be able to keep taking them for some years. They can also be used in combination with other IBD medications to improve overall effectiveness of your treatment. In general, thiopurines are slow acting. It may take 2-3 months before you start noticing benefits.

What checks do I need to have before starting thiopurines?

Before you start thiopurines the IBD team may request blood tests including your full blood count, liver function tests, and "TPMT". This is to check if it is safe to start taking a thiopurine medication. TPMT is an enzyme in the

body that breaks down thiopurines and tells the IBD team if your dose of thiopurine needs to be altered.

You will also be screened to check you are up to date with your vaccinations and for certain infections before starting treatment.

What is the normal dose of thiopurines?

The target dose of thiopurines varies between different people and is initially based on your weight.

You may be started on a low dose of a thiopurine that is increased by your IBD team to your target dose while you are monitored for side effects and findings from your blood tests.

Your IBD team may also request blood tests to measure the breakdown products of thiopurines in your blood ('metabolites'). This indicates if any changes to your dose need to be made. For some people, the IBD team may decide a low dose of thiopurine needs to be used in combination with another medication (allopurinol).

Your IBD team will provide you with information on your dosage, when to have your blood tests taken and when and how to contact your team after each blood test for review.

How do I take thiopurines?

Thiopurines are tablets taken with or without food, but taking the medication with food can reduce nausea. If you forget to take a dose, take it as soon as you remember, but if you forget the dose one day, do not take an extra dose the next day.

What checks will I need while I am taking a thiopurine?

Regular blood tests are very important as thiopurines can suppress normal bone marrow function and cause liver

complications. Regular blood tests can pick up abnormalities in the blood that may not produce symptoms straight away. Initially, blood tests may be required every few weeks. Your IBD team will discuss and provide a blood test monitoring schedule. When you have had a blood test it is important that you contact the IBD team for the results and further dosing instructions. It is unsafe to take this medication without regular monitoring and blood tests, especially at the beginning of your treatment. When you are at a stable dose you may only require blood tests every 3-6 months.

Fertility, pregnancy and breastfeeding

Thiopurines do not affect fertility, and are considered safe during conception for females and males. Thiopurines are also considered safe during pregnancy. For your pregnancy to be healthy, it is important that your IBD is well-controlled, prior to conception and during pregnancy. It is recommended you continue thiopurines while pregnant as there may be a greater risk to the baby if you stop your treatment and become unwell.

Thiopurines are safe to take whilst breastfeeding.

What are the possible side effects of thiopurines?

All medications can cause side effects, although not everyone experiences them. You will be monitored for side effects by your IBD team.

Most common side effects:

- Some patients can experience headache, aches and pains, fever, flu-like symptoms, nausea (feeling sick), abdominal pain or diarrhoea when they first start taking thiopurines. Often, these symptoms will resolve as the body becomes used to the new medication. Some patients may need to swap to an alternative medication.
- More prone to sunburn.
- Thiopurines may increase your risk of infections such as the common cold, and sometimes other more serious infections. Please contact your doctor or IBD team if you have any symptoms of infection such as fever. This can sometimes be because your white

blood (immune) cell count is too low, so this may need to be checked.

Less common or rare side effects:

- Inflammation of the liver. If this occurs, stopping the medication or changing the dose can bring the liver tests back to normal. Monitor for signs including yellowing skin, dark urine and pale stools.
- Inflammation of the pancreas (pancreatitis). This usually occurs in the first 2 to 6 weeks of therapy. If you experience severe abdominal pain, nausea or vomiting, stop the thiopurine and contact your IBD team or go to the emergency department.
- Shingles. This is a painful rash that can occur in patients who have had chickenpox previously. If you notice this, please see your GP, ideally within the first 3-5 days. You may need medication to treat this.
- Taking thiopurines may increase your risk of getting some types of cancer, including non-melanoma skin cancer, lymphoma (cancer of the lymph glands), cervical cancer and cancers of the urinary tract. These risks are very small and need to be balanced against the benefits of taking the drug. Please discuss any concerns with your IBD team.

What can I do to keep myself healthy on thiopurines?

- Avoid close contact with people with transmissible infections. Tell your doctor if you have come in contact with anyone who has an infectious condition such as chicken pox, shingles, whooping cough or measles.
- You should have the flu vaccine every year, and the COVID-19, pneumonia, and human papilloma virus (HPV) vaccines according to the recommended schedule. You should not have live vaccinations while taking thiopurines, and for some time after stopping them. Please refer to the [Vaccinations and IBD information sheet](#) for further information.
- Women should have regular cervical screening tests as recommended by your GP.
- You should use a strong sunscreen and protect your skin when outside. Annual skin checks are recommended.
- Always check with your IBD team before starting new medications to avoid unwanted interactions.

Contact the IBD team or your GP if you have an infection or persistent fever

This information leaflet has been designed to provide you with some important information about thiopurines. This information is general and not intended to replace specific advice from your doctor or any other health professional. For further information please speak to your pharmacist, doctor or IBD nurse.

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