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## Azathioprine and mercaptopurine

This information is for people with Crohn's or Colitis who are taking azathioprine or mercaptopurine. It is also for anyone thinking about starting treatment with these medicines. This information can help you to make an informed decision that's right for you. It looks at:

- What you can expect from treatment
- How the medicines work
- Possible side effects
- Stopping or changing treatment

This information is about azathioprine and mercaptopurine in general. It doesn't replace advice from your healthcare professional. Talk to your IBD team or read the leaflet that comes with your medicine for more details. You can also find out about your medicine at [medicines.org.uk](https://www.medicines.org.uk).

## Contents

|   |    |
|---|----|
| Key facts about azathioprine and mercaptopurine .....                                 | 3  |
| Other names for these medicines .....   | 3  |
| How do azathioprine and mercaptopurine work?.....                                     | 4  |
| Why you might be offered azathioprine or mercaptopurine .....                         | 4  |
| Deciding which medicine to take .....   | 5  |
| How well do azathioprine and mercaptopurine work? .....                               | 6  |
| How long do azathioprine and mercaptopurine take to work? .....                       | 9  |
| How to take azathioprine and mercaptopurine .....                                     | 9  |
| How long will you need to take azathioprine or mercaptopurine? .....                  | 11 |
| Stopping or changing treatment .....  | 12 |
| Taking azathioprine or mercaptopurine with other Crohn's and Colitis treatments ..... | 13 |
| Checks before starting this medicine .....  | 14 |
| Ongoing checks? .....   | 15 |
| Special precautions .....   | 15 |
| Side effects.....   | 17 |
| Risk of cancer.....   | 21 |
| Taking other medicines? .....   | 23 |
| Vaccinations .....  | 24 |
| Pregnancy and fertility .....   | 26 |
| Breastfeeding.....  | 29 |
| Drinking alcohol .....  | 29 |
| Who to talk to if you are worried .....   | 30 |
| Other organisations .....   | 30 |
| Help and support from Crohn's & Colitis UK .....                                      | 31 |
|   | 2  |

|  |    |
|--|----|
| Crohn's & Colitis UK Medicine Tool ..... | 32 |
| About Crohn's & Colitis UK .....         | 33 |

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## Key facts about azathioprine and mercaptopurine

- Azathioprine and mercaptopurine are used in adults to keep Crohn's and Colitis under control
- They reduce inflammation in the gut by lowering the immune system. This means you may be more at risk of infections
- Azathioprine and mercaptopurine can be taken on their own or to help biologic medicines, such as adalimumab and infliximab, work properly
- Before and during your treatment, you will need to have several tests. These will check your liver, kidneys and bone marrow. You will also be tested to see if you've had certain viral infections
- It is important to take these medicines in the same way and at the same time every day
- Azathioprine and mercaptopurine should not be taken with any milk or dairy products
- Taking these medicines can increase your risk of skin cancer, cervical cancer and lymphoma. It is important to be careful in the sun. If appropriate, you should have regular screenings for cervical cancer
- Evidence suggests that taking azathioprine or mercaptopurine while pregnant is probably a low risk. Studies have not found an increased likelihood of miscarriage or birth defects in the babies of people taking these medicines. Talk to your IBD team if you are thinking of starting a family.

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## Other names for these medicines

Azathioprine and mercaptopurine may be known under different brand names.

**Azathioprine** has the brand names:

- Imuran
- Jayempi

**Mercaptopurine** may be known as 6-mercaptopurine or 6-MP.

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## **How do azathioprine and mercaptopurine work?**

Azathioprine and mercaptopurine are very similar chemicals. When you take azathioprine, enzymes in your body change it into different substances. One of these is mercaptopurine. If you try azathioprine treatment and it isn't right for you, mercaptopurine may work on its own.

Both medicines are immunosuppressants. This means that they reduce the strength of your immune system. Your immune system protects your body by fighting infections. Sometimes the immune system does not work as it should, which may cause the inflammation seen in Crohn's and Colitis.

Azathioprine and mercaptopurine lower the strength of the immune system. This reduces inflammation in the gut. But this can mean you're more likely to get infections, or that they may affect you more or take longer to recover from.

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## **Why you might be offered azathioprine or mercaptopurine**

If you've been prescribed azathioprine or mercaptopurine, or are considering it as an option, you're not alone. Around 6 in every 10 people with Crohn's or Colitis take them at some point.

Treatment with azathioprine and mercaptopurine aims to:

- Prevent flare-ups
- Reduce the need to use steroids
- Improve your wellbeing by reducing or preventing symptoms

Azathioprine or mercaptopurine may help you reduce or stop taking steroids without having a flare-up.

They could also help if the inflammation in your gut hasn't been controlled by 5-ASAs, also known as aminosalicylates. Find out more in [Steroids](#) and [5-ASAs \(aminosalicylates\)](#).

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## Deciding which medicine to take

There are lots of things to think about when you start a new treatment. Your IBD team will discuss your options with you. When thinking about a new treatment you might want to consider the potential benefits, possible risks and the goals of your treatment. Some things to think about include:

- How you will take it
- How well it works
- How quickly it is likely to work
- Possible side effects
- Whether you need ongoing tests or checks
- Other medicines you are taking
- Other conditions you have
- If you are planning to get pregnant or breastfeed in the next few years
- What happens if you do not take it

You could use our [medicine tool](#) to help you think about your options. Our [appointment guide](#) also has a list of questions you might want to ask your IBD team. It can help you focus on what matters most to you. You may also find our information about other [medicines](#) and [surgery](#) for Crohn's or Colitis helpful.

## How well do azathioprine and mercaptopurine work?

No medicine will work for everyone with Crohn's or Colitis. Currently, doctors do not know which medicine will work for a particular individual.





Azathioprine and mercaptopurine are not usually used to get Colitis under control. Although they can potentially get Crohn's under control, they are not usually used for this. This is partly because they can take a long time to start working. You might take a steroid to get your Crohn's or Colitis under control. But steroids can't be taken for a long time. So once your Crohn's or Colitis is under control using steroids, you might switch to azathioprine and mercaptopurine to keep your condition under control. Azathioprine and mercaptopurine can be effective at keeping it under control. This is known as being in remission.

Find out more about how we talk about the [effectiveness of medicines](#).

## Getting Crohn's under control

Azathioprine and mercaptopurine may be able to get Crohn's under control in the first place. However, they are not usually used in this way. This is because they can take a long time to start working. They may also be less effective at getting Crohn's symptoms under control than they are at keeping them under control.





One study looked at 13 different clinical trials that looked at taking azathioprine and mercaptopurine. They compared taking these medicines with taking a placebo. A placebo is a substance that looks the same as the treatment but does not have any medicine in it. The trials ran for different periods of time.

|  | People not taking azathioprine or mercaptopurine (placebo)                            | People taking azathioprine or mercaptopurine   |
|--|---|--|
| People with their Crohn’s under control (in remission) |  37% |  46% |
| People who did not go into remission                   |  63% |  54% |

At the end of clinical trials, more than 4 in every 10 people (46%) treated with these medicines had their Crohn’s under control. Of those who took a placebo, more than 3 in every 10 people (37%) had their Crohn’s under control.

**Keeping Crohn’s under control**





This information comes from a study that looked at results from eight different clinical trials. The aim of these clinical trials was to see how effective these medicines were at keeping Crohn’s under control. The trials looked at azathioprine and mercaptopurine together. Comparing azathioprine and mercaptopurine to a placebo helps us see how effective they are. The clinical trials studied were held over periods of between six and 18 months.

|  | People not taking azathioprine or mercaptopurine (placebo)                            | People taking azathioprine or mercaptopurine   |
|--|---|--|
| People with their Crohn's still under control (in remission) |  62% |  73% |
| People no longer in remission                                |  38% |  27% |

The study found that for more than 7 in every 10 people (73%) treated with these medicines, their Crohn's remained under control over periods of six to 18 months. Of those who took placebo, just over 6 in 10 (62%) stayed in remission.

Keeping Colitis under control

The table below shows the findings of several clinical trials. These looked at how effective azathioprine and mercaptopurine were at preventing flare-ups. The clinical trials were held over 52 to 76 weeks. They compared people taking azathioprine or mercaptopurine with others taking placebo.

|  | People not taking azathioprine or mercaptopurine (placebo)                              | People taking azathioprine or mercaptopurine   |
|--|---|--|
| People with their Colitis under control (in remission) |  35% |  56% |
| People no longer in remission                          |  65% |  44% |



The study found that for more than 5 in every 10 people (56%), the medicines kept their Colitis under control over periods of 52 to 76 weeks. Of those who took placebo, more than 3 in every 10 people (35%) stayed in remission.

These studies show that azathioprine and mercaptopurine can be effective medicines, especially in keeping Crohn's or Colitis under control.

**“Since moving to azathioprine, I have got better and better, and been flare-up free now for over a year.”**

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**Paula**

**Living with Colitis**

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## **How long do azathioprine and mercaptopurine take to work?**

It can take three months or more for these medicines to start working. But it might take longer. Some people may not respond at all.

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## **How to take azathioprine and mercaptopurine**

Both azathioprine and mercaptopurine are tablets that are usually taken once a day. You can take these medicines with or without food. But it is important to take them in the same way every day. This will make sure that they are absorbed in the same way each time you take it.

**Azathioprine and mercaptopurine should *not* be taken with milk or any dairy products. This is because milk contains high levels of an enzyme called xanthine oxidase that stops the medicine working. Take these medicines one hour before or two hours after you drink milk or eat any dairy products. This includes cream, butter, cheese and yoghurt made with milk from cows, goats or sheep.**

Wash your hands if you handle a broken tablet of either medicine.

## Azathioprine

Azathioprine is available as 25mg or 50mg tablets. You can take it with a glass of water, with food or on an empty stomach. If azathioprine makes you feel sick, or gives you a tummy upset, try taking the medicine after food or at bedtime. It may also help to divide your dose and take it twice a day. Talk to your IBD team if you would like to try this.

If you miss a dose of azathioprine, take it as soon as you remember, unless it's almost time for the next dose. Do not take a double dose to make up for a missed one. Tell your GP or pharmacist if you miss two doses or more.

## Mercaptopurine

Mercaptopurine is available as 50mg tablets. You can take it with food or on an empty stomach.

It is important to try not to miss a dose of mercaptopurine. If you do miss a dose, do not take a double dose to make up for it.

**“I spent just over 10 years on azathioprine for my Crohn’s Disease. It helped me get into remission. Even though there were a few flare-ups here and there, I remember there being more good days than bad, and it felt like I had my ‘normal’ life back again.”**

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**Ziyad, 33**

**Diagnosed with Crohn’s in 2007**

## How much should I take?

The amount you take, known as the dose, depends on your age, body weight and how active your Crohn's or Colitis is. Your IBD team will use these factors to decide on your dosage. Doses are also based on the levels of an enzyme in your body called thiopurine methyl transferase, known as TPMT. This enzyme breaks down the medicines.

Usual doses for people with typical TPMT levels are:

- **Azathioprine** – between 2 mg and 2.5 mg per kilogram of body weight a day
- **Mercaptopurine** – between 1 and 1.25 mg per kilogram of body weight a day

People over 60 are more likely than younger people to experience problems when taking these medicines. If you are an older person living with Crohn's or Colitis, your IBD team may recommend you take a lower dose.

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## How long will you need to take azathioprine or mercaptopurine?

If azathioprine or mercaptopurine makes you feel better, you should be able to keep taking the medicine for several years. You'll have regular blood tests to make sure this is still right for you.

If you don't have any flare-ups, your IBD team may suggest stopping treatment. Generally, after four years, you and your IBD team will decide whether to continue the medicine. Some people continue to take the medicine for many years.

You may want to stop treatment or your IBD team may suggest stopping treatment. Make sure you ask any questions you need to make sure you are comfortable with any changes to how you take your medicine.

## Stopping or changing treatment

### Side effects

Talk to your IBD team if you get any side effects. They may suggest you:

- Switch from azathioprine to mercaptopurine, or
- Change your dose, or
- Combine a low dose of azathioprine with allopurinol

If none of these options are suitable, you may need to stop treatment and try a different type of medicine.

You should only ever change your dose if advised to do so by your IBD team.

### Medicines becoming less effective

Some people may find that these medicines become less effective over time. If this happens, you may have to stop the treatment and find an alternative medicine instead.

### Long term remission

Stopping treatment may be considered at any point if you're in remission. However, there is a risk of relapsing if you stop taking azathioprine or mercaptopurine. Just under 1 in 4 people with Crohn's Disease and 1 in 10 with Colitis are at risk of relapsing within a year of stopping treatment. Studies suggest that stopping treatment doesn't cause any other specific side effects. You should always speak to your IBD team before stopping any medicines.

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## Taking azathioprine or mercaptopurine with other Crohn's and Colitis treatments

### Biologic medicines

Azathioprine and mercaptopurine are sometimes given together with biologic medicines. Biologic medicines are made by a biological rather than a chemical process. They're produced in a lab by living cells. Biologic medicines include [adalimumab](#) and [infliximab](#). Taking two different kinds of medicine together is known as 'combination therapy'. This can be more effective than biologic medicines on their own at getting and keeping your Crohn's or Colitis under control. This is because your immune system can attack the biologic medicine and stop it from working. By lowering your immune system, azathioprine and mercaptopurine can help the biologic medicines to work properly. But the risk of infection can be higher when azathioprine or mercaptopurine are used together with biologic medicines.

Talk to your IBD team if you have concerns about being on more than one medicine. They can help you think about the pros and cons of combination therapy.

### Allopurinol

Your IBD team may suggest taking a medicine called allopurinol along with a low dose of azathioprine or mercaptopurine.

Allopurinol is a medicine usually used to treat gout, a type of arthritis. But it also changes how azathioprine and mercaptopurine are broken down by the body. This can help people who do not tolerate azathioprine or mercaptopurine.

Sometimes, when azathioprine or mercaptopurine are broken down, they can release products that harm the liver. This may happen in about 1 in 7 people. Taking allopurinol at the same time as these medicines can help prevent this.

Because allopurinol changes the way azathioprine and mercaptopurine are broken down, a lower dose of the medicines is needed.

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## Checks before starting this medicine

Before you start treatment, your IBD team will check that these medicines are right for you.

### Blood tests

You'll have blood tests to check you are producing enough blood cells. You'll also have tests to check your liver and kidney function, as well as tests to check the level of thiopurine methyltransferase, known as TPMT, in your blood. This is an enzyme that helps break these medicines down. Low levels may mean that the medicines are not broken down properly. This can cause serious side effects, such as your bone marrow not working properly. If you have low TPMT levels, the dose of azathioprine or mercaptopurine can be reduced. But if your TPMT levels are very low, these medicines are not right for you, and you'll be offered other treatments.

### Screening to check if you have or have had specific infections

Your IBD team may want to check if you have been exposed to certain viral infections. These include HIV and Hepatitis B and C. Having had these infections won't stop you from taking azathioprine or mercaptopurine, but you may need to be monitored more closely. If you haven't been exposed to chickenpox, you may be advised to get vaccinated before starting treatment.

You may be screened for previous exposure to Epstein-Barr virus. This causes glandular fever. People who have had this virus are at an increased risk of lymphoma.

See our information on [Tests and investigations](#).

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## Ongoing checks?

When you start treatment with azathioprine or mercaptopurine, you'll need to have regular checks. This is to make sure your immune system is not being suppressed too much.

### Blood tests

Azathioprine and mercaptopurine can reduce normal bone marrow function and affect the way your body produces new blood cells. They can also sometimes cause liver complications. You'll need regular blood tests for the whole time you're taking these medicines. These will include full blood count and liver function tests. These blood tests are usually done at a hospital, but you may also be able to have them done at your GP surgery.

When you first start treatment, you'll have these blood tests every two weeks. Eventually, this is likely to change to every three months. But how often blood tests are carried out may vary depending on the hospital that's treating you.

Your IBD team will talk to you if there are any problems and adjust your treatment.

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## Special precautions

Azathioprine and mercaptopurine affect the way your immune system works. This means you are more likely to get infections. Even a mild infection such as a cold or sore throat could develop into a more serious illness. Tell your GP or IBD team if you're worried about an infection, or an infection is slow to improve.

### Reducing the risk of infection

- Stay up to date on your vaccinations and boosters. This may include vaccinations for COVID-19, shingles, pneumonia and an annual flu vaccination. But you should avoid live vaccines, such as the chickenpox vaccine, when taking these medicines.

Live vaccines contain weakened versions of viruses. They are unsuitable for people with a lowered immune system.

- Try to avoid close contact with people who have infections. This includes:
  - chickenpox
  - shingles
  - measles
  - pneumococcal disease

Contact your IBD team or GP if you begin to feel unwell and think you may have caught a serious infection.

**“I did get a fair few infections while on azathioprine, and it was tough, but the years of remission it gave me were worth it. Azathioprine worked well for me for many years. But eventually it couldn’t control my Colitis, and I started taking biologics.”**

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**Jaina**

**Living with Colitis**

## **Reducing the risk of other problems**

- **Take care in the sun.** Taking these medicines can increase your risk of skin cancer.

You can help reduce your risk by:

- Wearing a hat and covering your skin when the sun is out
- Using high-factor sunscreen
- Staying in the shade
- Avoiding sunbeds

If you are spending a long time in a car, remember that you may be exposed to sunlight even though you are not outdoors. The [NHS website](#) has more information about sun safety.

- **Do not drive or use heavy machinery until you learn how your medicine affects you.**

You may experience side effects at first, including dizziness.



- **Have regular screenings for cervical cancer, if appropriate.** Taking these medicines can increase the risk of getting viruses and infections. This includes the HPV virus, which can cause cervical cancer. If you have a cervix, it is important to make sure you have regular cervical screenings.
- **Lower dosage for older people.** People over 60 may have an increased risk of problems from these medicines. These can include liver damage and issues with how their bone marrow works. If you are over 60, your IBD team may recommend you take a lower dose.

You can find out about other things you can do to look after yourself on our [Immunosuppressant precautions page](#).

**“Being immune suppressed can be a problem. I always make sure I wash my hands thoroughly and with antibacterial soap to try and prevent infection.”**

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**Jan, 59**

**Diagnosed with Colitis in 2011**

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## Side effects

All medicines can cause unwanted side effects. These can occur at any time during treatment. Up to 1 in 3 people taking azathioprine or mercaptopurine stop treatment because of them. But many people who take these medicines don't experience any side effects.

## Infections

If you take azathioprine or mercaptopurine, you may get infections more easily. This is because these medicines can affect your immune system. You might get more infections than you are used to. Infections might last longer or be more serious than usual. Sometimes, previous infections can reappear, such as tuberculosis or hepatitis B virus.

Tell your doctor or IBD team immediately if you develop symptoms of an infection. The list below includes symptoms to watch out for in yourself and in others:

- A high temperature or feeling feverish
- A sore throat
- A sore mouth
- Problems when passing urine
- Shortness of breath
- A persistent cough

## Allergic reactions

Any medicine can cause an allergic reaction. Allergic reactions to azathioprine and mercaptopurine are uncommon, affecting between 1 in 100 people and 1 in 1,000 people.

Contact NHS 111 straight away if you think you are having an allergic reaction.

Signs to look out for include:

- Difficulty breathing or swallowing
- Swollen lips, throat, tongue or mouth
- Sudden confusion, drowsiness or dizziness
- Rash, or raised, itchy, blistering or peeling patches of skin

Visit the [NHS website](#) for more information on what to look out for.

## Common side effects

Some people experience unpleasant side effects, especially in the first weeks of taking these medicines. Common side effects, affecting between 1 in 10 people and 1 in 100 people, can include:

## **Feeling sick, nausea, or being sick**

You may feel very sick or vomit during the first few weeks of treatment. Taking your medicine after eating or in two smaller doses each day may help reduce these side effects. Talk to your IBD team before you make any changes to your dose or how you take it.

## **Flu-like symptoms**

These can include fever and general aches and pains a few days or weeks after starting treatment. Tell your GP if you begin to feel unwell. It's not usually serious but may mean the treatment needs to be stopped.

## **Less common side effects**

Other, less common, side effects include:

- **Hair loss** – this is rare, and only affects between 1 in 1,000 people and 1 in 10,000 people
- **Sensitivity to sunlight:** it is not known how many people this affects

## **Serious side effects**

Because these medicines act on your immune system, they can have some more serious side effects. These can include:

### **Problems with your bone marrow**

Changes to how your bone marrow works are very common when taking these medicines. They can affect 1 in 10 people or more. These changes can cause blood conditions such as:

- Producing fewer red blood cells, known as anaemia
- Producing fewer white blood cells, known as leucopenia
- Producing fewer platelets in your blood, known as thrombocytopenia

If your bone marrow is not working properly, it can cause weakness, breathlessness and fatigue. You may start bruising or bleeding easily. You will have regular blood tests to see if you're producing fewer red blood cells, white blood cells or platelets.

Changes to your bone marrow can also increase the risk of getting infections. It is important that you contact your GP if you develop an infection of any kind.

## **Liver damage**

Liver problems are common when taking these medicines. They can affect between 1 in 10 people and 1 in 100 people. You will be given regular liver function tests to check that your liver is working properly. Speak to your GP straight away if you notice a yellowing of your skin or eyes. This is called jaundice. This could be a serious sign of a problem with your liver. If you have black or brown skin, any yellowing might not be noticeable, but the whites of your eyes may look yellow.

## **Pancreatitis**

This is inflammation of the pancreas, a digestive gland in the tummy. The main symptom is severe pain that develops suddenly in the centre of the tummy. This aching pain often gets steadily worse and can travel along your back. Other symptoms can include:

- Feeling or being sick
- Fever or high temperature - 38°C or more
- Yellowing of the skin or the whites of the eyes
- Increased heartbeat or rapid breathing
- Indigestion

Usually, this occurs within three weeks of starting treatment. It is a common side effect of taking mercaptopurine, affecting between 1 in 10 people and 1 in 100 people. It is less common when taking azathioprine and affects between 1 in 100 people and 1 in 1,000 people. Speak to your GP straight away if you develop a sudden, severe pain in your tummy.

## Shingles

Taking these medicines increases the risk of shingles, also known as herpes zoster reactivation. Shingles is an infection caused by the same virus as chickenpox, the varicella-zoster virus. It causes a rash that turns into itchy blisters, usually on your tummy and chest, but it can develop anywhere on your body. There is not much evidence available on how common shingles is when taking these medicines. If you develop blister-like skin eruptions, you should contact your GP or IBD team immediately. Talk to your IBD team if you have any concerns about any new or ongoing symptoms.

The patient information leaflet (PIL) that comes with your medicine has a full list of side effects. You can also find this at [www.medicines.org.uk/emc/](http://www.medicines.org.uk/emc/).

**“As with any medicine, I was apprehensive about side effects. But my symptoms have been very manageable with no flareups and very little side effects.”**

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**Henry**

**Living with Crohn's**

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## Risk of cancer

There is a slightly increased risk of some cancers for people treated with azathioprine or mercaptopurine.

## Skin cancers

You have a higher risk of skin cancer if you are taking azathioprine or mercaptopurine. The risk may be even greater for non-melanoma skin cancer. This is a common type of cancer, caused mainly by ultraviolet light from the sun. It can cause a growth or discoloured patches of skin. It can often be easily treated.

Melanoma is a less common type of skin cancer, also caused by ultraviolet light. It can cause new moles to develop or bring about changes in old moles. Melanoma is a more serious type of cancer and can spread to other parts of the body.

If you have been successfully treated for skin cancer, you will need ongoing assessment in case it comes back. Studies suggest that azathioprine and mercaptopurine can be continued if non-melanoma skin cancers have been fully removed. However, it may be best to avoid combined immunotherapy. This is where more than one medicine affecting the immune system is used at the same time.

Skin cancer may affect up to 1 in 1,000 people taking azathioprine or mercaptopurine. The [NHS website](#) has more information about melanoma skin cancer, including symptoms, treatment and where to find more support.

## **Cervical cancer**

If you have a cervix, taking azathioprine and mercaptopurine may put you at a higher risk of cervical cancer. The most common cause of cervical cancer is human papillomavirus, or HPV, infection. Cervical cancer can often be prevented by having regular cervical screenings. These aim to find and treat changes to cells before they turn into cancer. The [NHS website](#) has more information on cervical screening.

We do not know for certain how much these medicines increase the risk of cervical cancer. Your risk may depend on different factors, such as whether you smoke.

Symptoms of cervical cancer can include:

- Vaginal bleeding that is unusual for you
- Changes in vaginal discharge
- Heavier periods than usual
- Pain between your hips, in your lower back or lower tummy
- Pain during sex

Speak to your GP if you are worried about any symptoms you may have.

## Lymphoma

There is a slightly increased risk of lymphoma for people taking azathioprine or mercaptopurine. Lymphoma is a cancer of the lymphatic system. This is a network of glands and vessels throughout your body that plays an important role in your immune system. There are two main types of lymphoma. These are Hodgkin lymphoma and non-Hodgkin lymphoma. The most common symptom of both is a painless swelling in your armpit, neck or groin. Find out more about Hodgkin lymphoma and non-Hodgkin lymphoma on the [Macmillan Cancer Support](#) website.

The risk of developing cancer because of these medicines is still very small. For people with Crohn's or Colitis who don't take azathioprine or mercaptopurine, 2 in 10,000 are at risk of lymphoma. For people with Crohn's or Colitis who do take these medicines, 4 in 10,000 are at risk of lymphoma.

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## Taking other medicines?

Check with your GP, pharmacist or IBD team before you take any new medicines. They may interact with azathioprine or mercaptopurine and cause unexpected side effects. This also applies to over-the-counter medicines, herbal, complementary or alternative medicines and treatments.

Medicines that interact with azathioprine and mercaptopurine include:

- Allopurinol, which is used to treat gout. This is also often taken with low doses of azathioprine or mercaptopurine to help them work more effectively
- Febuxostat, which is also used to treat gout
- Warfarin, which is used to prevent blood clots
- Some antibiotics – such as doxycycline and tetracycline, which interact with mercaptopurine. Trimethoprim interacts with both azathioprine and mercaptopurine

You should also always tell anyone else treating you that you are taking azathioprine or mercaptopurine.

## Vaccinations

Live vaccines contain weakened live strains of viruses or bacteria. You should not have live vaccines if you are immunosuppressed. This is because the weakened virus could reproduce too much and cause a serious infection.

You should not have live vaccines while taking azathioprine or mercaptopurine.

- If you have had a live vaccine, you may need to wait four weeks before starting azathioprine or mercaptopurine.
- It may be safe to have live vaccines three months after stopping azathioprine or mercaptopurine. You may be advised to wait longer.

Ask your IBD team to make sure your vaccinations are up to date before you start azathioprine or mercaptopurine. Talk to your IBD team if you are planning to travel and need vaccinations.

In the UK, live vaccines include:

- BCG (tuberculosis)
- Chicken pox (varicella)
- Measles, mumps and rubella – either as individual vaccines or as the triple MMR vaccine
- Yellow fever
- Rotavirus - babies only
- Nasal flu vaccine used in children – the injected flu vaccine used in adults is not live
- Oral typhoid vaccine. The injected typhoid is not live



## **If someone that you live with is due to have a live vaccine**

There is a small risk that people who have recently had a live vaccine could pass on the virus to close contacts who are immunosuppressed. This could then cause an infection.

For most of the live vaccines used in the UK, the virus is not passed on to contacts. You can reduce the risk by following simple precautions, such as:

- Wash your hands after direct contact with a person who has had the vaccine, and before preparing food
- If the contact develops a rash after the live shingles vaccine, they should cover the rash until it is dry and crusted
- Talk to your IBD team if someone you live with is due to have a live vaccine and you have any concerns

## **Non-live vaccines**

Vaccines that are not live include:

- The annual flu vaccine
- Pneumococcal vaccine
- Shingles vaccine
- COVID-19 vaccines

These are safe to have while you are taking azathioprine and mercaptopurine.

Everyone with Crohn's or Colitis taking azathioprine and mercaptopurine should have the yearly flu vaccine and COVID-19 vaccine. Flu vaccinations and COVID-19 vaccinations may not work as well in people taking these medicines.

If you are taking azathioprine or mercaptopurine, you may also be recommended the following vaccinations.

## Shingles vaccination

Shingles is an infection caused by the same virus as chickenpox, usually resulting in a painful rash and itchy blisters. The non-live shingles vaccine, Shingrix, is recommended for people over 50 or older who are severely immunosuppressed and qualify for the shingles vaccine.

## The pneumococcal vaccine

You are recommended to get the pneumococcal vaccine if you are taking these medicines. This can help protect you against infections such as pneumonia, a serious lung infection, and meningitis, an infection in the brain and spinal cord. The vaccine is safe to take, although you may need extra doses.

**“When starting on azathioprine, I made sure I was up to date with my vaccinations. I had a pneumonia vaccine and I make sure I have a flu jab every year.”**

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**Henry**

**Living with Crohn's**

Speak to your GP to arrange any vaccinations you might need. If you are considering vaccinations for travel, talk to your IBD team and see our information on [Travel](#). You can also talk to your IBD team if you're concerned about the safety of any vaccines.

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## Pregnancy and fertility

### Fertility

Studies suggest that azathioprine and mercaptopurine do not affect male or female fertility, although this is not known for certain.

## Pregnancy

Speak to your IBD team if you are offered or are taking azathioprine or mercaptopurine and want to start a family. They can help you make an informed decision about your care and your baby's safety.

Do not stop taking your medicine without talking to your doctor first.

Stopping your medicine may increase your risk of a flare-up. Having active Crohn's or Colitis can increase the risk of pregnancy complications, such as:

- Premature birth
- Low birth weight
- Miscarriage

This is why it is important to keep your condition under control during pregnancy.

Evidence suggests that taking these medicines while you are pregnant is probably a low risk:

- Studies have not found any increased likelihood of miscarriage or birth defects in the babies of people taking these medicines, compared to people with Crohn's or Colitis who didn't have this treatment.
- There may be an increased possibility of your baby being born early, either preterm or premature birth, as a result of taking these medicines. However, this risk is also increased by flare-ups during pregnancy.
- There have been rare cases of developing intrahepatic cholestasis of pregnancy (ICP) while taking these medicines. See [intrahepatic cholestasis of pregnancy \(ICP\)](#) below.

It is important to remember that there is a risk to the baby if you stop treatment and become unwell.

Male partners taking these medicines at the time of conception haven't been found to impact the health of the baby.

Your pregnancy care team will carry out scans and checks to make sure you and your baby are well. Your IBD team and pregnancy care team should work together to make sure that you and your baby are as healthy as possible.

## **Intrahepatic cholestasis of pregnancy (ICP)**

ICP is a liver condition that occurs in 1 in every 150 pregnancies. It can be a serious risk to your baby. ICP most often develops after 28 weeks of pregnancy. But ICP may develop earlier in people taking azathioprine or mercaptopurine. This medicine-related ICP occurs less than non-medicine related ICP. More research is needed to better understand the risk to pregnant people taking azathioprine or mercaptopurine.

Let your pregnancy care team and IBD team know if you have had ICP before.

### **Symptoms of ICP**

Contact your pregnancy care team immediately if you have:

- **Itching without a rash.** This could be anywhere on your body, but it may be worse on your hands or feet. The itching may also be worse at night.
- **Nausea**
- **Loss of appetite**

Your pregnancy care team will recommend ways to manage ICP based on your individual situation. This could include creams to help with the itching, and reducing or stopping your medicine. Do not stop taking your IBD medicines unless your pregnancy care team advises you to. You should also tell your IBD team. The NHS has more information on [ICP](#).

## **If you have an unplanned pregnancy**

Contact your IBD team straight away if you are on azathioprine or mercaptopurine and find out that you are pregnant. Do not stop taking your medicine until you have spoken to your healthcare professional.

For more details, see our information on [pregnancy and breastfeeding](#) and [reproductive health and fertility](#).

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## **Breastfeeding**

Very small amounts of these medicines have been found in breast milk for four hours after they have been taken. How much medicine is found in breastmilk may differ from person to person.

There are clear benefits to breastfeeding for you and your baby. Studies suggest that breastfeeding while taking these medicines is low risk. If you have concerns, you could consider expressing and discarding milk produced in the four hours after you take your medicine. Talk to your IBD team if you are planning to breastfeed while taking these medicines.

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## **Drinking alcohol**

Alcohol is not known to affect how azathioprine or mercaptopurine work. However, it is best not to drink too much alcohol, as these medicines and alcohol can all affect your liver. Stay within the national guidelines by drinking no more than 14 units of alcohol per week, spread over at least three days. See the [NHS website](#) for more information about national alcohol guidelines.

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## Who to talk to if you are worried

[Taking medicines](#) and managing side effects can be difficult – we understand and we're here to help. Our [Helpline](#) can answer your questions about treatment options and can help you find support from others with the conditions.

Your IBD team are also there to help. You can talk to them about your dose, monitoring and what other options there might be for you. You should also get in touch with your IBD team if you have any new symptoms or side effects.

It can take time to find the medicine that's right for you. Don't be afraid to ask questions and ask for extra support when you need it.

This information is general and does not replace specific advice from your health professional. Talk to your GP or IBD team for information that's specific to you.

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## Other organisations

Electronic Medicines Compendium (eMC)

[www.medicines.org.uk/emc/](http://www.medicines.org.uk/emc/)

Cancer Research UK

Helpline: 0808 800 4040

[cancerresearchuk.org](http://cancerresearchuk.org)

Macmillan Cancer Support

020 7840 7840

Helpline: 0808 808 00 00

[macmillan.org.uk](http://macmillan.org.uk)

## Help and support from Crohn's & Colitis UK

We're here for you whenever you need us. Our award-winning information covers a wide range of topics. From treatment options to symptoms, relationship concerns to employment issues, our information can help you manage your condition. We'll help you find answers, access support and take control.

All information is available on our website at [crohnsandcolitis.org.uk/information](https://crohnsandcolitis.org.uk/information).

### Helpline service

Our [Helpline](#) team provides up-to-date, evidence-based information. They can support you to live well with Crohn's or Colitis.

Our Helpline team can help by:

- Providing information about Crohn's and Colitis
- Listening and talking through your situation
- Helping you to find support from others in the Crohn's and Colitis community
- Providing details of other specialist organisations

You can call the Helpline on **0300 222 5700**. You can also visit [crohnsandcolitis.org.uk/livechat](https://crohnsandcolitis.org.uk/livechat) for our LiveChat service. Lines are open 9am to 5pm, Monday to Friday, except English bank holidays.

You can email [helpline@crohnsandcolitis.org.uk](mailto:helpline@crohnsandcolitis.org.uk) at any time. The Helpline will aim to respond to your email within three working days.

## Crohn's & Colitis UK Forum

This closed-group Facebook community is for anyone affected by Crohn's or Colitis. You can share your experiences and receive support from others at [facebook.com/groups/CCUKforum](https://facebook.com/groups/CCUKforum).

## Help with toilet access when out

There are many benefits to becoming a member of Crohn's & Colitis UK. One of these is a free RADAR key to unlock accessible toilets. Another is a Can't Wait Card. This card shows that you have a medical condition. It will help when you are out and need urgent access to the toilet. See [crohnsandcolitis.org.uk/membership](https://crohnsandcolitis.org.uk/membership) for more information. Or you can call the Membership Team on **01727 734465**.

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## Crohn's & Colitis UK Medicine Tool

Our [Medicine Tool](#) is a simple way to compare different medicines for Crohn's or Colitis. You can see how medicines are taken, how well they work, and what ongoing checks you need.

The Medicine Tool can help you:

- Understand the differences between types of medicines
- Explore different treatment options
- Feel empowered to discuss medicine options with your IBD team

Always talk to your IBD team before stopping or changing medicines.

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## About Crohn's & Colitis UK

Crohn's & Colitis UK is a national charity, leading the fight against Crohn's and Colitis. We're here for everyone affected by these conditions.

Our vision is to see improved lives today and a world free from Crohn's and Colitis tomorrow. We seek to improve diagnosis and treatment, fund research into a cure, raise awareness and give people hope and confidence to live freer, fuller lives.

Our information is available thanks to the generosity of our supporters and members. Find out how you can join the fight against Crohn's and Colitis by calling **01727 734465**. Or you can visit [crohnsandcolitis.org.uk](https://crohnsandcolitis.org.uk).

## About our information

We follow strict processes to make sure our information is based on up-to-date evidence and is easy to understand. We produce it with patients, medical advisers and other professionals. It is not intended to replace advice from your own healthcare professional.

We hope that you've found this information helpful. Please email us at [evidence@crohnsandcolitis.org.uk](mailto:evidence@crohnsandcolitis.org.uk) if:

- You have any comments or suggestions for improvements
- You would like more information about the evidence we use
- You would like details of any conflicts of interest

You can also write to us at **Crohn's & Colitis UK, 1 Bishops Square, Hatfield, Herts, AL10 9NE**. Or you can contact us through the **Helpline** on **0300 222 5700**.

We do not endorse any products mentioned in our information.

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Azathioprine and mercaptopurine, edition 6d

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