Azathioprine

This leaflet provides information on azathioprine and will answer any questions you have about the treatment.
What is azathioprine?

Azathioprine is a type of drug known as a disease-modifying anti-rheumatic drug, or DMARD. These drugs have the effect of dampening down the underlying disease process, rather than simply treating symptoms. Azathioprine reduces the activity of the immune system (the body’s own defence system), so it’s always used with care.
At a glance

What type of drug is azathioprine (trade name Imuran)?
Azathioprine is a disease-modifying anti-rheumatic drug (DMARD).

What does it do?
It reduces the activity of the body’s defence system (immune system).

What is it used for?
It’s used to treat several different types of rheumatic disease, including systemic lupus erythematosus (SLE), rheumatoid arthritis and other autoimmune and inflammatory diseases.

How is it taken?
It’s usually given as tablets, taken once or twice daily. The dose depends on your weight, but usually starts at 50 mg and is increased to 100–200 mg.

Are there any side-effects?
In some patients azathioprine can cause nausea (feeling sick), vomiting, diarrhoea, loss of appetite, hair loss and skin rashes. It can also make you more likely to develop infections. It can affect the liver or blood so that you need to have regular blood tests while you’re taking it.
**Why is azathioprine prescribed?**
Azathioprine is used to treat several different types of rheumatic disease, including systemic lupus erythematosus (SLE), rheumatoid arthritis and other autoimmune and inflammatory diseases.

Your doctors may also prescribe it if you’re on steroid treatment so that your steroid dose can be reduced.

**How long does azathioprine take to work?**
Azathioprine doesn’t work immediately. It may be 6–12 weeks before you notice any benefit.

**When and how do I take azathioprine?**
Azathioprine is taken in tablet form either **once or twice a day**. It’s usually taken with or after food.

Your doctor will advise you about the correct dose. Usually you’ll start on a low dose (e.g. 50 mg per day) and your doctor may increase this if necessary. The dose you’re given will depend on your body weight, but is usually between 100 mg and 200 mg.

Some side-effects can be reduced by taking azathioprine with food or last thing at night.
What are the possible side-effects?
Azathioprine can cause nausea (feeling sick), vomiting, diarrhoea, loss of appetite (this may be alleviated by taking with food or last thing at night), hair loss and skin rashes.

Taking azathioprine can affect the blood count (one of the effects is that fewer blood cells are made) and can make you more likely to develop infections. It can also affect your liver. You should tell your doctor or nurse specialist straight away if you develop any of the following after starting azathioprine:
- a sore throat
- a fever
- any other symptoms of infection
- unexplained bruising or bleeding
- jaundice (eyes or skin turning yellow)
- any other new symptoms or anything else that concerns you.

What should I look out for?
You should stop azathioprine and see your doctor immediately if:
- any of the symptoms listed above are severe
- you haven’t had chickenpox and you come into contact with someone who has chickenpox or shingles
- you develop chickenpox or shingles.

Chickenpox and shingles can be severe in people on treatments that affect the immune system such as azathioprine.

You may need antiviral treatment, which your doctor will be able to prescribe. If you develop chickenpox or shingles, you should contact your doctor or nurse specialist immediately to discuss whether you need to stop your azathioprine temporarily.

There’s a slightly increased risk of certain types of cancer with azathioprine. You should discuss this with your doctor.

What are the risks?
Will it affect vaccinations?
If you’re on azathioprine it’s recommended that you avoid live vaccines such as yellow fever. However, in certain situations a live vaccine may be necessary (for example rubella vaccination in women of childbearing age), in which case your doctor will discuss the possible risks and benefits of the vaccination with you.

Pneumovax (which gives protection against the commonest cause of pneumonia) and yearly flu vaccines don’t interact with azathioprine and are recommended.

Can I drink alcohol while on azathioprine?
You should only drink alcohol in small amounts because azathioprine and alcohol can interact and damage your liver. You should discuss this with your doctor.
Does azathioprine affect fertility or pregnancy?
You shouldn’t normally take azathioprine when pregnant. If you’re planning a family or become pregnant while taking azathioprine, you should discuss this with your doctor as soon as possible. However, azathioprine is safer than many other drugs during pregnancy because it’s not activated in the baby’s circulation. This means that in necessary situations your doctor may decide to continue the medication because it’s important for the mother’s health to be kept at the best possible level during pregnancy.

Does it affect breastfeeding?
Azathioprine may pass into the breast milk. The decision whether or not to breastfeed on azathioprine should be discussed with your doctor or nurse specialist. Though in the past doctors were very cautious about this, more recent evidence suggests that it is safe. Many mothers find they can breastfeed safely on azathioprine.

What else should I know about azathioprine?

Are there any alternatives?
A number of other drugs are used in the treatment of rheumatoid arthritis and related conditions. Your doctor and rheumatology nurse specialist will discuss these other options with you.

Will I need any special checks while on azathioprine?
Your doctor may order a test called TPMT to find out whether you have adequate levels of this enzyme, which is used to remove azathioprine from the body. Low levels of this enzyme could mean you’re at more risk of side-effects.

Because azathioprine can affect the blood count and can sometimes cause liver problems, your doctor will arrange for you to have a blood test before you start treatment and then regular blood checks while on azathioprine. You may be asked to keep a record of your blood test results in a booklet, and you should take it with you when you visit your GP or the hospital.

⚠️ You must not take azathioprine unless you’re having regular blood checks.

Can I take other medicines alongside azathioprine?
Azathioprine may be prescribed along with other drugs in treating your condition. Some drugs interact with azathioprine (e.g. allopurinol, used in the treatment of gout), so you should discuss any new medications with your doctor.

Azathioprine works by reducing the activity of your immune system.
before starting them, and you should always tell any other doctor treating you that you’re on azathioprine. You should also be aware of the following points:

- **Azathioprine is not a painkiller.** If you’re already on a non-steroidal anti-inflammatory drug (NSAID) or painkillers you can carry on taking these as well as azathioprine, unless your doctor advises otherwise.

- **Do not take over-the-counter preparations or herbal remedies without discussing this first with your doctor, rheumatology nurse specialist or pharmacist.**

**Where can I get more information?**

Arthritis Research UK is the charity leading the fight against arthritis. We do this by funding high-quality research, providing information and campaigning. We publish over 60 information booklets which help people to understand more about their condition, its treatment, therapies and how to help themselves.

If you would like any further information about azathioprine, or if you have any concerns about your treatment, you should discuss this with your doctor, rheumatology nurse specialist or pharmacist.
Get involved!
You can help to take the pain away from millions of people in the UK by:

- volunteering
- supporting our campaigns
- taking part in a fundraising event
- making a donation
- asking your company to support us
- buying gifts from our catalogue.

To get more actively involved, please call us 0300 790 0400 or email us at enquiries@arthritisresearchuk.org or go to: www.arthritisresearchuk.org

A team of people contributed to this booklet. It was written by Dr Ariane Herrick, who has expertise in the subject. It was assessed at draft stage by clinical nurse specialist Sue Brown, consultant rheumatologist Prof. Bhaskar Dasgupta and lead rheumatology educator Kate Gadsby. An Arthritis Research UK editor revised the text to make it easy to read, and a non-medical panel, including interested societies, checked it for understanding. An Arthritis Research UK medical advisor, Prof. Anisur Rahman, is responsible for the content overall.

Please note: We have made every effort to ensure that this content is correct at time of publication, but remember that information about drugs may change. This information sheet is for general education only and does not list all the uses and side-effects associated with this drug. For full details please see the drug information leaflet that comes with your medicine. Your doctor will assess your medical circumstances and draw your attention to any information or side-effects that may be relevant in your particular case.

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