

Resource

# Methotrexate

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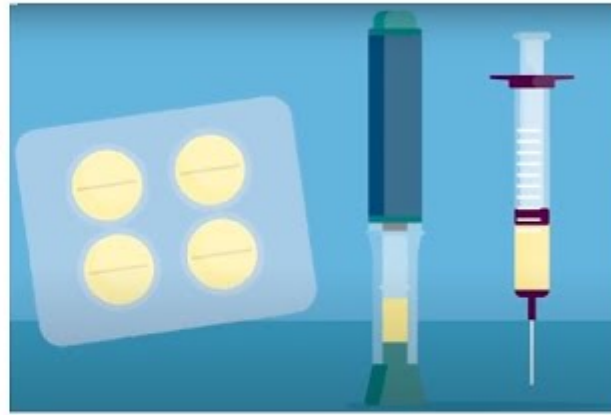
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# Understanding methotrexate

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Methotrexate is ranked as the 'gold standard' disease modifying anti-rheumatic drug (DMARD) for the control of inflammatory arthritis.

The over-active immune system in RA causes pain, swelling, heat and redness in the joints, stiffness and other symptoms such as fatigue and flu-like symptoms. Methotrexate dampens down this process, it reduces the evidence of active arthritis and the potential for joint damage.

## Background

- Methotrexate (MTX) was introduced in 1947 and was initially used to treat leukaemia and other forms of cancer
- From the 1980s, methotrexate was used to treat adults with RA but in very much lower doses (than doses used for leukaemia and cancer) after clinical trials had demonstrated its benefits in RA

- Although this booklet is for people with RA, it's reassuring to know that from the 1990s methotrexate has been used in children and young people with juvenile idiopathic arthritis
- Research into RA has found that the earlier the treatment starts with a DMARD to control the inflammation, the better the long term outcome

## How does it work?

It has not been possible to identify the precise mechanism within the cells for the effectiveness of methotrexate.

It is vital to remember that methotrexate is prescribed as a ONCE weekly dose in order to avoid any possible overdose. It is recommended to take methotrexate on the same day each week.

It is available as:

- Tablets
- A subcutaneous injection (just under the skin) via a pre-filled pen device
- Oral suspension

Advice and guidance will always be given. In addition, the rheumatology team will advise on the dose and frequency of folic acid (a 'B' vitamin) supplementation (see below for more details).

Injectable methotrexate (using pens or syringes) needs to be kept below 25 degrees centigrade and protected from light, but it doesn't need to go in the fridge.

As methotrexate can affect the lungs, a chest X-ray may be required to give a good baseline before starting treatment.

## Side effects

As with any medication, methotrexate has a number of possible side effects, although it is important to remember that these are only potential side effects. They may not occur at all.

Side effects may include:

- Nausea, loss of appetite, vomiting, diarrhoea
- Mouth ulcers, skin rash
- Effects on blood tests for liver function, white blood cell and platelet numbers
- Headaches
- Mild hair loss
- Fever, symptoms of infection, bruising, bleeding
- Photosensitivity (increased sensitivity to sunlight)
- Mood swings (not common)
  
- Rarely shortness of breath and troublesome cough causing pneumonitis (which is inflammation in the lungs) – this can be very serious, especially if left untreated, so it is important that you report any signs of breathlessness to your doctor as early as possible

For an extensive list of side effects, please read the patient information leaflet which will come with your medicine. This can also be found online at: [www.medicines.org.uk](http://www.medicines.org.uk). If you are at increased risk for any side effects, this should be discussed with your healthcare team.

Remember to report any concerns about possible side effects to the doctors, pharmacists or nurses.

## Methotrexate with other medicines

Methotrexate interferes with the absorption of B vitamins, such as folic acid, from the diet. Because of this, a supplement of folic acid is usually prescribed but **MUST NOT** be taken on the same day as methotrexate.

Folic acid:

- is needed for normal cell division, especially in infancy
- is needed in the production of red blood cells
- must be taken on a separate day from the weekly methotrexate

The antibiotics co-trimoxazole and trimethoprim should not be taken whilst on methotrexate.

Additional disease modifying anti-rheumatic drugs (DMARDs) or biologic medications may be prescribed in conjunction with methotrexate.

Remember to take care when using any other medications or complementary therapies (even if bought 'over the counter' for colds or flu). Remember to check with your doctor, nurse or pharmacist that they are safe to take with methotrexate and any other medication taken.

## Methotrexate and pregnancy

- Methotrexate may harm the growing baby and cause birth defects. It is therefore important to avoid pregnancy when taking methotrexate
- Contraception is important and oral contraceptives can be taken with methotrexate
- Methotrexate, at the doses used to treat RA, is now believed to be safe to use in males whose partners are trying to conceive (although this is based on limited evidence).

Pregnancy information in this article is based on British Society for Rheumatology (BSR) guidelines on prescribing drugs in pregnancy and breastfeeding.

Before starting a family, it is recommended that you get advice from the consultant or clinical nurse specialist about when to start a pregnancy (generally three to six months from the last dose taken).

## Methotrexate and alcohol

If drinking alcohol, it is important to discuss how to drink safely whilst on methotrexate with the specialist team, as both alcohol and methotrexate are processed in the body by the liver. If the liver is working too hard, this will show up on the liver function tests. The following tips may help:

- Discuss with your rheumatology team about drinking safely, know what the government guidelines are
- Your consultant/clinical nurse specialist will advise you about safe alcohol consumption
- Get an understanding of units of alcohol and recommended daily limits. Visit [www.nhs.uk](http://www.nhs.uk) for more information. The size and strength of your drink determines the number of units of alcohol it contains
- The higher the alcohol by volume (ABV) of a drink, the higher the proportion of alcohol it contains. For example, a drink with an ABV of 13 contains 13% pure alcohol
- Limit the amount of alcohol by drinking drinks with a lower alcohol content
- Avoid binge drinking
- Have alcohol-free days
- Avoid having blood tests the day after drinking the night before as this can affect blood monitoring

## Methotrexate and immunisation/vaccination

Live vaccines (measles, mumps, rubella, i.e. MMR, chickenpox, oral polio (NOT injectable polio), BCG, oral typhoid and yellow fever) cannot be given to anyone already taking methotrexate. If methotrexate has not yet been started, it is important to seek advice on how long a gap to leave after having a live vaccine.

- The annual flu vaccination and 'Pneumovax' protection against pneumonia is permitted (see below)
- If possible, the 'Pneumovax' vaccination should be given before starting methotrexate

Flu vaccine is now available in two forms, an injection for adults and a nasal spray for children. The injection is not a live vaccine and therefore suitable for adults taking methotrexate and is recommended. The nasal spray is a live vaccine and not suitable for adults taking methotrexate. It is important to discuss having a flu vaccination with your GP.

Vaccination of close family members can help to protect someone with a lowered immune system from infection.

## Methotrexate and chickenpox

- Before methotrexate is started, a blood test to check for immunity to chickenpox is advisable. Ideally, a chickenpox vaccination would be given before starting methotrexate, but this would cause a delay in commencing treatment. The consultant or clinical nurse specialist will discuss whether such a delay is acceptable
- Anyone taking methotrexate who comes into contact with chickenpox – and this means being in the same room as someone with chickenpox for 5 minutes or more – should seek advice. This is because they may require an injection of VZIG (Varicella-Zoster Immune Globulin) for protection which is their doctor's assessment and decision

## How to reduce methotrexate-related nausea

- To help the feeling of nausea, one of the more common side effects of methotrexate, it is

recommended that methotrexate is taken (or given) after the evening meal so that the nausea will therefore be less on waking. The most appropriate day for the individual needs to be considered

- Folic acid is important as explained above, but it also helps to reduce the nausea
- Anti-nausea medication may also help
- Stay safe on methotrexate and remember to have regular blood tests and check-ups as advised by your consultant and clinical nurse specialist
- Injected methotrexate can improve the side effects of taking tablets, so if you are experiencing side effects, ask about sub-cutaneous methotrexate

## Hints and tips

### Prevention of sunburn

- Remember to use sunscreen before going into the sun, as well as a t-shirt and hat
- Reapply sunscreen frequently as recommended

### Travelling and methotrexate

#### Going by air (flying)

- Inform the airline if injectable methotrexate has to be carried on the flight
- injectable pens or syringes need to be kept below 25 degrees centigrade and protected from light. These may need to be carried in hand luggage, together with a letter of authorisation to carry needles or injectable pens from your healthcare team
- It is a good idea to take a copy of the prescription to show authorities

Before booking a holiday, live vaccines must be avoided (see above 'methotrexate and immunisation/vaccination'). It is important to check whether any required vaccines are 'live'

Due to the fact that methotrexate (MTX) is the gold standard treatment in RA and many thousands of people are prescribed MTX at diagnosis, we are regularly contacted by people who may be anxious about taking it. We therefore felt it was important for us to have listed the possible side effects of MTX – and equally important for us to emphasise here that, with regular blood monitoring, there is good safety data and evidence that it is a safe and effective treatment for many people with RA.



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## Using methotrexate: Christine's story

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### Medicines in rheumatoid arthritis

We believe it is essential that people living with RA understand why certain medicines are used, when they are used and how they work to manage the condition.

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