

Resource

# JAK inhibitors

JAK inhibitors are the newest class of medicines used to treat RA. Like biologics, they are ‘targeted’ therapies, which work on the immune response.

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JAK inhibitor name	Method of administration
Tofacitinib	Tablets
Baricitinib	Tablets
Upadacitinib	Tablets
Filgotinib	Tablets

## Background

Unlike the biologics, JAK inhibitors can be taken in tablet form as they are small molecule therapies. They can also be used to treat other types of arthritis and inflammatory conditions affecting the skin and gut.

## Most commonly reported side effects

As with any medicines, JAK inhibitors can cause side effects. It is important to remember that these are only possible side effects. They may not occur at all.

Common side effects may include:

- Upper respiratory tract infections (nose, throat or the windpipe)
- Lung infections (pneumonia and bronchitis)
- Shingles
- Influenza
- Bladder infection (cystitis)
- Increased liver enzymes or muscle enzymes in the blood (signs of liver or muscle problems)
- High levels of blood fat (cholesterol) shown by blood test

## Potential risks of JAK inhibitors

Ongoing monitoring of JAK inhibitors has shown that they may increase the risk of certain conditions when compared to anti-TNFs. These conditions are:

- Major cardiovascular problems, such as heart attacks or strokes
- Cancer
- Blood clots in the lungs (pulmonary embolism) and veins (deep vein thrombosis)
- Serious infections

If you are aged 65 years or over, already have an increased risk of cardiovascular problems or cancer, or if you smoke (or had smoked for a long time in the past before giving up) then JAK inhibitors should only be used if there are no suitable alternatives for you. If you have certain risk factors then you may be prescribed a lower dose of JAK inhibitor or be switched to a different medicine.

You should check your skin at least once a month and let your GP know if you notice any new growths or lumps on your skin.

If you experience chest pain or tightness (which may spread to your arms, jaw, neck, or back), shortness of breath, cold sweat, feeling lightheaded or suddenly dizzy, or have weakness in your arms, legs, or slurred speech you should contact 999 immediately.

More information on side effects can be found in the patient information leaflet for these medicines.

Remember to report any concerns about possible side effects to the doctors and nurses.

## JAK inhibitors with other medicines

If you and your consultant decide to stop your current medicine and start you on a different one (whether it works in the same way or has a different target) you will need to have a wash-out period between the two medicines. This ensures the medicine you have stopped is out of your body and cannot interact with the new medicine.

Your healthcare team can advise you of any known interactions with your medication, so it is important to let them know about all the medicines you are taking, whether they are prescribed or over-the-counter. You should also let them know if you are taking any supplements or herbal medicines as these can also interact with medicines.

If you start taking any new medicines, check with a doctor, nurse or pharmacist that they are safe to take with any medicines you are currently taking.

## JAK inhibitors during pregnancy and breastfeeding

### Tofacitinib

Tofacitinib should not be taken by pregnant women. A gap of at least 4 weeks should be left from the last dose of the tofacitinib before trying to conceive. Tofacitinib should not be taken while breastfeeding. Animal testing showed that tofacitinib might affect female fertility but does not affect male fertility. Men who are taking tofacitinib do not need to avoid conceiving a child with their partner.

### Baricitinib

Baricitinib should not be taken by pregnant women. A gap of at least 1 week should be left from the last dose of the medicine and trying to conceive. Baricitinib should not be taken while breastfeeding, as it is not known whether the medicine can pass into the milk. Animal testing showed that baricitinib might affect female fertility but does not affect male fertility. Men who are taking baricitinib do not need to avoid conceiving a child with their partner.

### Upadacitinib

Upadacitinib should not be taken by pregnant women. A gap of at least 4 weeks should be left from the last dose of upadacitinib before trying to conceive. Upadacitinib should not be taken while breastfeeding. Animal testing showed that upadacitinib does not affect fertility. Men who are taking upadacitinib do not need to avoid conceiving a child with their partner.

### Filgotinib

Filgotinib should not be taken by pregnant women. A gap of at least 1 week should be left from the last dose of filgotinib and trying to conceive. Filgotinib should not be taken while breastfeeding as it is not known whether the medicine can pass into the milk. Men who are taking filgotinib do not need to avoid conceiving a child with their partner.

### JAK inhibitors and alcohol

There is currently no guidance on the need to avoid or restrict alcohol consumption while taking JAK inhibitors. However, if you do drink alcohol you should try to follow government guidelines. It is not uncommon for people taking JAK inhibitors to be on other medications as well, where different guidance applies. For example, methotrexate can affect the liver, so for those taking methotrexate alongside their biologic, moderate intake of alcohol is recommended in line with government guidelines.

### JAK inhibitors and immunisations/ vaccinations

Live vaccines cannot be given to anyone who is already taking JAK inhibitors. The live vaccines used in the UK include: measles, mumps and rubella (MMR), chickenpox, BCG (for tuberculosis), yellow fever, oral typhoid or oral polio (injectable polio and typhoid vaccines can be used). If JAK inhibitors have not yet been started, it is important to seek advice on how long a gap to leave after having a live vaccine.

Annual flu vaccine is strongly recommended. It is available in two forms: an injection for adults and a nasal spray for children. The injectable vaccine is not a live vaccine so is suitable for adults taking JAK inhibitors. The nasal spray is a live vaccine and not suitable for adults taking JAK inhibitors. You can have a flu vaccination at your GP surgery or local pharmacy.

Annual 'Pneumovax' vaccination (which protects against pneumococcal pneumonia) is not live and is strongly recommended. Vaccination with Pneumovax should ideally be given before starting JAK inhibitors.

Shingles (Herpes zoster) vaccine is recommended for all adults turning 65, those aged 70 to 79 and those aged 50 and over with a severely weakened immune system. The vaccination is given as two

doses, two months apart. at your GP surgery. It is available as a live or non-live vaccine, so it is important to make sure you are given the nonlive version.

Covid-19 vaccines and boosters are not live and are generally recommended for people with RA.

Your GP can advise if you are eligible for free flu, Pneumovax, shingles and Covid vaccinations, depending on the medications you are taking and their doses.

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

## 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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