

Resource

## Steroids

Steroids are also known as corticosteroids or glucocorticoids. They are used to help control many forms of arthritis.

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Steroids are naturally occurring chemicals produced from the two adrenal glands, which lie above the kidneys. During the day, when people are active, there are more glucocorticoids produced naturally.

The glucocorticoids (produced by the adrenal glands) are composed of cortisone and hydrocortisone and help to control metabolism. Metabolism is all of the physical and chemical processes within the body that allow for growth, function, repair of tissues and provision of energy.

Steroids used by body builders are gonadocorticoids or anabolic steroids. These steroids are variations of the male sex hormone testosterone, first created by pharmaceutical companies in the 1950s and are not the same as steroids taken in RA.

## Background

Cortisone was used for the first time for rheumatoid arthritis in the late 1940s. In 1950-51 cortisone and hydrocortisone were developed as tablets and joint injections. By the 1960s, all the side effects of steroid use had been reported. The development of non-steroidal anti-inflammatory drugs (late 1950s) enabled steroid doses to be lowered and used mostly as short courses.

By the 1970s, the introduction of methotrexate had a significant impact on controlling rheumatological conditions like RA while also allowing further reductions in steroid doses and use of short courses – although the widespread use of methotrexate didn't really happen until the early to mid 1980s.

## Facts about steroids

- Steroids can be taken as tablets or injected or by infusion (a 'drip')
- In the average adult, all the cortisone and hydrocortisone (the steroids made naturally in the body, as outlined above) produced in 24 hours would add up to the same amount of steroid (glucocorticoid) as approximately 5-6 mg of prednisone or prednisolone medication
- A low dose of a steroid medication such as prednisolone will have a noticeable effect within a few days. Joint pain, stiffness and swelling will be less. A large dose will have a larger and quicker effect. Very large doses given as a one-off injection into the muscle can often provide a quick improvement that can sometimes seem miraculous
- Steroids can make you feel better in yourself and can provide a sense of wellbeing

## When are steroids used?

Steroids can have many side effects and long-term complications so are used only when necessary in conditions such as RA. They are used in the lowest effective dose for the shortest time possible. They can be very useful at the start of treatment either as a joint injection or an occasional intra-muscular or intra-venous dose.

Steroids can be very effective in treating a 'flare up' of RA by controlling the symptoms quickly. They are used with caution and the doctor will have various considerations to make before prescribing the medicine.

When reducing a steroid dose, your doctor will recommend a very gradual reduction over time which allows your body to re-adjust to producing steroid naturally.

What are the possible side effects of tablets used for a short time or injections into a muscle or vein?

Mild effects may include:

- Pain at the site of the injection or drip
- Red flushing of the face which does not last

- A metallic taste in the mouth
- Hyperactivity
- Tiredness
- Mood changes
- Blurred vision

Rare effect with an infusion into a vein:

- Raised blood pressure (hypertension) which usually settles by slowing down the rate of infusion

Extremely rare effects:

- Confusion
- Strange and frightening thoughts and a change in how you act
- Seizures (fits)

What are the rare side effects of joint injections?

- There is a potential risk of an infection in the joint as a direct result of the injection. With good injection techniques this is very rare.
- Red flushing of the face which does not last
- Slight swelling of the face giving it a rounded appearance
- An increase in calcium deposited around the joint injected
- Adults who also have diabetes may need an increased dose of insulin for a short time following a joint injection (this is always explained fully at the time)
- Near the site of an injection of a small joint there may be a small depression in the skin where the underlying fat is affected. This can result in a slight change of skin colour (this may be seen near a wrist or knuckle injection)
- Pain following an injection is rare, but should be helped by paracetamol

What are the possible side effects with long-term use of steroids?

If steroids need to be used for longer than a month or in slightly higher doses than generally prescribed it is likely that the immune system will be suppressed. This is called 'immunosuppression'.

Taking steroids can suppress or mask the effects of an infection. It is better to get advice at the first indication that an infection is starting than to 'wait and hope' that it will come to nothing.

Rarely, there is a possibility that a number of side effects could develop such as diabetes, thinning of the bones (osteoporosis) and weight gain which might show as a rounded face.

Remember that the consultant specialist will be very aware of these possibilities, will discuss them fully with you and will make every effort to control your RA without risking long term problems.

**Steroids and immunisation/vaccination**

Live vaccines In general, if you are on steroids, immunisation with live vaccines is only possible with a 'low dose regimen' of steroids. 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 thyroid vaccines can be used). If steroids 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 steroids. The nasal spray is a live vaccine and not suitable for adults taking steroids. 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 steroids.

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 non-live 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.

## Additional important advice

If a steroid treatment has been taken for three weeks or more it needs to be reduced gradually on the advice of the doctor in charge of the treatment, rather than stopped abruptly.

A steroid card needs to be issued at the start of treatment and carried by the patient at all times. You may also be issued with a steroid emergency card if necessary.

For those who may be in contact with chickenpox or another infectious disease, or who have become ill with an infection, it is important to speak to your doctor as soon as possible for advice.

## 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.



Updated: 16/08/2024

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