

Resource

## Steroids

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

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 are composed of cortisone and hydrocortisone and these control metabolism. Metabolism is the sum 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 therefore 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 the steroid doses to be lowered and used much more for short courses. By the 1970s, the introduction of methotrexate had a significant impact on controlling rheumatological conditions 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?

When are steroids used? Steroids are used sparingly for conditions such as RA, because of the side effects, in the smallest possible dose for the shortest time. They can be very useful at the start of treatment either as a joint injection or an occasional intra-muscular or intravenous dose.

- Steroids can be very effective in treating a 'flare up' of RA by controlling the symptoms quickly
- Steroids are used with caution and the doctor will have various considerations before prescribing the drug
- 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:

- 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:

- Hypertension (raised blood pressure) which usually settles by slowing down the rate of infusion

Extremely rare effects:

- An altered level of consciousness
- An altered state of mind
- Seizures

What are the rare side effects of joint injections?

- The potential risk of a joint infection can be a direct result of the injection (with good 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 the generally accepted 'low dose regimen' it is likely that the immune system will be suppressed. This is called 'immunosuppression'
- Be aware that 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. Be safe!
- 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 and will make every effort to control the RA without risking long term problems

## Steroids and immunisation/ vaccination

- It is recommended that protection against pneumococcal infections is important. These can lead to pneumonia, septicaemia or meningitis. Protection is best given before steroids begin but it is possible for this immunisation to be given during low dose steroid treatment
- The annual flu vaccination is also recommended
- In general, if you are on steroids, immunisation is only possible with a 'low dose regimen' of steroids. There is no evidence that immunisation will worsen RA
- For anyone who is 'immunosuppressed' (meaning with a reduced immune response) live vaccines cannot be given. These are measles, mumps, rubella (MMR), chickenpox, oral polio (NOT injectable polio), BCG, oral typhoid and yellow fever. 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

## 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.

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.



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