

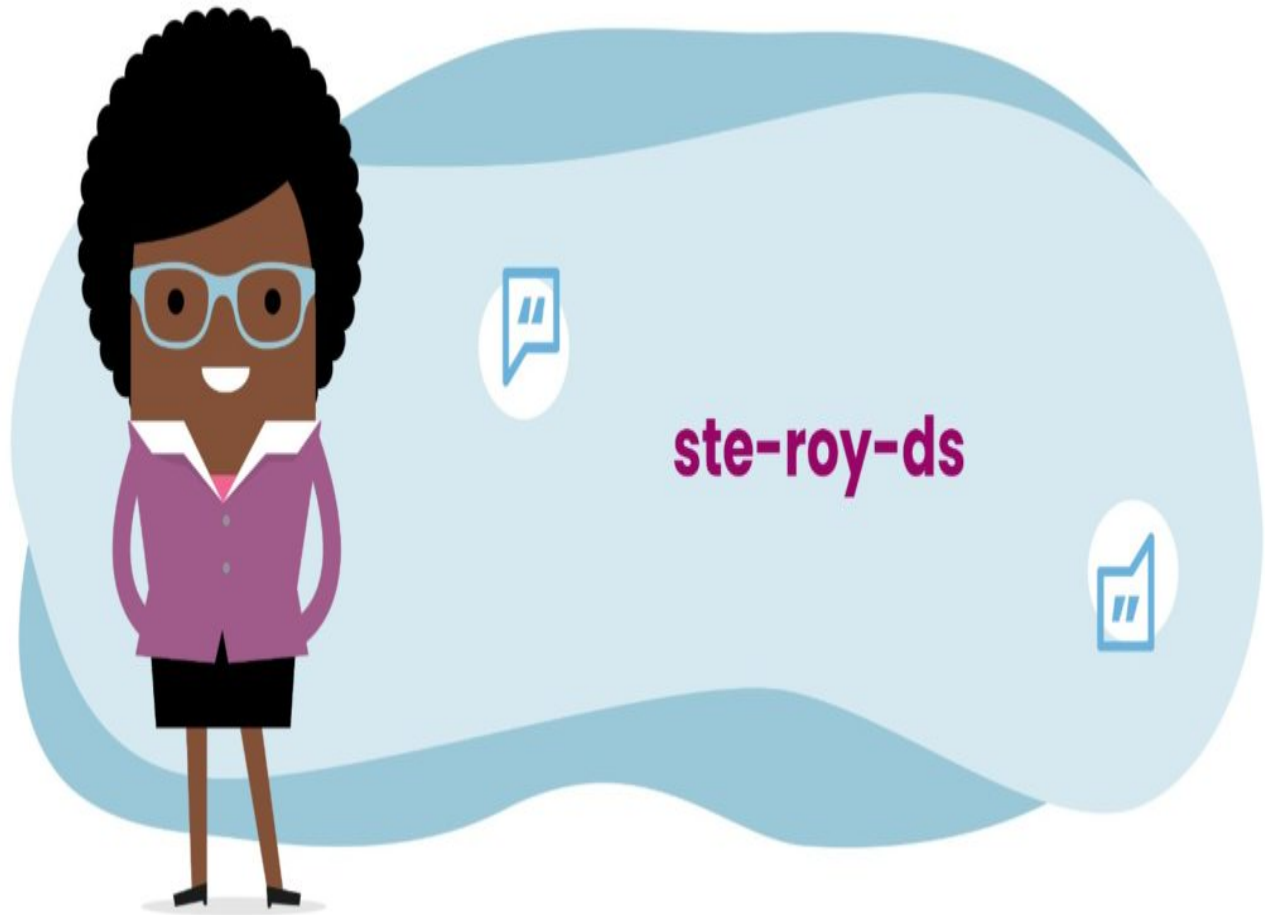


Resource

# Steroids

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

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Name of Drug

How the drug is taken

How it works

Blood tests

Tocilizumab (TCZ)	Infusion or subcutaneously		
162mg solution for infusion			
162mg prefilled syringe for subcutaneous injection	In sJIA patients weighing less than 30kg: 162mg every 2 weeks	Reduces over activity of the immune system by targeting IL6 cells	Yes- every 3 months initially
162mg Prefilled pen for subcutaneous injection	Weighing 30kg or more: 162 mg weekly		

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 help to control metabolism. Metabolism is the sum of the physical and chemical processes within the body that allows for growth, function, repair of tissues and providing energy.

Steroids used by bodybuilders are gonadocorticoids or anabolic steroids. These steroids are variations of the male sex hormone testosterone, first created by pharmaceutical companies in the 1950s.

### Background

Cortisone was used for the first time for rheumatoid arthritis in 1948. In 1950-51 cortisone and hydrocortisone were developed as tablets and joint injections. By 1960 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, whilst also allowing further reductions in steroid doses and use of short courses.

### Facts about steroids

- Steroids can be taken as tablets or injected or by infusion (a 'drip')
- In the average person (adult), all the cortisone and hydrocortisone (the steroids made naturally in the body, see 'steroids explained') 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 (called a pulse) 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. The reason for this is not known but it can lead to enthusiastic over-activity!
- An effect of steroids is that there is strong evidence that steroids are able to reduce the joint destruction which can be a consequence of JIA. However, this has to be balanced by the known side effects and the longer-term consequences

#### When are steroids used?

- Steroids are used sparingly for conditions such as JIA, 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 'pulse' dose. Click [here](#) for our article on steroid joint injections
- Steroids can be very effective to treat a 'flare-up' of JIA by controlling the symptoms quickly
- Steroids are used with caution and the doctor will have various considerations before prescribing the drug. These include immunisations already received, or still required, whether the child or young person has had chickenpox, any recent blood test results as well as knowing the full medical history

#### 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

### 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
- Children and young people 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
- 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 have to be used for longer than a month or in slightly higher doses than the generally accepted 'low dose regime' it is likely that the immune system will be lowered. 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!
- Steroids can slow down children's and young people's growth and delay puberty which is why they are prescribed at the lowest possible dose
- 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 JIA without risking long term problems

### Can you have immunisations whilst on steroids?

- Ideally, the routine immunisation of young children should have been completed before the need for steroid treatment for JIA is required
- It is advisable that a check is made (by a blood test) on whether a child or young person has immunity to chickenpox and if not, this vaccination would ideally be offered before steroids commence. This is not always possible
- It is also 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, immunisation is only possible with a 'low dose regime' of steroids. There is no evidence that immunisation will worsen JIA
- For anyone who is 'immunosuppressed' (meaning with a reduced immune response) live vaccines [measles, mumps, rubella (MMR), chickenpox, oral polio (NOT injectable polio), BCG, oral typhoid and yellow fever] cannot be given. 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

## Tips regarding steroids

- If a steroid treatment has been taken for 3 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 parent or young person 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

## Further Reading

### [Steroid injections](#)

Introduction Intra-articular steroid injections (IAS) are frequently used as first line treatment in Juvenile Idiopathic Arthritis (JIA). As such, IAS may be considered as medication to induce remission in inflamed joints, and for some patients IAS may be the only medical treatment that is required, usually those with a small number of inflamed joints (oligoarthritis). [...]

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