Oral Steroids

Steroid medicines (known as corticosteroids) are man-made versions of natural steroids.

There are several different forms of steroid medicines. The form discussed in this leaflet is the tablet form, taken by mouth, called oral steroids. Other types of steroids include creams, inhalers, drops and sprays. These are discussed in the separate leaflets called Topical Steroids (excluding Inhaled Steroids), Topical Steroids for Eczema and Inhalers for Asthma.

What oral steroids are there?

Steroids (also known as cortisone or corticosteroids) are chemicals (hormones) that occur naturally in the body. Steroids decrease inflammation, suppress the body's immune system, block DNA from being made, as well as blocking a chemical called histamine (released during an allergic reaction). Steroid medicines are man-made but are similar to these natural hormones.

Steroids used to treat disease are called corticosteroids. They are different to the anabolic steroids which some athletes and bodybuilders use. Anabolic steroids have very different effects. Steroids are available as tablets, soluble tablets, and liquids (solutions), creams, ointments, inhalers and injections.

Types of oral steroids

The most commonly used group is glucocorticoids. This group includes steroids such as:

- Prednisolone
- Betamethasone
- Dexamethasone
- Hydrocortisone
- Methylprednisolone
- Deflazacort

The other group is called mineralocorticoids. This is the type usually used for replacing steroids the body isn't producing itself, and the common one used is fludrocortisone.

They usually come as tablets, but some also come as dispersible tablets or solutions.

What are oral steroids usually prescribed for?

Oral steroids are used to treat a large number of conditions. Some examples include:

- Inflammatory bowel diseases (for example, Crohn's disease, ulcerative colitis).
- Autoimmune diseases (for example, systemic lupus erythematosus (SLE), autoimmune hepatitis).
- Joint and muscle diseases (for example, rheumatoid arthritis, polymyalgia rheumatica).
- Allergies.
- Asthma.
- Chronic obstructive pulmonary disease (COPD).
- Croup.

They are also used to treat some cancers. In addition they can be prescribed as replacement treatment for people whose own natural steroids are lacking (for example, in Addison's disease and congenital adrenal hyperplasia).

What is the dose?

This will vary with individual steroids and with the condition for which they are prescribed. For short courses, usually a relatively high dose is prescribed each day, for a few days or a week or so, and then stopped abruptly at the end of the course. If taken for more than three weeks, the dose will need to be tailed off gradually.

For those who have to take steroids for a longer time, a common treatment plan is to start with a high dose to control symptoms. Often the dose is then slowly reduced to a lower daily dose that keeps symptoms away. The length of treatment can vary, depending on the disease. Sometimes the steroid treatment is gradually stopped if the condition improves. However, steroids are needed for life for some conditions, as symptoms return if the steroids are stopped.
When do I take it?
Your pharmacist will give you exact instructions. It will depend on which steroid you take, and what it is for. Mostly steroids are taken first thing in the morning, with food.

Do steroids cause any side-effects?
A short course of steroids usually causes no side-effects. For example, a 1- to 2-week course is often prescribed to ease a severe attack of asthma. This is usually taken without any problems.

Side-effects are more likely to occur if you take a long course of steroids (more than 2-3 months), or if you take short courses repeatedly.

The higher the dose, the greater the risk of side-effects. This is why the lowest possible dose which controls symptoms is aimed for if you need steroids long-term. Some diseases need a higher dose than others to control symptoms. Even for the same disease, the dose needed often varies from person to person.

What are the possible side-effects of oral steroids?
For many diseases, the benefits of taking steroids usually outweigh the side-effects. However, side-effects can sometimes be troublesome. You should read the information leaflet that comes with your medicine packet for a full list of possible side-effects. The main possible side-effects include the following:

- *'Thinning' of the bones (osteoporosis).* However, there are some medicines that can help to protect against this if the risk is high. For example, you can take a medicine called a bisphosphonate to help prevent bone loss.
- *Weight gain.* You may also develop puffiness around the face.
- *Increased chance of infections* as steroids may suppress the immune system. In particular, you are at risk of having a severe form of chickenpox if you have not had chickenpox in the past (and so are not immune). Most people have had chickenpox as a child and are immune to it. If you are taking corticosteroids and have not had chickenpox in the past:
  - Keep away from people with chickenpox or shingles.
  - Tell a doctor if you come into contact with people with these conditions.

  Also, *tuberculosis (TB)* may flare up again if you had it in the past, even many years ago.
- *High blood sugar (hyperglycaemia)* which may mean extra treatment if you have diabetes. Steroids may occasionally cause diabetes to develop. If you take long-term steroids, your doctor may arrange a yearly blood sugar test to check for diabetes - in particular, if you have a family history of diabetes.
- *Skin problems* such as poor healing after injuries, thinning skin, and easy bruising. Stretchmarks sometimes develop.
- *Muscle weakness.* This improves after the steroid is stopped, and physiotherapy may help treat this.
- *Mood and behavioural changes.* Some people actually feel better in themselves when they take steroids. However, steroids may aggravate depression and other mental health problems, and may occasionally cause mental health problems. If this side-effect occurs, it tends to happen within a few weeks of starting treatment and is more likely with higher doses. Some people even become confused, and irritable; they may develop delusion, and suicidal thoughts. These mental health effects can also occur when steroid treatment is being withdrawn. Seek medical advice if worrying mood or behavioural changes occur.
  - An increased risk of developing cataracts.
  - An increased risk of duodenal ulcers and stomach ulcers. Tell your doctor if you develop indigestion or tummy (abdominal) pains.

The above are only the main possible side-effects which may affect some people who take steroids. There is often a balance between the risk of side-effects against the symptoms and damage that may result from some diseases if they are not treated. Some of the less common side-effects are not listed above but will be included on the leaflet that comes with your medicine.

Clinical Editor’s comment (September 2017)
Dr Hayley Willacy draws your attention to the recent advice from the MHRA that patients taking local or systemic corticosteroids should be warned to report any blurred vision or other visual disturbances in view of the rare risk of central serous chorioretinopathy (CSCR). Blurred vision is an established side-effect of steroid treatment and may be a symptom of cataract and glaucoma. In rare cases, however, it could indicate the presence of CSCR. If you have received corticosteroid treatment and have visual symptoms, your healthcare professional should consider referral to an eye specialist for evaluation of possible causes.

Who cannot take oral corticosteroids?
There are very few people who cannot take oral corticosteroids. Only people who have serious infections (and are not taking treatment for the infection) should not take oral steroids. This is because steroids suppress your immune system.

Steroids are used with caution in people who:
• Have a liver which is not working well.
• Have a history of mental health problems.
• Have open wounds which are healing. (Steroids can interfere with wound healing.)
• Have a history of stomach ulcers or duodenal ulcers.
• Have 'thinning' of the bones (osteoporosis).
• Have cataracts.
• Have certain heart conditions, such as a recent heart attack, heart failure, or high blood pressure (hypertension).
• Have diabetes.
• Have epilepsy.
• Are pregnant. (If you take steroids in the first 12 weeks of pregnancy there is possibly a small extra risk of your baby being born with a cleft lip and/or palate. A long course of steroids can affect your baby's growth.)
• Are breast-feeding. (Ideally do not breast-feed within four hours of taking steroid medicines. The baby may need monitoring if you are taking high-dose steroids and breast-feeding.)

How do I stop oral steroids?

If you have taken a short course of 1-2 weeks of an oral steroid, you can simply stop taking the tablets at the end of the course.

When not to stop taking oral steroids suddenly

Do not stop taking oral steroids suddenly if you have been taking them for more than three weeks. It probably does no harm to forget the odd dose. However, you may have serious withdrawal effects once your body is used to the steroids. These may develop within a few days if you stop oral steroids suddenly. Any change in dose should be supervised by a doctor. Any reductions in dose are done slowly, over a number of weeks.

Why is it necessary to reduce the dose gradually before stopping oral steroids?

Your body normally makes steroid chemicals by itself which are necessary to be healthy. When you take oral steroids for a few weeks or more, your body may reduce or stop making its own steroid chemicals. If you then stop taking oral steroids suddenly, your body does not have any steroids. This can cause various withdrawal symptoms until your body resumes making natural steroids over a few weeks. The withdrawal symptoms can be serious, even life-threatening and include:

• Weakness.
• Tiredness.
• Feeling sick (nausea).
• Being sick (vomiting).
• Diarrhoea.
• Tummy (abdominal) pain.
• Low blood sugar (hypoglycaemia).
• Low blood pressure (hypotension) which can cause dizziness, fainting or collapse.

If the dose is reduced gradually, the body gradually resumes its natural production of steroids and the withdrawal symptoms do not occur.

Some other important points about oral steroids

• Do not take anti-inflammatory painkillers (such as ibuprofen) whilst taking steroids (unless advised by a doctor). The two together increase the risk of a stomach or duodenal ulcer developing.
• Most people who take regular steroids carry a steroid card which should be provided by the person who prescribes or supplies your medicine, and/or they wear a medical emergency identification bracelet or equivalent. This gives details of your dose, your condition, etc, in case of emergencies. For example, if you were knocked unconscious in an accident, it is important that the doctors know that you take steroids and need to take them regularly.
• The dose of steroid may need to be increased for a short time if you are ill with other conditions. For example, if you have a serious infection, or have an operation. This is because you need more steroids during physical stress.
• See a doctor if you have any concerns about your steroid treatment.

Can I take other medicines when I am taking steroids?

Potentially, many other medicines can "interact" with steroids. This means the steroid could affect how they work, either resulting in the other medicine being ineffective, or having more side effects than usual. Or they can interact the other way round, with the other medicine affecting the corticosteroid. Doses may have to be adjusted accordingly in order for both medicines to be taken together.

Examples of medicines which can interact with steroids include:

• Warfarin (a blood-thinning medicine to prevent blood clots).
• Non-steroidal anti-inflammatory drugs (NSAIDs), such as ibuprofen, diclofenac and naproxen. Both NSAIDs and steroids can cause gut ulcers as a side-effect, so when taken together, the risk is particularly high. A medicine such as a proton pump inhibitor (PPI) may need to be taken in addition, to reduce this risk.
• Live vaccines. Most vaccines do not contain the germ they are protecting against, but a few do. The measles, mumps and rubella (MMR) vaccine, rotavirus, yellow fever and tuberculosis (TB). Live vaccines are not usually given for three months after high-dose steroid treatment.
• Medicines for epilepsy, specifically carbamazepine, phenytoin and phenobarbital.
• Medicines for diabetes. (After starting steroids, blood sugars should be tested more frequently, and then the doses of medicines for diabetes can be tweaked if need be.)
• Certain inhalers. If high doses of certain inhalers, such as salbutamol, are used alongside steroids, there can occasionally be complications.
• Digoxin.
• ‘Water tablets’ (diuretics).
• Treatments for HIV and AIDS.

What should I do if I am taking one of the medicines which interact with steroids?
As long as your doctor knows you are taking this, he or she can advise accordingly. Usually you can take both medicines, but you may need to be monitored for the effects. For example, you may need blood tests to check the combination is not causing any problems. Doses can then be adjusted as necessary.

Can I take steroids if I am pregnant or breast-feeding?
Your doctor will help you weigh up the pros and cons but, generally speaking, steroids can usually be used safely in pregnant or breast-feeding women. The lowest dose possible for the shortest possible amount of time would be used. It is thought that when used in early pregnancy, taking steroids may slightly increase the risk of your baby having a cleft lip and/or palate.

How to use the Yellow Card Scheme
If you think you have had a side-effect to one of your medicines you can report this on the Yellow Card Scheme. You can do this online at www.mhra.gov.uk/yellowcard.

The Yellow Card Scheme is used to make pharmacists, doctors and nurses aware of any new side-effects that medicines or any other healthcare products may have caused. If you wish to report a side-effect, you will need to provide basic information about:

• The side-effect.
• The name of the medicine which you think caused it.
• The person who had the side-effect.
• Your contact details as the reporter of the side-effect.

It is helpful if you have your medication - and/or the leaflet that came with it - with you while you fill out the report.

Further reading & references
• British National Formulary (BNF); NICE Evidence Services (UK access only)
• Corticosteroids - oral; NICE CKS, August 2015 (UK access only)

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