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## **Oral steroids**

Steroid medicines (sometimes referred to as corticosteroids) are manmade (synthetic) versions of steroid hormones produced by the body.

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, ointments, injections, inhalers and sprays. These are discussed in the separate leaflets called Topical steroids (excluding inhaled steroids), Topical steroids for eczema and Asthma inhalers.

### What is an oral steroid?

Steroids are a type of hormone produced by the body. They have many functions, including reducing inflammation and suppressing the body's immune system.

Steroid medicines are man-made but are similar to these natural hormones. Oral steroids are steroid medicines taken by the mouth.

Steroid medicines used to treat disease are also called corticosteroids.

# Types of oral steroids

The most commonly used corticosteroid medicine type is glucocorticoids. These include steroids such as:

- Prednisolone.
- Betamethasone.
- Dexamethasone.

- Hydrocortisone.
- Methylprednisolone.
- Deflazacort.

The other group are called mineralocorticoids. Mineralocorticoids are usually used for replacing steroids the body isn't producing itself. The one commonly used is fludrocortisone.

## What are oral steroids used for?

Oral steroids are used to treat a large number of conditions, usually by reducing inflammation or the effect of the immune system. Some examples include:

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

Oral steroids are also used to treat the effects of some cancers or to treat conditions in which a person is not making enough of their own natural steroids (for example, in Addison's disease, congenital adrenal hyperplasia and hypopituitarism).

## What is the dose for oral steroids?

This will vary depending on the steroid used and the condition for which they are prescribed. For short courses, usually a relatively high dose is prescribed each day for up to a week, and then stopped abruptly at the end of the course. If oral steroids are taken for longer than this it is important to reduce the dose gradually before stopping.

For those who have to take oral steroids for a longer time, a common treatment plan is to start with a moderately high dose to control symptoms. The dose is then reduced to the lowest daily dose that keeps symptoms away.

## How long are oral steroids used?

The length of treatment can vary, depending on the disease. Sometimes the steroid treatment is gradually stopped if the condition improves, and restarted if it worsens. In some conditions steroids are needed lifelong.

Oral steroids can suppress your body from making its own- see below. If you are taking them for a short period of time, your body can recover quite well.

However, if you have taken high dose steroids (40mg for more than 1 week) or have been on them for longer than 3 weeks, you must **never stop** the steroid suddenly as this could cause a crisis condition leading to coma and possibly death.

Your doctor will discuss and guide you on how to stop the steroids over a certain period of time.

## When should I take oral steroids?

It will depend on which steroid you take, and what it is for. Usually steroids are taken first thing in the morning, with food. The pharmacist will be able to advise further.

## Side-effects of oral steroids

A short course of oral steroids usually causes no side-effects. Side-effects are more likely to occur with a long course of oral steroids (more than 2-3 months), or if short courses are taken repeatedly.

The main possible side-effects include the following:

### 'Thinning' of the bones (osteoporosis)

If steroids are going to be taken long-term then it is often advised to take medications or supplements to strengthen the bones and help prevent osteoporosis.

#### Weight gain

Weight gain is common on high dose or long-term oral steroids. As well as gaining weight, some people develop puffiness around the face and at the base of the neck.

#### Increased chance of infections

On long-term or high-dose oral steroids, there is a higher chance of developing an infection, or an infection being more serious, because steroids may suppress the immune system.

In particular, people who have not had chickenpox or measles in the past (and so are not immune) may be advised to avoid people with chickenpox, shingles or measles.

Infections which may remain in the body, such as tuberculosis (TB), or herpes, may recur.

## Increase in blood pressure

There may be an increase in blood pressure, so it is important for blood pressure to be checked regularly, at least once a year. It can be treated if it becomes high.

### High blood sugar (hyperglycaemia)

Steroids can cause raised blood sugar, leading some people to develop diabetes. People who already have diabetes may need more medication to control their blood sugar. People on long-term oral steroids are usually advised to have a yearly blood test to check for diabetes

### Skin problems

Long-term oral steroids often cause skin problems such as slower healing after injuries, thinning skin, and easy bruising. Stretchmarks sometimes develop.

#### Muscle weakness

Muscle weakness can be noticeable on long-term oral steroids but this improves after the steroid is stopped.

#### Mood and behavioural changes

Some people feel better in themselves when they take steroids, noticing increased energy. However, steroids may aggravate depression and other serious 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. Occasionally people even become confused; they may develop delusional and suicidal thoughts.

These mental health effects can also occur when steroid treatment is being withdrawn. Medical advice should be sought if worrying mood or behavioural changes occur.

#### An increased risk of developing cataracts

It is important to have regular eye tests at the optician. An optician's advice should be sought if any sight problems, such as blurred vision, develop. There is an increased risk of developing cataracts.

#### An increased risk of duodenal ulcers and stomach ulcers

As there is an increased risk of duodenal ulcers and stomach ulcers, medical advice should be sought if indigestion, acid reflux or tummy (abdominal) pains occur. For people at risk of these conditions, medication may be prescribed to reduce the symptoms and the risk of developing an ulcer.

**NOTE:** 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 of oral steroids against the effects of the diseases if not treated. Less common side-effects are not listed above but will be included on the leaflet that comes with the medicine.

## Who cannot take oral steroids?

There are very few people who cannot take oral steroids.

Oral steroids are used with caution in people who:

- Have liver problems.
- Have a history of severe mental health problems.
- 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.
- Have systemic sclerosis.
- Are pregnant.
- Are breastfeeding.

It is important to tell a doctor or pharmacist if you are pregnant or may be pregnant, or are breastfeeding.

# How do I stop oral steroids?

With a short course of an oral steroid (a week or less), it is usually advised to abruptly stop taking the tablets at the end of the course.

With a longer course, there will be a gradual reduction in dose before stopping.

## When not to stop taking oral steroids suddenly

Do not stop taking oral steroids suddenly if you have been taking a dose of 40mg, or higher than this, for more than 1 week or taking lower doses for 3 weeks or more.

It probably does no harm to forget the odd dose. However, there may be serious withdrawal effects once the body is used to the steroids. These may develop within a few days if stopping oral steroids suddenly. Any change in dose should be supervised by a doctor.

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

The body makes steroid hormones by itself and these are necessary for the body to function. When taking oral steroids for a few weeks or more, the body reduces or stops making its own steroid hormones.

If the oral steroids are stopped suddenly, the body does not have the hormones it needs to function. This can cause withdrawal symptoms which can be serious and life-threatening. The symptoms can include:

- Weakness.
- Tiredness.
- Feeling sick (nausea).
- Being sick (vomiting).
- Loss of appetite.
- Diarrhoea.
- Tummy (abdominal) pain.
- Low blood sugar (hypoglycaemia).
- Low blood pressure (hypotension) which can cause dizziness, fainting or collapse.
- Developing patches of darker coloured skin.

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

## 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 further 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 the dose and medical condition in case of emergencies.

• The dose of steroid may need to be increased for a short time if ill with specific conditions, for example, during a serious infection or when undergoing surgery. This is because additional physical stress is placed on the body by these events and therefore higher steroid levels are needed - normally the body would naturally produce these but taking oral steroids switches off the body's normal supply.

# Can I take other medicines when I am taking steroids?

Many medicines can affect or be affected by oral 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. They can also interact the other way around, with the other medicine affecting the corticosteroid.

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 to reduce this risk.
- Live vaccines. Most vaccines do not contain the germ they are
  protecting against, but a few do. These include the measles, mumps
  and rubella (MMR) vaccine, rotavirus, yellow fever and tuberculosis
  (TB). People taking steroid medication and people who are living with
  those taking steroid medication should avoid live vaccines unless
  specifically advised otherwise.
- 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 altered if required
- Digoxin.
- 'Water tablets' (diuretics).

Treatments for HIV and AIDS.

# What should I do if I am taking one of the medicines which interact with oral steroids?

As long as the doctor knows this is being taken, they can advise accordingly.

# Can I take oral steroids if I am pregnant or breastfeeding?

Usually steroids can safely be used safely in pregnant or breastfeeding women. The lowest dose possible for the shortest possible amount of time would be used. Some, but not all, studies looking at steroid use in the first 12 weeks of pregnancy, showed they may slightly increase the risk of the baby having a cleft lip and/or palate and also might increase the risk of a preterm birth.

One particular oral steroid (dexamethasone) is often used towards the end of pregnancy if there is a risk of a pre-term birth as it can help the baby's lungs to mature more quickly and improve the baby's chance of survival.

# **Further reading**

- Corticosteroids oral; NICE CKS, January 2024 (UK access only)
- BUMPS: oral and injected (systemic) corticosteroids. December 2016
- Society for Endocrinology: Adrenal Crisis Information
- Society of Endocrinology: New NHS Steroid Emergency Card. Autumn 2020

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