

Patient information

Information for People at Risk of Steroid Induced Diabetes

Diabetes and Endocrinology

Steroid Induced Diabetes

This information sheet will provide information on the following:

- What are steroids?
- Managing raised blood glucose levels.
- Diabetes treatments.
- Stopping steroid treatment.
- After care.

What are steroids?

Corticosteroids (also known as steroids) are hormones that occur naturally in the body and can be manufactured for a range of medicinal uses, such as reducing inflammation. They are available as tablets, injections, creams, ointments and inhalers, and this leaflet is for people using steroid tablets.

There are a number of different types of steroids and they vary in how long a single dose lasts (from approximately eight hours to over two days). Depending on the type of steroid you have been prescribed, you may need to take a tablet daily, several times a day or once weekly. You may have been prescribed steroids as a short course (as short as five days), a course that gradually reduces over time or a continuous course for many years.

How do steroids affect blood glucose?

Steroid treatment increases the amount of glucose produced by the liver. Steroids can also make your body produce less insulin than usual, insulin is the hormone that controls glucose levels in the blood. If your body is unable to make enough insulin to deal with the increased production of glucose by the liver, your blood glucose levels will rise above normal.

Blood glucose levels are normally between 4.0 -7.0 mmol/L before meals (mmol/L is how blood glucose levels are measured).

Managing raised blood glucose levels

If the doctors believe your blood glucose levels are going to rise after starting steroids they will ask you to start testing your blood glucose levels at home. You will be provided with a blood glucose kit and training on how to use it. The training is normally given by the team who started your steroids or your Practice Nurse at your GP surgery.

You will be asked to test your blood glucose levels at home and contact the team who started the steroids if your blood glucose levels are regularly above 12.0 mmol/L.

Monitoring should occur at least once daily – preferably prior to lunch or evening meal. If the initial blood glucose is less than 12.0 mmol/L continue to test once prior to lunch or evening meal.

If your blood glucose is more than 12.0 mmol/L, then the frequency of testing should be increased to four times daily (before meals and before bed).

If your glucose is found to be consistently more than 12.0 mmol/L i.e. on two occasions during 24 hours, then you may need to start treatment to bring the blood glucose levels to below 12.0 mmol/L. This treatment may include tablets usually used to treat diabetes or insulin injections, but this will be discussed with you before any treatment is started. You will be referred to the diabetes team for this.

While taking steroids we will aim for blood glucose readings of 6.0 to 10.0 mmol/L

Depending on the type and timing of the steroid treatment, you may see a pattern of high blood glucose readings during the day that reverts to single figures the next morning.

The symptoms of raised blood glucose levels include the following:

- Tiredness or fatigue.
- Thirst or dry mouth.
- Frequent need to pass large volumes of urine.
- Genital thrush.
- Blurred vision.

If you experience these symptoms or have high blood glucose readings, or both, contact your family doctor (GP) promptly for advice.

A doctor or nurse may advise you to:

- Drink plenty of sugar-free fluids to prevent dehydration.
- Cut down on sugary and starchy foods and drinks, as these will make the blood glucose levels higher.
- Rest.

If the blood glucose level is higher than 12.0 mmol/L on more than two occasions in a 24-hour period, your doctor or nurse may need to start or increase diabetes treatments.

Diabetes treatments

Steroid-induced diabetes is usually treated with gliclazide tablets or insulin injections. Both work to lower blood glucose levels.

Gliclazide tablets:

Depending on your steroid treatment, the starting dose is usually 40 mg (half a tablet) taken each morning with breakfast. This may need to be increased to three tablets each morning.

You may also need one tablet with your evening meal (four tablets daily is the maximum dose).

Insulin injections:

If gliclazide tablets do not control the blood glucose levels, your doctor or nurse will suggest injecting insulin. There are many types of insulin, and, if you require insulin, you are likely to need a daily injection of a slow-acting insulin with breakfast, at least to start with. A nurse will show you how to inject insulin and adjust the dose, and will support you through this process.

Please contact your GP or diabetes team for advice if any alteration is made to your steroid dose.

If you are injecting insulin and you are a driver, you should contact the DVLA and your insurance company, even if the insulin treatment is temporary.

Stopping steroid treatment

As your steroid treatment is reduced or stopped, your blood glucose levels will fall and you may be at risk of hypoglycaemia (low blood glucose), commonly called “hypos”.

The symptoms of hypoglycaemia include:

- Sweating heavily.
- Feeling anxious.
- Trembling and shaking.
- Tingling of the lips.
- Hunger.
- Going pale.
- Palpitations.

Treating a “hypo”

If you are able to test your blood glucose, a reading lower than 4.0 mmol/L will confirm you are having a “hypo”.

If you recognise that you are having a “hypo”, treat it immediately with something that will raise your blood glucose quickly, such as 200 mL of Lucozade or four large jelly babies. If you do not feel better after ten minutes, repeat this treatment.

Once you feel better and your blood glucose has risen to 4.0 mmol/L or higher, have a small starchy snack such as a banana or a sandwich.

Stopping the diabetes treatment

You may need to reduce or stop your gliclazide tablets or insulin if you are having regular “hypos”, and your doctor or nurse will advise you how to do this.

After care

Continue to monitor your blood glucose until your blood glucose levels return to normal (between 4.0 and 7.0 mmol/L). However, if your readings are higher than 12.0 mmol/L, test more often and contact your doctor or nurse.

Some people will require intermittent steroid treatment and will need insulin injections each time they have steroids. In this instance, keep unopened insulin in the fridge and check the expiry date before using.

Once steroid therapy is completed, discard any partially used or open insulin cartridges or pens if no longer needed.

Further Information

The Diabetes Centre

Tel: 0151 706 2829

Text phone number: 18001 0151 706 2829

NHS 111 Service

Tel: 111

Diabetes UK

Online: <http://www.diabetes.org.uk>

North West Diabetes UK

Tel: 01925 653281

Fax: 01925 653288

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