

steroids & diabetes

Your body produces steroid hormones (corticosteroids) naturally in the outer layer (cortex) of your adrenal gland above the kidneys to help the body fight stress, injury and disease. Corticosteroid (steroid) medications have a similar effect to the steroid hormones naturally occurring in the body. They are useful in reducing pain and inflammation and can be used to treat many conditions such as asthma, arthritis and dermatitis. Corticosteroids can also be used to prevent nausea during medical procedures such as chemotherapy. These steroids are different to the anabolic steroids often used to build muscle mass, for example by weight lifters.

What are some common names used for corticosteroids?

Betamethasone acetate	Celestone chronodose (injection)
Cortisone	Cortate (tablet)
Methylprednisolone	Depo-Medrol or Depo-nisalone, Solu-Medrol (injection)
Hydrocortisone	Solu-Cortef (injection)
Fludrocortisone	Florinef (tablet)
Hydrocortisone	Hysone (tablet)
Triamcinolone	Kenacort-A (injection)
Prednisolone	Panafcort or Panafcortelone, Predsone or Predsolone, Solone (tablet) Predmix or Redipred (oral liquid)
Dexamethasone	Dexmethsone (tablet)

Steroids that are taken orally, with an inhaler or given by injection are known as systemic steroids while those that are applied directly onto the skin with a lotion or cream are called topical steroids.

Systemic steroids vary in strength and treatment and may be used in the short term for a few days or weeks, or for longer periods such as a few months.

Certain forms of steroids can affect blood glucose levels in people with and without diabetes. Often people who have diabetes and are taking large doses of steroids prescribed by their doctor for a medical condition need to temporarily start or increase diabetes tablets or insulin injections.



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What effect can steroids have on blood glucose levels?

If you have type 1 or type 2 diabetes and are taking steroids, you may find it harder to keep your blood glucose levels in the recommended range. Steroids raise blood glucose levels in three ways:

1. They block the action of your insulin which causes insulin resistance.
2. They make glucose less able to move out of the blood stream to be taken up by the muscles.
3. They cause the liver to start releasing extra glucose into the blood stream.

Inhaled steroids used for asthma have not been found to affect blood glucose levels. However your blood glucose levels can start to rise within a few days of starting oral steroids and will change depending on the time, dose and type of steroid you are taking. A steroid injection into the joint or muscle may cause blood glucose levels to rise soon after the injection and its effects may last from 3 to 10 days. If your blood glucose levels do start to rise, you should see your doctor for advice on how to adjust your insulin or diabetes tablets.

Why is it important to reduce high blood glucose levels?

High blood glucose levels can make you feel unwell, tired or lethargic, thirsty and increase urination. Managing blood glucose levels will improve these symptoms plus reduce your risk of:

- Infections such as urinary tract infections and thrush.
- Emergencies such as Diabetic Ketoacidosis (DKA) in type 1 diabetes and Hyperglycaemic Hyperosmolar State (HHS) in type 2 diabetes.
- Long term complications such as diseases of the eyes, feet, heart, kidneys and nerves.

Does steroid therapy have any other side effects?

Your doctor will adjust your dose of steroid medication to minimise the risk of side effects. At first a high dose may be needed which will be slowly reduced and phased out gradually if possible. If you have been taking oral steroid medication it is important NOT to stop suddenly. Your doctor will provide you with instruction on how to stop your medication slowly.

Make sure you understand how to take oral steroid medication safely. You should never stop taking your steroid medication without your doctor's advice. Your doctor has prescribed steroid medication with the belief that it is the most appropriate form of treatment for you. Therefore, the benefits will usually outweigh the potential side effects.

Side effects that relate to the management of your diabetes can be:

- High blood glucose levels
- Increased hunger or indigestion
- Fluid retention, increased weight or puffiness around the face
- Increased risk of infections such as urinary tract infections.

To find out about other possible side effects of steroids, talk to your doctor or pharmacist and ask them for the consumer medicine information sheet for your prescribed medicine.

How to manage your diabetes and steroid therapy

- Tell the doctor prescribing the steroids that you have diabetes and whether you are on diabetes tablets or insulin.
- Increase the number of times you test your blood glucose levels and record all results to identify patterns. Discuss the results with your doctor or credentialed diabetes educator.
- Do regular physical activity (refer to the *Physical activity and type 2 diabetes* information sheet).
- Follow a healthy eating plan (see a dietitian).
- See a dietitian to discuss carbohydrate intake and good food choices. Calcium and vitamin D supplements may be recommended if your steroid treatment is long term.
- Consult a diabetes educator for ongoing education and support.
- Ask your doctor about a Home Medicines Review, a government funded service to people in the community living at home which assists in the quality use of medicines. In collaboration with the GP, a pharmacist reviews the consumer's medication regimen in a home visit, providing education to the person about their condition/s and the appropriate use of all their medication, including prescription and non-prescription items.

Points to remember when starting steroid therapy

- **Never** stop taking your steroid medication abruptly. Steroids should only be reduced by your doctor – slowly and gradually.
- The effects of oral steroid medication usually subside within 48 hours of stopping the medication.
- The effects of steroid injections can last anywhere between 3 and 10 days.
- Steroids can cause raised blood glucose levels or diabetes in people who have not previously been diagnosed. Therefore they should be closely monitored by your doctor.
- If you are on long term steroid treatment, some identification such as a MedicAlert bracelet may be useful.
- Check your blood glucose levels more often than usual as diabetes therapy adjustments may be needed.
- Remember, if you have any concerns do not hesitate to ask your doctor.

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Useful contacts

Health professionals who can help you to manage your diabetes and steroid therapy include your doctor and/or endocrinologist, diabetes educator, dietitian and/or pharmacist. Listed below are other useful contacts:

- Your State or Territory Diabetes Organisation on 1300 136 588 or go to their website as listed below.
- Australian Diabetes Educators Association at www.adea.com.au for general information or referral to relevant health professionals.
- Dietitians Association of Australia on 1800 812 942 for advice about a healthy eating plan and other dietary requirements or go to www.daa.asn.au
- NPS: Medicines Line on 1300 633 424 for independent information on prescription, over-the-counter, herbal and natural medicines by a qualified pharmacist or go to their website www.nps.org.au.

Would you like to join Australia's leading diabetes organisation?

- > Dietary services
- > Free magazines
- > Children's services
- > Educational literature
- > Product discounts
- > Support groups

For more information phone **1300 136 588** or visit your State/Territory Organisation's website:

ACT	www.diabetes-act.com.au	NSW	www.australiandiabetescouncil.com
NT	www.healthylivingnt.org.au	QLD	www.diabetesqueensland.org.au
SA	www.diabetessa.com.au	TAS	www.diabetestas.com.au
VIC	www.diabetesvic.org.au	WA	www.diabeteswa.com.au

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