TYPE 1 DIABETES
WHAT IS IT AND HOW DO I MANAGE IT?

This PIL educates patients about type 1 diabetes and the importance of good glycaemic control and a healthy lifestyle, in order to minimise long-term complications.

What is type 1 diabetes?

If you have type 1 diabetes, your body can't produce enough insulin, which plays an important role in making the energy you need to work, play and just live your life. Insulin is usually made by the pancreas, but the cells that produce it can become damaged and stop making it, or only make very little, so your blood glucose levels get too high.

Glucose is a type of sugar which travels round your body in your blood stream. It's made by your liver and also when the sugary and starchy foods you eat (e.g. bread, rice, potatoes and cereals) are broken down in the stomach.

Insulin acts like a key that lets glucose from your blood into your cells, where it's used to give them energy. Without insulin, the glucose can't move into your cells so it builds up in your bloodstream instead.

Imagine the waiting area outside a movie theatre when more and more people arrive but the doors never open! Without insulin as the key to open those doors, high blood glucose levels will cause various problems in your body. That's why you'll need to get your insulin from regular injections instead.

What are the signs and symptoms of type 1 diabetes?

Symptoms of type 1 diabetes will probably appear quite suddenly, over just a few days or weeks:

- **Feeling unusually thirsty**: regularly getting up to drink during the night; drinking a full glass of liquid and still being very thirsty; having only short gaps between bouts of thirst
- **Needing to pee a lot more than usual:** getting up in the night when you haven't previously done so; a child starting to wet the bed
- **Feeling very tired** and weak and/or a usually active person finding physical activity difficult
- **Losing weight** without trying
- **Feeling hungry all the time**
- **Itchiness around the penis or vagina**
- **Blurring of vision** (caused by dryness of the eyes)
- **Leg cramps**
- **Skin infections and slow healing of cuts and grazes**
- **Mood swings**
- **Headaches**

What causes type 1 diabetes?

In most cases, the body's immune system attacks the cells in the pancreas that make insulin. We don't fully understand why, but it might be triggered by viruses, having diabetes in your family line (genes) or a combination of factors. We do know, however, that diet and lifestyle habits don't cause type 1 diabetes.

How is type 1 diabetes treated?

Type 1 diabetes can't be cured, but it can be treated very successfully. Keeping your blood glucose levels as normal as possible will help control your symptoms and help prevent you from developing health problems later.

Check blood glucose levels: Usually blood glucose is checked using a finger-prick test – there's a useful video on the Diabetes UK website. Sometimes it's possible to use a flash glucose monitor, a small sensor you wear under your skin. It comes with a reader (or phone app) that you swipe over your skin to read your levels.

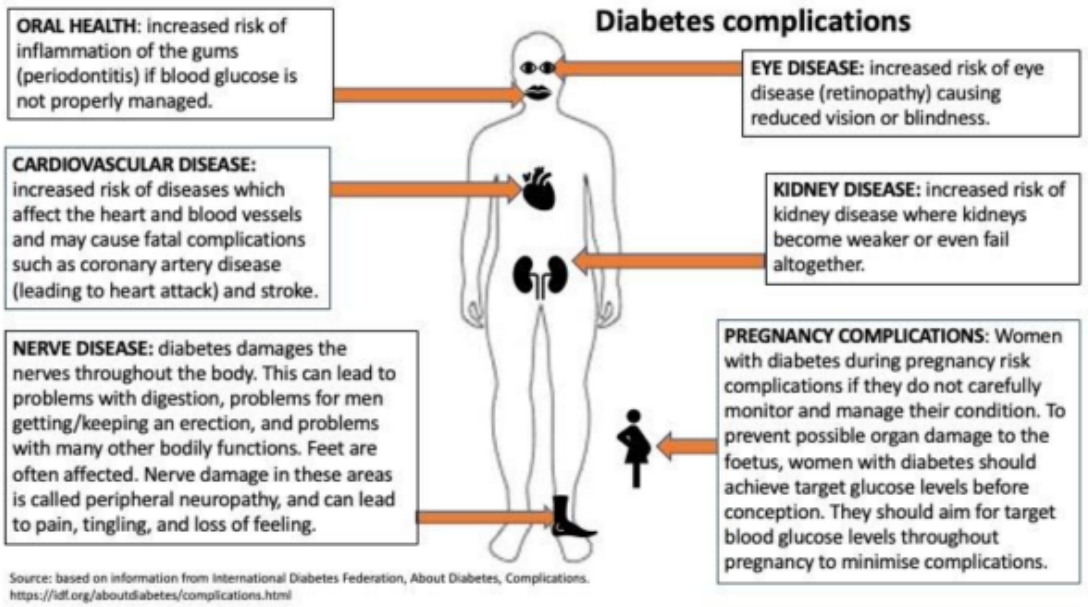
Inject insulin: You'll need regular injections of insulin via a pen, syringe or pump to keep your blood glucose levels normal and you'll learn how to count the carbohydrates you eat to match them to the amount of insulin you need.

Because most people need a combination of different insulin types to gain the best control of their blood glucose levels, your healthcare practitioner will discuss the options most suitable for you. The devices made specially for people with diabetes make giving injections easier and you'll be taught how to inject insulin into your upper thighs, abdomen or buttocks. Remember to change the insulin needle after each dose and avoid always injecting in the same spot.

Why is it important to control blood glucose levels?

Hyperglycaemia (hyper): Blood glucose can get too high if you miss a dose of medication, have eaten more carbohydrate than your body can cope with, are stressed or unwell, or have over-treated a bout of hypoglycaemia	**Symptoms:** Blurred vision, thirst, frequent urination, tiredness, etc.	**Treatment:** Treat promptly because hyperglycaemia can lead to diabetic ketoacidosis (DKA), a build-up of acids in the blood which can be serious. Warning signs include vomiting, dehydration and odd, almost sweet-smelling breath. Call for medical help if you notice these symptoms
Hypoglycaemia (hypo): Blood glucose can drop too low when the balance isn't right between your medication (especially insulin), food and physical activity	**Symptoms:** Feeling very hungry, nervous, shaky, sweaty, dizzy, confused, etc.	**Treatment:** If the symptoms are mild, take glucose tablets or gels, or drink milk or juice. Severe hypoglycaemia, on the other hand, is an emergency and requires prompt medical treatment

Over time, high blood glucose levels can cause damage to your blood vessels. That's why people with type 1 diabetes have a higher chance of developing certain serious health problems, called diabetes complications.



Living a healthy life with diabetes

Regular check-ups and screening: Regular screening for diabetes complications is important because most complications are 'silent' – they only show symptoms after damage has been done. Screening usually includes:

- Blood or urine tests
- An HBA1c blood test
- An eye test or check
- Measuring your weight
- Checking legs and feet to see how well your circulation and nerves are working
- Checking blood pressure and cholesterol

A healthy, balanced diet: Nowadays the different types of insulin mean you can fit your treatment around your diet and lifestyle. You should, however, try to eat a healthy diet:

- Eat fewer calories if you are overweight
- Replace saturated fats (e.g. cream, cheese, butter) with unsaturated fats (e.g. avocados, nuts, olives)
- Eat dietary fibre (e.g. fruit, vegetables and whole grains)
- Drink less than 14 units of alcohol per week
- Avoid added sugar and, particularly, sugary drinks

Regular exercise: Exercise helps keep blood glucose under control, keeps your weight down and makes you feel more happy and relaxed! Try to exercise every day and include both aerobic exercise (e.g. brisk walking, running, cycling) and resistance training (e.g. lifting weights). Choose exercise you enjoy, so it's easier to keep at it!

Talk to your doctor before starting or changing an exercise programme – you may need to check blood glucose levels before and after and adjust your insulin.

When to call the doctor

Tell your healthcare practitioner about any new symptoms or changes that you notice in your body. Your doctor may need to be contacted urgently if you have severe hypoglycaemia or DKA, so make sure their contact details are easy to find.

How can family and friends help?

Support from family and friends can help make the difference between you feeling overwhelmed or empowered instead. Share the useful suggestions from the Diabetes UK and Centers of Disease Control and Prevention websites and teach family and friends to recognise the symptoms of low blood glucose (low blood sugar) and how to treat it:

TREATING HYPOGLYCAEMIA (LOW BLOOD SUGAR)

If you have your meter, check your blood glucose. If you don't have your meter, treat the symptoms anyway. Have an easy-to-eat, quickly absorbable form of sugar, such as 3 glucose sweets, 125 ml (half a cup) non-diet cooldrink or 3 teaspoons of honey. Then have at least 15 g of slowly absorbed carbohydrate, such as a cheese or peanut butter sandwich, or 5 or 6 high-fibre biscuits like ProVita.

TREATING SEVERE HYPOGLYCAEMIA (LOW BLOOD SUGAR)

If your blood glucose gets very low, you may become confused or unconscious or have a seizure (fit). Consider wearing a Medic-Alert bracelet or similar so people know you have diabetes. If you are unable to eat or drink to raise your blood glucose level, you'll need a glucagon injection instead.

Where can I find out more? | Websites

- Diabetes SA
- Centre for Diabetes and Endocrinology
- Diabetes Education Society of South Africa
- American Diabetes Association's very helpful Diabetes Self-Care Manual
- International Diabetes Federation
- Diabetes UK

Support groups / Helplines:

- Diabetes SA 086 111 3913
- Diabetes SA's local support groups