

# Diabetes and osteoporosis

## Consumer Factsheet



Osteoporosis is a condition in which the bones become fragile, leading to a higher risk of breaks or fractures. A minor bump or fall can be enough to cause a break in someone with osteoporosis. Osteoporosis is more common in people with diabetes than in the general population. This fact-sheet explains how diabetes can affect your bones, how to find out if you are at risk of osteoporosis, and what you can do to help protect your bone health.

### How is diabetes linked to osteoporosis?

The link between diabetes and bone health remains unclear, but there are some clues.

#### Type 1 Diabetes

Insulin, which is produced in lower amounts in people with type 1 diabetes, helps keep bones strong and healthy. Low insulin levels in childhood or adolescence, when the skeleton is growing, may lead to weaker bones and an increased risk of fractures in adulthood. Falls can also be an issue for older people with type 1 diabetes because they can result in fractures if the bones are weakened. Vision and nerve problems, as well as episodes of hypoglycaemia (low blood sugar), can lead to falls. Low body weight, more common in people with type 1 diabetes, is also a well-known risk factor for osteoporosis.

#### Type 2 Diabetes

The relationship between type 2 diabetes and poor bone health is harder to understand. Although people with type 2 diabetes often appear to have strong bones when tested using a bone density machine, their risk of fracture is higher than in the general population. There may be several reasons for this. The general health problems that are associated with falls and fractures in people with type 1 diabetes are also common in type 2 diabetes. People with type 2 diabetes are more likely to be overweight and inactive, which can affect balance and mobility and increase the risk of falls. Lack of exercise also has a direct effect on bone strength. Research has shown that being overweight can weaken the 'scaffold' structure of the bones, making them more fragile. This can occur even if the bone density – the amount of bone - seems to be normal. Medications used to treat type 2 diabetes can also impact on bone health.

### Anti-diabetic medications and osteoporosis

Some medicines used to treat type 2 diabetes, the thiazolidinediones (also called glitazones e.g. pioglitazone and rosiglitazone), can weaken bones and increase the risk of breakages in some people, particularly in older women. How these medications affect your bones will depend on many other factors including the state of your bone health when you started taking the medication and how long you have been taking it. Your doctor will assess your bone health risk from diabetic medications, taking into account your overall risk of developing osteoporosis.

### Could I be at risk of osteoporosis?

Your bone health is affected by many things - not all will be related to your diabetes. How well your diabetes is controlled and how it is treated is very important. Other factors, including any family history of osteoporosis, your age and sex, whether you have been through the menopause, and other medical problems or medications will all influence your overall risk of developing osteoporosis. Nutrition, exercise and lifestyle also impact on bone health. It is important to discuss your osteoporosis risk factors with your doctor as soon as possible so action can be taken to protect your bone health.

Your doctor may refer you for a bone density test. This simple scan measures the density of the bones in the hip and spine. The results will indicate if your bone density is normal, mildly reduced (osteopenia) or if you have osteoporosis.



Most people don't know they have osteoporosis until they have a fracture. That's why it's vital to discuss your bone health with your doctor so you can take action to help prevent fractures before they occur.

## Osteoporosis medications

Diabetics with very low bone strength (or at increased risk of falls) may need osteoporosis medications to prevent fractures. There are several safe and effective medications available - your doctor will determine the best treatment for you. Osteoporosis medications have been shown to reduce the risk of breaking a bone by up to 70% but to work effectively they usually need to be taken over several years. If you have been prescribed osteoporosis medication, it is important to keep taking it. If you are concerned about any aspect of your osteoporosis treatment, you should discuss this with your doctor as soon as possible.

## Looking after your bone health



Working closely with your doctor to manage your diabetes is the most important thing you can do to reduce your risk of osteoporosis. Controlling your blood sugar levels through diet, medication or insulin therapy will help protect your bone health and prevent the problems that can increase your risk of falls and fractures. If you are at higher risk of falls, your doctor and other health professionals can also work with you in practical ways to reduce any hazards around your home or environment that may lead to falls. Maintaining a healthy weight, particularly if you have type 2 diabetes, is also important.

There are some other simple but very important things you can do to help protect your bone health if you are living with diabetes. You can ensure you have adequate:

- [Calcium](#) – check with your doctor about the best foods for you.
- [Vitamin D](#) – get out in the sun for short periods on most days.
- [Exercise](#) – weight-bearing and resistance exercises at least 3 times a week.

Healthy lifestyle habits are also important for keeping bones strong. Don't smoke, keep your alcohol intake low and try to stay active in your daily life. More information about lifestyle choices for healthy bones can be found on the Osteoporosis Australia website.

