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Diabetic amyotrophy

Diabetic amyotrophy is a nerve disorder complication of diabetes mellitus. It affects the thighs, hips, buttocks and legs, causing pain and muscle wasting.

What is diabetic amyotrophy?

Diabetic amyotrophy is a nerve disorder which is a complication of diabetes mellitus. It affects the thighs, hips, buttocks and legs, causing pain and muscle wasting. It is also called by several other names, including proximal diabetic neuropathy, lumbosacral radiculoplexus neurophagy and femoral neurophagy.

What is diabetic amyotrophy like?

The main features of diabetic amyotrophy are:

- Weakness of the lower legs, buttocks or hip.
- Muscle wasting, usually in the front of the thigh, which follows within weeks.
- Pain, sometimes severe, usually in the front of the thigh but sometimes in the hip, buttock or back.

Other features which occur in some (but not all) patients are:

- Altered sensation and tingling in the thigh, hip or buttock, which tends to be mild in comparison to the pain and weakness.
- About half of patients also have distal neuropathy, meaning that sensation in the nerves of the lower legs and feet may be separately affected by this condition (which is the most common form of diabetic neuropathy). [See the separate leaflet called Diabetic Neuropathy.](#)

- About half of people affected lose weight.

Symptoms generally begin on one side and then spread to the other in a stepwise progression. The condition may come on quickly or more slowly and usually remains asymmetrical (ie the two sides of the body are unequally affected) throughout its course. About half of patients also have distal symmetrical polyneuropathy, which means the sensation in their feet and toes on both sides is also affected.

The condition tends to go on for several months but can last up to three years. By the end of this time it usually recovers, although not always completely. During its course it may be severe enough to necessitate wheelchair use.

Pain subsides well before the muscular strength improves. This may take months and mild-to-moderate weakness may continue indefinitely. Some patients also develop associated pain or weakness in the arms, chest and upper back.

What causes diabetic amyotrophy?

Diabetic amyotrophy is thought to be caused by an abnormality of the immune system, which damages the tiny blood vessels which supply the nerves to the legs. This process is called microvasculitis. The likelihood of getting it does not seem to be related to how long you have diabetes, or how severely you are affected. However, it occurs only very rarely if you don't have diabetes. It is therefore thought that although having raised blood sugar does not directly damage the nerves, it may contribute in some way to the process of damage.

How common is diabetic amyotrophy?

The condition affects around 1 in 100 people with [type 2 diabetes](#) and around 3 in 1,000 people with [type 1 diabetes](#). This is uncommon by comparison to peripheral neuropathy, which 50% of people with diabetes experience to some degree.

You are more likely to develop diabetic amyotrophy if you are over 50, although younger patients can be affected. The condition can itself be the first sign that you have diabetes.

How is diabetic amyotrophy diagnosed?

If your doctor suspects that you have this condition, it is likely that they will refer you to a neurologist or diabetes specialist for further tests.

The doctor will examine you, looking for muscle weakness and wasting and for changes in your leg reflexes. He or she will check the sensation in your legs. If you also have peripheral neuropathy then this may be markedly reduced, although in pure diabetic amyotrophy it is often unchanged.

They will ask you to have some blood tests to check for vitamin deficiencies; also, your diabetic control will be reviewed. Other possible tests include:

- [Lumbar puncture to look for signs of inflammation in the fluid around the spinal cord.](#)
- [Nerve conduction studies to check the workings of the nerves to your legs.](#)
- [An MRI scan of your lower back](#) may be done to rule out compression of the nerves around the spine

How is diabetic amyotrophy treated?

Treatment mainly consists of maintaining the best possible control of your diabetes, together with a very active programme of physiotherapy. It is very important to keep muscles working as much as possible, to minimise wasting and improve the speed and degree of recovery.

Improving lifestyle habits, such as maintaining a good diet and avoiding smoking, is likely to be helpful.

Medications are prescribed by doctors for the pain of diabetic amyotrophy. This type of pain, which is referred to as [neuropathic pain or nerve pain](#), often responds less well to [conventional painkillers](#) like [paracetamol](#). Doctors often prescribe specialist nerve pain treatments, including [amitriptyline](#), antidepressants and antiepileptic medicines.

Steroid medicines and immunosuppressant medicines have recently been used to help speed recovery. However, as yet there is not enough evidence to be certain that this treatment is always effective.

How long the treatment is prescribed for depends on the course of the condition and the amount of nerve damage.

What is the outlook for patients with diabetic amyotrophy?

The outlook (prognosis) is usually good. Most patients recover well, although some symptoms may remain. The chances of making a good recovery – and remaining well (as the condition can relapse) – are improved by maintaining good diabetes control.

How do I prevent diabetic amyotrophy?

The best way to reduce your risk of developing this condition, as for many of the complications of diabetes, is to:

- [Avoid smoking.](#)
- [Eat well but sensibly.](#)
- [Maintain a healthy body weight.](#)
- Most importantly, retain as tight a control of your diabetes as is possible.
- [Attend regular check-ups](#) to ensure the condition doesn't worsen

Diabetic amyotrophy can still occur. However, it is likely that recovery will be faster and easier if these elements are already in control.

Dr Mary Lowth is an author or the original author of this leaflet.

Further reading

- [Management of diabetes](#); Scottish Intercollegiate Guidelines Network – SIGN (March 2010 – updated November 2017)
- [Diabetes UK](#)
- [Type 1 diabetes in adults: diagnosis and management](#); NICE Guidelines (August 2015 – last updated August 2022)
- [Diabetes \(type 1 and type 2\) in children and young people: diagnosis and management](#); NICE Guidelines (Aug 2015 – updated May 2023)

- [Diabetic foot problems: prevention and management](#); NICE Guidelines (August 2015 – last updated October 2019)
- [Type 2 diabetes in adults: management](#); NICE Guidance (December 2015 – last updated June 2022)
- [Chan YC, Lo YL, Chan ES](#); Immunotherapy for diabetic amyotrophy. Cochrane Database Syst Rev. 2017 Jul 26;7:CD006521. doi: 10.1002/14651858.CD006521.pub4.
- [Gylfadottir SS, Weeracharoenkul D, Andersen ST, et al](#); Painful and non-painful diabetic polyneuropathy: Clinical characteristics and diagnostic issues. J Diabetes Investig. 2019 Sep;10(5):1148–1157. doi: 10.1111/jdi.13105. Epub 2019 Jul 29.

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