Becker muscular dystrophy

What is Becker muscular dystrophy?
The muscular dystrophies are a group of genetic disorders, which cause muscle weakness. Becker muscular dystrophy was first recognised in 1956 and is now known to be a much milder variant of the better known Duchenne muscular dystrophy. Becker muscular dystrophy is generally slowly progressive and affects only males.

What are the causes of Becker muscular dystrophy?
A mutation in a particular gene (called dystrophin) carried on the X chromosome leads to the formation of a faulty protein in muscle fibres. This protein, also called dystrophin, is absent or severely abnormal in Duchenne muscular dystrophy. In Becker muscular dystrophy a milder fault makes the dystrophin protein smaller (or occasionally larger) or less abundant than normal. When dystrophin is abnormal, the muscle fibres gradually break down and the muscles slowly become weaker. These dystrophin abnormalities in muscle provide a very good test for the diagnosis of Becker muscular dystrophy.

How is Becker muscular dystrophy diagnosed?
Becker muscular dystrophy has to be confirmed by genetic testing, usually on a blood sample. Different types of genetic tests can provide specific and more detailed information about the DNA mutation.

Your doctor may also recommend a muscle biopsy, which is the process of taking a small sample of muscle for analysis. Tests on the muscle biopsy can provide information on the amount of dystrophin protein present in the muscle cells, and can help distinguish Becker muscular dystrophy from the more severe form of the condition known as Duchenne muscular dystrophy.

Is there a treatment or cure?
Unfortunately there is no cure at present. Research is proceeding to try to find a way to restore dystrophin production in the muscles and some treatments, which may be found to be effective in Duchenne muscular dystrophy, may also be effective in Becker muscular dystrophy.

Active exercise strengthens normal muscle fibres (and the great majority are normal in the early years of Becker muscular dystrophy). It is important to try to keep as fit and active as possible. Regular daily exercise is better than occasional sudden bouts of exertion.

Cramps during exercise can bother people with Becker muscular dystrophy at some stage - often especially as a teenager. If they are very troublesome, it may be worth experimenting with ‘night splints’ (plastic splints to maintain a gentle stretch of the calf muscles overnight) or with sessions of calf muscle massage or compression with air-filled boots, although there is not yet a properly tried-and-tested treatment for cramps.
In the later stages of Becker muscular dystrophy, a wheelchair is likely to be needed at least for getting about independently over long distances. There is a great deal of other equipment that may be useful and much can be done to help both at home and at work to make certain tasks easier by careful choice of furniture, bathroom equipment etc. Advice and help with these matters is available and the Muscular Dystrophy Campaign will be able to put you in touch with the best sources of advice.

**What is the prognosis?**
The average age at diagnosis in Becker muscular dystrophy is 11 years but the range is very wide - sometimes the diagnosis may be made in early childhood or well into adult life. Symptoms usually begin very mildly in childhood; often cramps on exercise are the only problem at first but a few affected boys are late in learning to walk. Most people with Becker muscular dystrophy are not very athletic in childhood, and many struggle with school sport. Later, in the teens or 20s, muscle weakness becomes more evident causing difficulty in rapid walking, running and climbing stairs. Later still it may be difficult to lift heavy objects above waist level.

Men with typical Becker muscular dystrophy may become unable to walk in their 40s or 50s or even later; there are less frequent and more rapidly progressive variants of Becker muscular dystrophy in which this may happen in the 20s or 30s. Over a period of many years some muscles become weak and wasted, especially certain muscles of the shoulders, upper arms and thighs, while others that are less weak are often enlarged - this is usually particularly noticeable in the calf muscles.

The muscles of facial expression, speech and swallowing and the involuntary muscles (for example those of the bowel and bladder) are not affected in Becker muscular dystrophy. It is important to be aware that some people with Becker muscular dystrophy may have problems with their heart (see ‘heart check’ factsheet), and in the long term with the breathing muscles. These often do not cause any symptoms, and watching out for these problems, which can often be treated, is an important reason to keep in touch with a specialist clinic. Early treatment of the heart problem with a drug called an ACE inhibitor can be protective for the heart muscle. People with Becker muscular dystrophy should have a cardiac echo every three to five years even if they feel well. Breathing muscles are more likely to be affected in people who are wheelchair dependent.

As with Duchenne muscular dystrophy, people with Becker muscular dystrophy can have a serious reaction to some general anaesthetics (see ‘anaesthetics’ factsheet). This type of reaction is similar to malignant hyperthermia. It can be prevented by avoiding certain anaesthetics. People with Becker muscular dystrophy should carry a ‘Becker alert card’ and inform doctors of their condition if a general anaesthetic is required.

**Other related publications**
This factsheet is to be used alongside the following publications:
- Inheritance
- Adult Self Management Pack
- An introductory guide for families with a child newly diagnosed with a neuromuscular condition
- Inclusive Education Guide
- Wheelchair Provision for Children and Adults with Muscular Dystrophy and other Neuromuscular conditions
- Muscle biopsies factsheet
- Heart check factsheet
- Anaesthetics factsheet

The friendly staff in the care and support team at the Muscular Dystrophy Campaign’s London office are available from 8.30am to 6pm Monday to Friday to offer free information and emotional support. If they can’t help you, they are more than happy to signpost you to specialist services close to you, or to people who can help. Contact our Freephone helpline on 0800 652 6352 or info@muscular-dystrophy.org

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