BMJ Best Practice

Patient information from BMJ

Last published: Dec 10, 2020

Cerebral palsy: what treatments work?

Cerebral palsy is a condition that can affect a baby's brain when it is growing in the womb, or shortly after birth. People with cerebral palsy can have a variety of problems with movement and speech, and sometimes with learning difficulties.

What treatments work?

People with cerebral palsy (CP for short) have widely varying symptoms, and not everyone with the condition has all of them. This means that treatment for CP needs to be different for each person, depending on his or her abilities and needs.

Doctors often talk about there being four types of CP, depending on which symptoms someone has. These types are:

- **spastic CP**, where severe muscle stiffness (spasticity means stiffness) is the main symptom
- **dyskinetic CP**, where the main symptom is called dyskinesia, which means that you have repeating muscle movements that you can't control
- **ataxic CP**, where the main symptoms is called ataxia, which means a lack of balance and coordination, and
- **mixed CP**, where someone has symptoms of more than one of the types listed above.

There are different treatments for each type and symptom of CP. But treating someone with CP tends to work best when it's focused on what matters to that person.

For example, two people with CP might have similar symptoms but different energy levels and different priorities. So one person might want to focus his or her energy on walking and being as mobile as possible, while someone else might care most about communicating better.

Young children

Children with CP can often be diagnosed as early as 6 months old. The first treatments that young children have will be aimed at helping them reach the development targets or "milestones" that children achieve in early life, such as crawling, walking, and talking.

So young children with CP should get help with:

- physiotherapy - helping them to move and stretch and, hopefully to crawl and walk. It's recommended that children start physiotherapy as early as possible
- occupational therapy - this means help with the skills they need in daily life, such as holding and exploring toys, books, and other objects, and feeding themselves
- speech therapy.

School years and growing up

During school years, treatment is aimed at helping children to be as mobile and independent as possible. This means working on areas such as:

- therapy to help with daily physical activities (you might hear your doctor or therapist use the phrase "activities of daily living")
- strengthening weak muscles
- stretching exercises for stiff muscles affected by spasticity, and
- special equipment where needed.

Some older children have surgery to help with problems with soft tissues and with bones that haven't grown in the right way.

In the teenage years and through to adulthood, the focus is on a healthy lifestyle. This means staying fit and flexible, and keeping up with the most helpful exercise programmes.

Adaptive equipment

As children get older their abilities and needs become clearer. Some children manage many physical tasks without too much trouble. But some children will benefit from special adaptive equipment.

Much of the equipment for people with CP is designed to help them to walk. This equipment includes braces, crutches, canes, and walkers.

Some people find that it helps to practise on a piece of equipment called a gait trainer. It looks a bit like a walker, but it surrounds you on all four sides, and it has straps to guide the legs into a good position to improve strength and balance.

For people with CP who can't walk, there are many mobility aids, including electric and non-electric wheelchairs, specially adapted scooters, tricycles, and cars.

There are many other types of adaptive equipment, from modified cutlery and utensils, to devices to help with unsteady handwriting.

Treatments for different types of cerebral palsy

Treatments for spasticity (stiff muscles)

Spasticity is complex, because it causes problems in two ways.

First, the stiffness itself needs regular therapy to keep your muscles as supple and flexible as possible. And second, spasticity can gradually lead to longer-term problems, including issues with:

- sensation. Some children don’t sense things like touch and pain properly
- the way they see things. For example, some children struggle with depth perception - realising how near or far away something is
- thinking clearly
- communication
- behaviour
- controlling the bladder and bowels
- acid reflux (heartburn)
- producing too much saliva
- eating, drinking, and swallowing, and
- epilepsy.

This might look like a worrying list of possible problems. But many of them can be treated if and when they happen.

There are many treatments for spasticity if and when you need them, including:

- physiotherapy
- occupational therapy
- speech therapy, and
- physiotherapy occupational therapy devices called orthoses. These are specially designed braces that help keep parts of your body stable and in the right position: for example, so that you can walk more easily. Orthoses can be used on the feet, ankles, knees, and spine.

Orthoses for CP used to be bulky and heavy. But the modern ones are usually slim and lightweight, and they can be made to fit you individually.

Some drug treatments can help with severe spasticity. These include:

- medications that relax the muscles and help reduce stiffness and spasms, and
- injections of botulinum toxin (botox) to reduce stiffness and pain.

Botulinum toxin is injected directly into the muscle area where it is needed and will do most good. Many people find that it can help relieve symptoms for several weeks.

These medications can have side effects in some people. Your doctor should explain these to you, and you should feel free to ask questions about any treatments.

Some people with severe spasticity take their medication through a special pump fitted under the skin. Small doses are then delivered directly into the fluid around your spine, where it can do the most good.

Surgery for spasticity

Some types of surgery can help with severe spasticity. For example, some children have an operation on some of the nerves in the spine. This is called selective posterior rhizotomy.

In this operation, nerves that are causing problems with muscle tone can be isolated and cut. This reduces stiffness without affecting the ability to move. The reduced stiffness also allows other nearby muscles to work in a more relaxed and regular way.

Another type of surgery for spasticity is an operation to lengthen the tendons in the arms or legs. This makes walking and other movements easier and less stiff.

You can discuss any of these surgeries with your doctor if you think they might help you or your child.

Treatments for dyskinesia

The physical treatments that work for spasticity also help with the problems with muscle control that dyskinesia causes. So things like physiotherapy, speech therapy, and orthoses are all essential.

Drug treatments are also sometimes used to help people with these symptoms.

A treatment called deep brain stimulation can also help some people with severe symptoms. Tiny devices called electrodes are implanted in the brain. These then help to control signals in the brain that cause irregular movements.

Treatments for ataxia

As with other types of CP, physiotherapy, occupational therapy, speech therapy, and orthoses are all essential in treating ataxia.

Physiotherapy for ataxia symptoms focuses on:

- strengthening weaker muscles
- coordination, and
- balance.

Drug treatments are sometimes used to help with shaking caused by ataxia, and to improve other symptoms. But there seems to be a limit to how much they help.

What will happen?

The outlook for someone with CP depends on how severe their physical and mental symptoms are to begin with: for example, how well they can move, walk, and communicate.

But ongoing treatment can make a huge difference to how well some people can do these things.

Lifelong treatment should include an ongoing exercise programme to help with strength, flexibility, movement, balance, and bone strength. Many people with CP need to take calcium and vitamin D supplements to help with bone strength.

A great deal of long-term therapy is also directed at helping people communicate as well as possible.

Individual needs

Every person with CP has different abilities. So long-term treatment should be tailored to what helps you (or your child) most.

For example: some people with CP can do most things for themselves, while some people need some help, either from special equipment or from other people. And some people with severe symptoms need to use a feeding tube.

You should have regular assessments to see how you're doing. Young children, especially, will be seen very often as they grow and develop.

The problems in the brain that cause CP don't get worse over time. But people's abilities and needs often change. So, for example, the equipment and medication you need, or the exercises that help you, might change from time to time.

Walking is obviously an important aim for many people with CP. But if trying hard to walk leaves you too tired to do much else, you and your doctor might decide that there are more important goals. Many people with CP direct their strength in other areas, and use mobility aids to get around.

Technology can also be used to help with communication: for example, special computers can allow people with severe physical symptoms to communicate in ways that were impossible in the past.

School, work, and social life

Most children with CP go to mainstream schools. But some have special education needs, and some need full-time helpers in the classroom.

People who have CP without any mental disability can often go through education and into jobs and careers without problems. About 30 in 100 people with CP manage to work, and about the same number can live independently.

But people with more serious physical symptoms or with mental impairment may not be able to work. For these people, it's often important to find ways to have a social life and avoid isolation. Day programmes and specially arranged transport, for example, help many people in this way.

Long-term outlook

Treatments for CP can make a big difference. But they can't cure it. CP is a lifelong condition. People with CP don't tend to live as long as people without the condition. But the difference is not as big as it used to be.

Life expectancy depends partly on how severe someone's symptoms are. So someone who doesn't have severe symptoms can have a fairly normal life expectancy.

People with CP seem to be more likely than other people to have health problems such as heart conditions and COPD (chronic obstructive pulmonary disease, a condition that affects the lungs).

This might be linked to people with CP being less able to exercise. So it's important to keep up with your physiotherapy and exercise as much as you can.

CP is common. And there are many charities and support groups for people with the condition. For example, in the UK, Scope (scope.org.uk) has been offering practical help, information, and companionship to people with CP for many years.

Your doctor might be able to help you find a support group in your area. Or you can search online.

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