

Medical Disorders Associated With Cerebral Palsy

Many individuals who have cerebral palsy have no associated medical disorders. However, disorders that involve the brain and impair its motor function can also cause seizures and impair an individual's intellectual development, attentiveness to the outside world, activity and behaviour, and vision and hearing. Some of the medical disorders associated with cerebral palsy include:

[Mental Impairment](#)

[Epilepsy](#)

[Growth problems](#)

[Vision impairment](#)

[Hearing impairment](#)

Intellectual Impairment

About one-third of children who have cerebral palsy are mildly intellectually impaired, one-third are moderately or severely impaired, and the remaining third are intellectually within the normal range. Intellectual impairment is more common among children with spastic quadriplegia than other forms of cerebral palsy.

Epilepsy

As many as half of all children with cerebral palsy have seizures. During a seizure, the normal, orderly pattern of electrical activity in the brain is disrupted by uncontrolled bursts of electricity. When seizures occur without a direct trigger, such as fever, the condition is called epilepsy. In the person who has cerebral palsy and epilepsy, this disruption may be spread throughout the brain and cause varied symptoms all over the body (as in tonic-clonic seizures) or may be confined to just one part of the brain and cause more specific symptoms (as in partial seizures).

Tonic-clonic seizures generally cause some loss of consciousness, twitching of both legs and arms, convulsive body movements, and loss of bladder control.

Partial seizures are classified as simple or complex. In simple partial seizures, the individual has localized symptoms, such as muscle twitches, chewing movements, and numbness or tingling. In complex partial seizures, the

individual may hallucinate, stagger, perform automatic and purposeless movements, or experience impaired consciousness or confusion.

Growth problems

A syndrome called failure to thrive is common in children with moderate-to-severe cerebral palsy, especially those with spastic quadriplegia. Failure to thrive is a general term physicians use to describe children who seem to lag behind in growth and development despite seeming to have enough food. In babies, this lag usually takes the form of too little weight gain; in young children, it can appear as abnormal shortness; in teenagers, it may appear as a combination of shortness and lack of sexual development.

Failure to thrive probably has several causes, including, in particular, poor nutrition and damage to the brain centres controlling growth and development. In addition, the muscles and limbs affected by cerebral palsy tend to be smaller than normal. This is especially noticeable in some patients with spastic hemiplegia, because limbs on the affected side of the body may not grow as quickly or as large as those on the more normal side. This condition usually affects the hand and foot most severely. Since the involved foot in hemiplegia is often smaller than the unaffected foot even among patients who walk, this size difference is probably not due to lack of use. Scientists believe the problem is more likely to result from disruption of the complex process responsible for normal body growth.

Vision Impairment

A large number of children with cerebral palsy have strabismus, a condition in which the eyes are not aligned because of differences in the left and right eye muscles. In an adult, this condition causes double vision. In children, however, the brain often adapts to the condition by ignoring signals from one of the eyes. Untreated, this can lead to very poor vision in one eye and can interfere with certain visual skills, such as judging distance. In some cases, doctors may recommend surgery to correct strabismus.

Some children can have hemianopia, which is defective vision or blindness that impairs the normal field of vision. For example, when hemianopia affects only the right field of the right eye, a child looking straight ahead might have perfect vision except on the far right.

If the impairment in the right or left half of the visual field is present in both eyes, the condition is called homonymous hemianopia. Put simply, this means that the child cannot see anything in the entire left or right visual field in both eyes. Because both eyes are affected more or less equally, the location of the problem must be further back along the visual pathways well behind the eyes.

Hearing Impairment

Impaired hearing occurs more frequently among those with cerebral palsy than in the general population. Recent studies have shown that up to 15 percent of children with cerebral palsy also have some kind of hearing impairment.

Hearing problems are usually grouped into two types. These are conductive and sensorineural. Conductive hearing loss means that there is a problem with the middle or outer ear, which prevents the sound from physically reaching the healthy auditory nerve. Sensorineural hearing loss is damage to the auditory nerve or inner ear, preventing the brain from receiving the correct signals.

Both types of hearing loss may be present in the child with cerebral palsy, and an examination by a well-trained paediatric audiologist can help measure the extent and type of hearing loss.

Children who have severe hearing impairments often have a delay in developing language skills. This is due to the lack of auditory cues required for normal language development.