



# Sixth Nerve Palsy/Cranial Nerve VI Palsy

## WHAT IS CRANIAL NERVE VI PALSY?

Cranial nerve VI palsy (also known as sixth nerve palsy or abducens palsy) is a weakness of the nerve that connects to the lateral rectus muscle. The lateral rectus muscle is a muscle on the outside of the eye closest to the ear. This muscle moves the eye away from the nose and outward toward the ear. When the lateral rectus muscle is weak, the eye crosses inward toward the nose ([esotropia](#)). The esotropia is larger when looking at something far away and when looking to same side as the weak muscle.

## WHAT CAUSES CRANIAL NERVE VI PALSY?

The most common causes of cranial nerve VI palsy are stroke, trauma, viral illness, brain tumor, inflammation, infection, migraine headache and elevated pressure inside the brain. A cranial nerve VI can also be present at birth; however, the most common cause in children is trauma. In older persons, a small stroke is the most common cause. Sometimes the cause of the palsy is never found, even after many tests. Cranial nerve VI is a long nerve that runs from the lower back part of the brain to the lateral rectus muscle. Depending on the cause of the cranial nerve VI palsy, other parts of the brain may be affected as well. Hearing loss, facial weakness, decreased ability to feel touch on the face, droopy eyelid and/or abnormal eye movement can also be seen with cranial nerve VI palsy, depending on the location of the problem.

## DOES CRANIAL NERVE VI PALSY IMPROVE WITH TIME?

It is possible for the weakness to get better or go away on its own. It takes time and the amount of improved weakness can be different for different people. Sometimes, even though the eye movement improves, the eye may



still cross inward ([esotropia](#)). Most of the improvement in eye movement usually occurs within the first six months after the start of the weakness.

## WHAT ARE THE SYMPTOMS OF CRANIAL NERVE VI PALSY?

Double vision (two of the same image seen side by side at the same time when only one image is present) is the most common symptom. If one eye is involved, the double vision is worse when looking in the direction of the weak eye (for example, double vision is worse when looking to the left in a left cranial nerve VI palsy). There is usually less double vision when looking at something up close, more double vision looking far away. Children do not always get double vision but are at risk to get [amblyopia \(weakness in vision\)](#) depending on how bad the cranial nerve VI palsy is and how long it sticks around.

## HOW IS THE DOUBLE VISION FROM CRANIAL NERVE VI PALSY TREATED?

Some people may turn their head towards the side of the cranial nerve VI palsy to help with double vision. Patching one eye makes the double vision go away, however this treatment must be used carefully in children so that they don't get [amblyopia](#) from the patching. Prism glasses can help make the two images into one when looking straight ahead. Because the double vision is less or more when looking in different directions, prism glasses do not get rid of double vision when looking in all directions. The power of prism in glasses can be changed as the weakness gets better. Eye muscle surgery ([strabismus surgery](#)) may be needed to help with double vision if the palsy does not go away completely.

## CAN CRANIAL NERVE VI PALSY BE FIXED?

After watching for improvement (usually six months), strabismus surgery can be done to help make the eye more straight or improve double vision if prism treatment in glasses is not enough. The goal of strabismus surgery is to correct the [esotropia](#) (eye turn inward toward the nose) and improve any head turn. Botulinum toxin injection to the eye muscle alone or with surgery is



sometimes used to temporarily weaken other muscles that can get tight in a cranial nerve VI palsy.

For more information on cranial nerve VI/sixth nerve/abducens nerve palsy please visit: [https://eyewiki.org/Abducens\\_Nerve\\_Palsy](https://eyewiki.org/Abducens_Nerve_Palsy)

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