



**University  
Hospitals Sussex**  
NHS Foundation Trust

# 4th nerve palsy

Opthalmology

Patient information

## What is this information about?

**This information is about 4th nerve palsy. It explains:**

- what 4th nerve palsy is
- how having 4th nerve palsy may affect your eyes and vision
- what may cause 4th nerve palsy
- the symptoms that you may get with 4th nerve palsy
- how 4th nerve palsy may be diagnosed and treated
- where you can get further information or support.

## Why have I been given this information?

You have been given this information because you, a family member, or someone you are a carer for have been diagnosed with 4th nerve palsy. Reading this information can help you to know what to expect from the condition and any treatment you may have for it.

## What is a 4th nerve palsy?

A 'palsy' is a condition in which you lose some or all movement, and usually have weakness, in a part of your body. It is a type of paralysis.

Your 4th nerve is one of three 'cranial' nerves (nerves inside your brain) that connect with the muscles that move your eyes from side to side and up or down. The nerves carry electrical signals from your brain that make the muscles move.

If you have a palsy in one of these nerves these signals are unable to reach the muscle. It cannot move your eye as it usually would.

In 4th nerve palsy, the 4th cranial nerve has a weakness. It cannot send signals as it usually would to the muscle that makes your eyes move downwards and outwards and enables them to rotate slightly. You may hear your orthoptist or doctor call this muscle the 'superior oblique muscle' and call 4th nerve palsy 'superior oblique palsy'.

## How might having 4th nerve palsy affect my eyes and vision?

Weakness (palsy) in the 4th nerve may mean that the affected eye is not in line with your other eye. It does not move downwards as it should. This may mean you have double-vision (seeing double).

People with double vision usually notice that they can see one image higher than the other. This is often worse when they are looking downwards. Double vision can happen in one eye or both eyes.

## What causes 4th nerve palsy?

Some people are born with 4th nerve palsy (they have 'congenital' 4th nerve palsy). Other people get 4th nerve palsy at some point in their life because the 4th nerve gets damaged. This is called 'acquired' 4th nerve palsy.

**Congenital 4th nerve palsy** happens as a baby is developing in the womb. **It may happen because:**

- the nerve is not working as it should
- there is a weakness in the muscle tendon.
- The exact cause is not known.

Some people may not have their congenital palsies diagnosed until much later in life. This is because the brain can adapt to it and so people may have no symptoms for many years.

**Acquired 4th nerve palsy** can result from damage to the 4th nerve caused by health conditions or injuries.

**Health conditions which can cause 4th nerve palsy include:**

- diabetes
- high blood pressure (hypertension)
- stroke

- multiple sclerosis (MS)
- blood circulation (vascular) problems such as blocked or damaged blood vessels. This is more usual in older people.
- eye or brain tumours. These are a rare cause of 4th nerve palsy.
- closed head injuries (head trauma). These are head injuries caused by things such as a traffic accident or fall where you receive a blow to the head, but the skull is not broken.

## What do I need to know about the double-vision that I may get from having 4th nerve palsy?

- People with acquired 4th nerve palsy may suddenly get double-vision.
- People with congenital 4th nerve palsy may find that double vision comes on in a more gradual way and 'comes and goes'.

Double vision may come on when things happen which make it more difficult to control weakness in your eye nerves or muscle. These might include illness, being stressed or having another eye condition which alters your vision. For example, the start of cataracts.

Symptoms of double-vision are more obvious when you are looking downwards. This can make it more difficult to:

- do 'close-work' where you need to focus on objects within arm's reach for a long time
- manage steps and stairs.

People with 4th nerve palsy often try to tilt and hold their head in a way which helps to reduce their double vision. This can make their posture look unusual.

## How is 4th nerve palsy diagnosed?

An orthoptist will check your eye movements and how much your eyes are out of position. This will enable them to confirm if you have 4th nerve Palsy.

Asking you questions about your health now and in the past and checking your medical records can help the orthoptist to find the most likely cause.

The orthoptist may find signs that tell them that you are likely to have had 4th nerve palsy for a long time.

**They may do some more tests or scans if they think that:**

- you have developed 4th nerve palsy recently with no obvious cause
- your palsy seems to be changing.

These can help them to find out what is causing your palsy.

**They may include:**

- a blood pressure test
- blood tests
- a CT or MRI scan.

## How might my 4th nerve palsy be treated?

Nearly all 4th nerve palsies get better over time without the need for any treatment.

We may add prisms (special lenses which bend light rays) that 'join' your double-vision to your glasses either:

- while we are doing tests to find out about your palsy and what may have caused it
- while your palsy is recovering.

If prisms are not right for you, we may suggest that you cover one eye with a patch. This can make your symptoms better.

If your 4th nerve palsy does not recover, or only partly recovers, you may need to have an operation or to wear glasses with prisms in them long-term.

An orthoptist (or sometimes an ophthalmologist) will check your 4th nerve palsy and how it is affecting you at an appointment which is usually every 2 to 3 months. If you need further treatment, they will talk with you about which treatments may be right for you.

## **Who can I contact if I have other questions about 4th nerve palsy and its treatment or would like further information or support?**

**Please contact your orthoptist:**

**St Richard's Hospital Orthoptists 01243 831499**

**Southlands Hospital Orthoptists 01273 446077**

**Sussex Eye Hospital Orthoptists 01273 696955**

## **Where can I find further information about 4th nerve palsy?**

**Squintclinic**

**[www.squintclinic.com](http://www.squintclinic.com)**



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