

Convergence insufficiency

What is Convergence Insufficiency?

Convergence is the ability to direct both eyes to a near object. Good convergence is required to maintain comfortable vision for near tasks. If there is an insufficiency in convergence mechanism, it can cause symptoms such as double vision, blurred vision, headaches and eyestrain. One eye or either eye may visibly drift outwards at times.

What treatment options are available for this condition?

Your Orthoptist may have arranged for you to have glasses and / or you may have been advised you carry out convergence exercises. The treatment is targeted at relieving your symptoms or to control a diverging eye. A course of exercises normally consists of a series of appointments and your progress will be assessed. If you usually wear glasses when reading, these should be worn when doing the exercises.

You may be asked to do the following:

- Smooth convergence (Pen to nose)
- Dot card
- Jump convergence
- Voluntary convergence
- Stereograms

Your Orthoptist will instruct you which of the following exercises to do. Please note you may not need to do all of them. You should aim to do the exercises 4 to 5 times a day spread over the day but for no longer than 3 to 4 minutes at a time. After doing the exercises it is important to relax your eyes either by looking in the distance or closing your eyes for 10 seconds.

Smooth convergence (Pen to nose)

Method:

- Take your pen/target and hold it at arm's length, making sure it is at or just below eye level.
- Keep both eyes open at all times when looking at your target, but you can blink as normal.
- The target should be moved slowly toward your nose and you should aim to keep the target single at all times.
- If the single target splits into two, stop the target at that distance and stare at it, trying to make the two images become one. Once it is single, keep it single for at least 15 seconds.
- You can then very slowly start to move the target more towards your nose.
- If you cannot make the target single, then slowly move it away from your nose until it becomes single again. Once the target is single, start to move it towards your nose again.
- You should keep doing this for approximately 3 minutes, aiming to keep the target single at all times.
- Be patient - you will not be able to keep the target single and get it to your nose immediately, it will take time and practice.

Your eyes may feel strain and you may get a headache when you first begin exercising, as you are strengthening the muscles. This is normal and it will get easier as the muscles get stronger.

Dot card

Method:

- Hold the card so that one end touches the end of your nose.
- Look at the furthest away dot and try to make it single.
- If the dot stays single easily, move your eyes to look at the next dot nearer to you and try to keep that one single.
- As you look at the dots nearer to your nose you will notice that the line appears to form an X. Ensure the X crosses through the centre of the dot.

When looking at the dots, keep them single and keep your gaze on them for 10-20 seconds to exercise your eyes before changing your gaze to the next dot nearest to you.

Jump convergence

Method:

- Hold a pen in one hand, at arm's length and another pen with your other hand, halfway between your outstretched arm and your nose.
- Look at the furthest pen and ensure it is single. You will notice that the pen nearest to you is double.
- Now look at the pen nearest to your nose and ensure it is single. You will notice the further away pen is now double.
- To exercise your eyes you must change your fixation from one pen to the other.
- Ensure that the pen that you are looking at is always single – the one you are not looking at will be double.
- To make the exercise more difficult bring the arm nearest to you even closer.
- For a more advanced exercise, you can remove the pen from your outstretched arm and use a fixation target at the end of the room. You will feel that there is a much larger jump which will enhance the exercise.

Voluntary convergence

The aim is to be able to make yourself go 'cross eyed' without the need to look at a target. After carrying out exercises for a period, you may find that it is possible and this is another good way to exercise the eyes.

Stereograms

For this exercise, your Orthoptist will provide you with a stereogram CAT card.

Method:

- Hold the card at arm's length with one hand.
- Hold a pen with the other hand.
- Hold the pen half way between the card and your eyes. Stare at the tip of the pen and start to move it slowly towards your eyes.
- The images on the card may look like they are moving. Move the pen towards the card until you can see three images of the Cat. The Cat in the middle should have a tail and both sets of whiskers. Initially you may see 4 images.
- Once you can see the centre Cat with its whiskers and tail, try to stare it for up to 30 seconds.

- To make the exercise more difficult, try to bring the pen closer to you keeping the Cat as it is. This will be more difficult to do but makes the exercise more beneficial
- Repeat the process.

What you need to bring to your Orthoptic appointments

If you wear glasses you will need to bring your most up-to-date glasses for distance and reading to all Orthoptic appointments

The treatment can only be successful if the exercises are carried out regularly at home as shown by your Orthoptist. Attending your appointments alone will not improve your symptoms.

Important information

This patient information is for guidance purposes only and is not provided to replace professional clinical advice from a qualified practitioner.

Your comments

We are always interested to hear your views about our leaflets. If you have any comments, please contact the patient experience team on 0300 131 4784 or esh-tr.patientexperience@nhs.net.

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After reading this information are there any questions you would like to ask? Please list below and ask your nurse or doctor.

Reference

The following clinicians have been consulted and agreed this patient information:

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The Clinical Specialty/Unit that have agreed this patient information leaflet:

Ophthalmology

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