

Convergence exercises



What is Convergence insufficiency?

Convergence is the ability to pull both eyes inwards in order to view an object close up. Convergence insufficiency or weakness of convergence is when you cannot control this ability well enough to maintain comfortable vision.

What are the symptoms?

These may include:

- headaches
- eye strain
- blurred vision
- double vision.

Is there a cause?

Often there is no specific cause for developing a weakness of convergence. Patients commonly report first noticing symptoms after a change in close work, such as lots of reading, extended periods of study or using a computer, times of increased stress or fatigue. Sometimes convergence insufficiency can occur as part of certain pre-existing general health conditions. A weakness can also be made worse by a poorly controlled squint (strabismus).

Target to nose

The aim of this exercise is to watch a target whilst moving it towards your nose and maintaining a continuous single image with ease. The image may be blurred but it must be single.

The orthoptist will provide you with an appropriate target to use.

1. Hold the target at a distance that is comfortable.
2. Bring the target slowly towards your eyes watching it carefully and continuously.
3. When/if the target appears 'double', stop moving it towards you. Focus hard on the target and try to regain a single image.
4. If this is achieved repeat from step two.
5. If a single image cannot be achieved, move the target backwards slowly until a single image is achieved once more. Then repeat from step two.

6. Effective convergence has been achieved once the nose can be touched with the target and a single image can be comfortably maintained.

The orthoptist will advise you how often you should perform this exercise.

The exercises should be performed times per day for minutes.

At the end of your exercise session it is important to relax your eyes. Do this by looking out of the window at a far away object, or by closing your eyes for a few minutes.



Diagram 1



Diagram 2



Diagram 3

Dot card

The aim of this exercise is to maintain a single image of each dot on the card (or letter on the reverse of the card).

1. Hold the card lengthways so that it is touching the tip of your nose with the line of dots in front of you and angled slightly downwards.
2. Look to the furthest dot. If your eyes are converging correctly the dot will be seen singly, and the other dots will be seen to form an 'A' shape (see diagram 1).
3. Move your eyes to the second dot. If the eyes are still converging correctly this dot will now appear single and the dots in front of this one, and the dot behind this one, will appear double. The line will now look like an 'X' pattern (see diagram 2).
4. Each dot should be held as a single image for the count of five before moving to the next dot.
5. If you are having trouble getting the dot you are looking at single, move to the previous dot and try again. Extra dots may be added with a pencil halfway between each original dot on the card, if required.

6. Once the dot nearest to your nose has been reached and held as a single image, the dots behind it will appear double and will form a 'V' pattern (see diagram 3). You have successfully completed the exercise.

Sometimes the orthoptist will tell you to move your eyes back along the line of dots to the one that you started with.

The orthoptist may ask you to repeat this exercise using the letters on the reverse side of the card. The aim will be to keep each letter single and as clear as possible.

The orthoptist will advise you how often you should perform this exercise.

To be performed times per day for minutes.

It is very important that you put effort into doing the exercises so that you get the most benefit. They will become easier over time, so try to challenge yourself to make progress at each attempt.

At the end of your exercise session it is important to relax your eyes. Do this by looking out of the window at a far away object, or by closing your eyes for a few minutes.

Jump convergence

The aim of this exercise is to practice changing the fixation of your eyes between a near target and a distance target.

The orthoptist will provide you with an appropriate target to use for this exercise.

1. Focus your eyes on the near target holding it at arms length and at eye level. The target should be seen singly. If so, count to three.
2. Change the focus of your eyes to the distance target which should be seen singly and again count to three.
3. Whilst focusing on the distance target, move the near target slightly closer to you keeping it at eye level.
4. Change the focus back to the near target and make sure it is seen singly. If so, count to three and then repeat from step two.

5. If at any point when moving the near target a little closer you cannot achieve a single image and it appears 'double', try to focus hard to get a single image. Then repeat from step two.
6. If a single image can still not be achieved, move the near target back until you reach a point where it is seen singly. Then repeat the exercise from step two.

You have completed the exercise successfully when you can change the focus of your eyes from the distance target to the near target when the near target is seen singly on the end of your nose. This may take several sessions to achieve.

The orthoptist will advise you how often you should perform this exercise.

To be performed times per day for minutes.

At the end of your exercise session it is important to relax your eyes. Do this by looking out of the window at a far away object, or by closing your eyes for a few minutes.

For further advice or information

Please contact your Orthoptist on 01872 253287 or

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If you would like this leaflet in large print, braille, audio version or in another language, please contact the General Office on 01872 252690

