

# Convergence exercises

## Introduction

The orthoptic exercises described in this leaflet have been advised and explained to you by your orthoptist. This leaflet is provided as a reminder to keep at home of how to complete the exercises. Only do the exercises which you were advised to do.



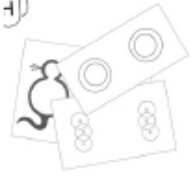
	<p>Spatula/ pen convergence</p>	
	<p>Dot card</p>	
	<p>Stereograms</p>	

Figure 1: Examples of types of convergence exercises

## What are convergence exercises?

Convergence is the ability for the eyes to move inwards together at the same time.

Convergence exercises are used to improve a patient's ability to converge the eyes equally. This helps to ease symptoms such as, headaches and occasional double vision which may occur when reading or looking at close objects.

These exercises should be practised at least 3 times a day or as recommended by your orthoptist **but only for a few minutes at a time**. It is important to relax your eyes after practising the exercises by looking into the distance or closing them for a short time.

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Department

**Ophthalmology**

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**September 2023**

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## Pen/spatula convergence

The orthoptist will provide you with a spatula marked with a target, but you can use a pen, pencil or even a finger to do this exercise.

The aim of the exercise is to move the target towards your nose while keeping a single image. The image may blur but should not split into a double image.

1. Hold the target at arm's length, slightly below eye level, ensuring you can see a single image.
2. Bring the spatula slowly and steadily towards your eyes while always watching the target.
3. If the target appears to double, stop moving it, keep your focus on the target and try to regain a single image.
4. If a single image is regained, continue to bring the target towards your nose.
5. If a single image is not regained, move the target back until a single image is restored and then repeat from step 2 of this exercise.

Good convergence has been reached if a single image is comfortably held while bringing the target all the way up to your nose.

## Dot card

The orthoptist will provide you with a dot card for this exercise. The aim of the exercise is to maintain a single image of the dot you are directly looking at. All other dots and the lines will double up.

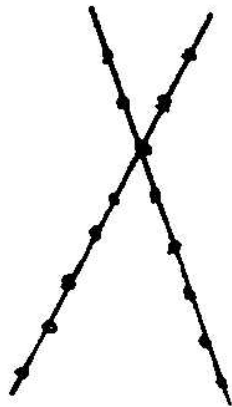
1. Hold the card tipped slightly down so it is touching the tip of your nose and with the line of dots extending away from you.

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2. Look at the dot furthest away and make sure that this appears single. The rest of the dots and the line then appear double forming an A shape.



3. Now look to the second furthest dot, make sure it is single before moving onto the third dot. Continue slowly up the card making sure that each dot you are focusing on is single.
4. If you are unable to get the dot you are looking at to appear as a single dot, go back to step 3 and try again.
5. You will notice all dots before and after double and the line will look like an X.



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6. Continue up the card. When you keep focus on the nearest dot this will be single and the rest of the dots and the line will appear double forming a V shape.



7. Now slowly change your focus, retracing your steps back down the line of dots to the start position.

Once you can achieve smooth convergence up and down the card the orthoptist may ask you to jump from the end dot, to a middle dot, to the nearest dot and back to the end.

## Stereograms

For this exercise the orthoptist will provide you with the relevant stereogram card. This will be a small card with 2 pictures on it (see Fig1). The pictures may be a cat, circles (sometimes described as a bucket) or 3 rings.

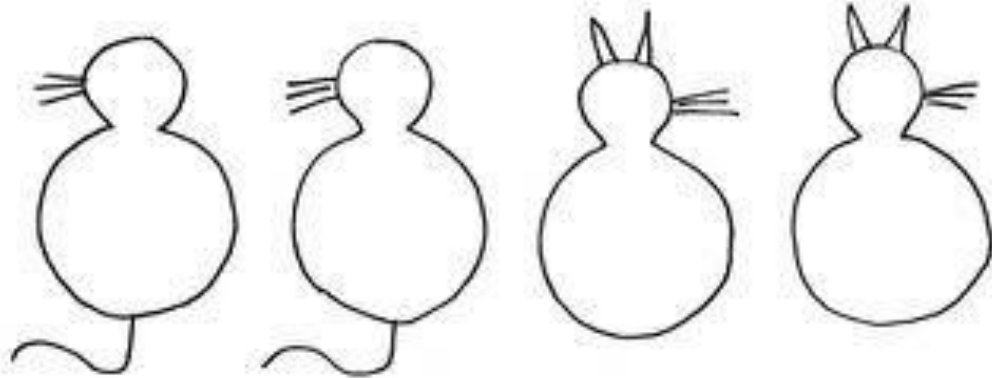
### Near position stereogram

The aim of the exercise is to achieve a complete central image by focusing on a point in front of the card and being aware of, but not directly looking at, the images on the stereogram card.

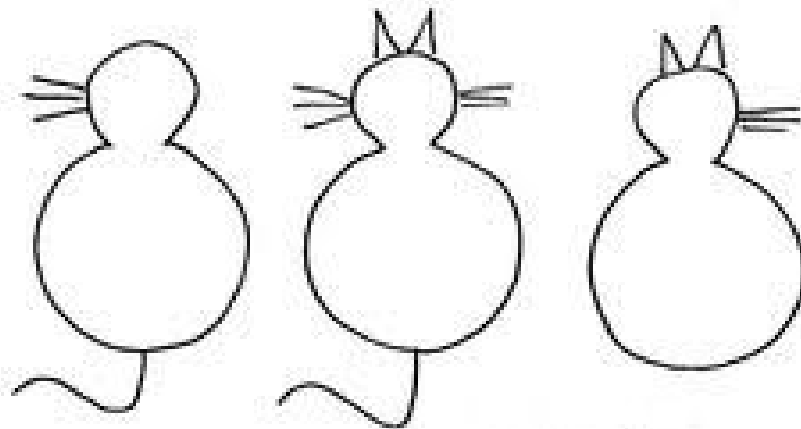
1. Hold the stereocard at arm's length and place a pen immediately in front of the card centrally between the images.
2. Looking at the pen, bring it slowly towards your eyes. At the same time, be aware of the images on the card but **do not** look directly at the card.

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3. As you move the pen towards your nose the images on the card begin to double up for example 2 cats become 4.



4. With the pen at a point about half way between your eyes and the card the 2 central cats should join to form 1 complete cat. It is very tempting to look directly at the card but your focus must be kept on the pen if you are to achieve 3 cats.



5. If you are using the bucket or ring card the central image becomes three dimensional.
6. Once 3 images are achieved, try to make the middle image as clear as possible.

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7. If you can maintain the 3 images you can slowly remove the pen while keeping your eyes focused on the point where the pen has been.
8. A step further is to repeat the exercise by looking at an imaginary point half way between your eyes and the card so that the third image is achieved by voluntary convergence.

### **Distance position stereogram**

Relaxation of the eyes may be achieved by holding the card at arm's length whilst focusing on a target in the distance. The upper border of the card should be just underneath the distance target.

As you focus on the distance target the cats will begin to double and then as your convergence relaxes further these images will join to create a complete third cat (or if using the bucket or ring card the central image becomes three dimensional).

## **Contact information**

### **Orthoptic Department**

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