Date	Exercise	Times per day	Minutes

## For further information and advice please contact:

Orthoptic Department: **0300 019 4422** Monday to Friday 8.30am to 4.30pm

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# Orthoptic exercises



This leaflet provides information on how to perform the orthoptic exercises that have been recommended during your orthoptic appointment.

The orthoptist will inform you of which exercise to do and how often. You can also write your progress in the exercise log at the end of this leaflet.

#### What are orthoptic exercises?

Orthoptic exercises help to improve control of the eye muscles. These exercises are advised for patients that have reduced convergence and/or accommodation.

#### What is convergence?

Convergence is the ability to move both eyes inwards towards the nose at the same time.

#### What is accommodation?

Accommodation is the ability to focus on words that are near and make them clear.

## Why do these mechanisms need to be exercised?

Both convergence and accommodation are important for close up work such as reading.

When there is a weakness or insufficiency of either of these abilities, symptoms of eye strain (also known as asthenopic symptoms) may be experienced such as headaches, sore eyes, blurring of words and/or double vision.

The orthoptist will advise the most suitable exercises for you based on your symptoms and clinical findings.

#### Side effects

During exercising, symptoms of eye strain (asthenopic symptoms) such as headaches and sore eyes may temporarily worsen. This should be taken as a good sign that the exercises are having an effect and not a reason to stop. Relaxing the eyes after the exercises will help to reduce these symptoms, but if you have any concerns regarding you exercises please contact the Orthoptic Department on 0300 019 4422.

#### **Exercise log**

Use the table below to fill in your progress with your assigned exercise or exercises. Feel free to bring this to your next orthoptic appointment.

Date	Exercise	Times per day	Minutes

#### **Dot card**

For this exercise you will need:

#### • A dot card.

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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** Bend the card slightly lengthways along the crease line as this helps the card to maintain its shape.
- **2** Hold the card lengthways so that it is touching the tip of your nose with the line of dots in front of you.
- 3 Look at the furthest dot. If your eyes are converging correctly the viewed dot will be seen singly and the other dots will be seen to form an 'A' shape see diagram 1.
- 4 Shift your eyes to the second dot. This should be seen singly with the dots in front of and behind this one appearing double. The dots will start to form an 'X' pattern see diagram 2.
- **5** Each dot should be held as a single image for five to ten seconds before moving to the next dot.
- 6 If you are having trouble making the dots singular, 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.
- 7 Once the dot nearest your nose has been reached and held as a single image, the dots behind will appear double and will form a 'V' pattern - see diagram 3. You have successfully completed the exercise.
- 8 Sometimes the Orthoptist will tell you to move your eyes back along the line of dots to the one that you started with.

#### Stereogram cards

For this exercise you will need:

• A stereogram card.

The aim of this exercise is to achieve a stereoscopic (3D) image from the two images on the stereogram card.

- 1 Hold the card at eye level at arm's length, ensuring the images are facing you.
- 2 Place a pen against the card between the two images.
- 3 Slowly move the pen towards you looking at the pen constantly. It is very important at this stage of the exercise NOT to look directly at the card or the exercise will not work look continuously at the pen.
- 4 While looking at the pen as you move it slowly towards your nose, you should be aware of both the images becoming double and therefore you should see four images.
- 5 Continue to slowly move the pen towards you and the four images should become three images with the middle image either appearing complete when using the cat card or becoming three dimensional when using the bucket card or ring card.
- 6 Once the middle image is achieved, try to make it as clear as possible.
- 7 The orthoptist may ask you to try to maintain the middle image while removing the pen.

The orthoptist will advise you on how often you should perform stereogram exercises.

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

#### Prism fusion range

For this exercise you will need:

- A Fresnel prism bar
- A target for near or distance fixation (as applicable)

The aim of this exercise is to improve your ability to maintain a single image.

- 1 Start by looking at either your near target at eye level at arm's length or at your chosen distance target.
- 2 Introduce the lowest strength of prism in front of one of your eyes, with the prism parallel to your eye and ensuring the prism is not bent as this may distort the image.
- **3** If the image goes double try to focus to regain a single image.
- 4 Once single, move the prism bar up to the next strength prism while continuing to focus on maintaining a single image.
- **5** If the image goes double and you are unable to regain a single image, decrease the prism strength until you are able to regain a single image.
- 6 Continue increasing the prism strength, if you experience double that you cannot make single repeat from step 5.
- 7 You have completed the exercise once you are able to make the strongest prism single.

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

### Target to nose

For this exercise you will need:

• A target for near fixation (you can use the tip of a pen or pencil).

The aim of this exercise is to watch a target moving towards your nose while maintaining a single image. The target may be blurred during this exercise but it must be single.

This exercise is sometimes known as 'pencil push-ups'.

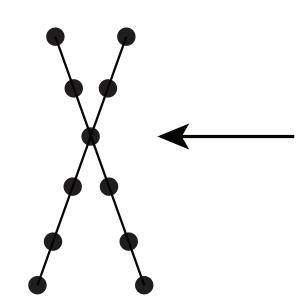
- 1 Hold the target at eye level at arm's length.
- **2** Bring the target slowly towards your nose watching the target carefully and continuously.
- **3** If the target appears 'double' at any time, stop moving the target towards you. Focus hard on the target and try to regain a single image.
- 4 If this is achieved repeat from step 2.
- 5 If a single image cannot be achieved move the target backwards slowly until a single image is achieved once more. Repeat from step 2.
- 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 on how often you should perform pencil push-ups.

At the end of your exercise session it is important to relax your eyes by looking out of a window at a faraway object or by closing your eyes for a minute.

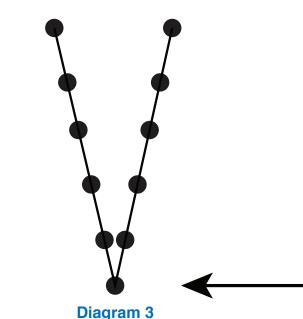
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**Diagram 2** 

illustrates the 'X' pattern seen when practising dot card exercises. The arrow indicates the dot being focused on.



illustrates the 'V' pattern seen when practising dot card exercises. The arrow indicates the dot being focused on.

#### Jump convergence

For this exercise you will need:

- A target for near fixation (you can use a pen or pencil).
- A target for distance fixation (this can be an object outside a window).

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

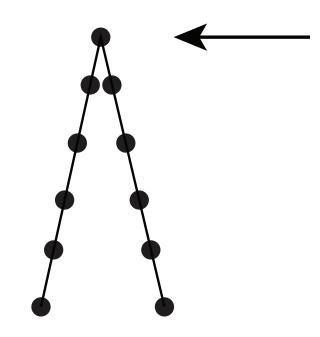
- 1 You need a target for near and for distance before you start this exercise.
- 2 Focus your eyes on the near target held at eye level at arm's length. The target should be seen singly and you should count to three.
- **3** Change your focus to the distance target. This should be seen singly and again count to three.
- 4 While focussing on the distance target, move the near target slightly closer to you keeping it at eye level.
- **5** Change focus back to the near target and make sure it is seen singly. If so, count to three and then repeat from step 2.
- 6 If the near target, now closer, appears 'double', try to focus hard to get a single image and repeat from step 2.
- 7 If a single image can still not be achieved, move the near target further away until you reach a point where it is seen singly and repeat the exercise from step 2.
- 8 You have completed the exercise successfully when the image at near and in the distance is seen singly when the near target is on the end of your nose.
- 9 This may take several exercise sessions to achieve.

The orthoptist will advise you on how often you should perform jump convergence.

At the end of your exercise session it is important to relax your eyes by looking out of a window at a faraway object or by closing your eyes for a few minutes. **9** The Orthoptist may ask you to repeat this exercise using the letters on the reverse of the card. The aim will be to keep each letter single and as clear as possible.

The orthoptist will advise you on how often you should perform the dot card exercise.

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



**Diagram 1** illustrates the 'A' pattern seen when practising dot card exercises. The arrow indicates the dot being focused on.