East Kent Hospitals University NHS Foundation Trust

Amblyopia (lazy eye)

Information for parents from the Orthoptic Department

You have been given this leaflet by your orthoptist who has found that your child has amblyopia (lazy eye) that needs treatment in order to improve the vision of that eye.

What is amblyopia (lazy eye)?

A lazy eye is where the vision in one eye is lower than the other eye due to an interruption of normal visual development in early childhood's "critical period". The sight cannot be improved with glasses alone and the nerve at the back of the eye appears to be healthy.

Understandably parents are often shocked to hear that there is a problem with their child's sight, especially when their child has apparently been seeing well, as they may have been relying on their good eye.

How can amblyopia develop?

- The reduction in sight may be caused by the presence of a squint (one eye looking inwards, outwards, up, or down) - see Strabismus (squint) explained (/strabismus-squint-explained) leaflet. To avoid the inevitable double vision that would happen with the eyes pointing in two different directions, the brain ignores the signals from the squinting eye and only sees images from the normal eye when both eyes are open.
- Or it could be caused by unequal amounts of long or short sight (the glasses' lens of one eye needing to be stronger than the other), also known as anisometropic refractive error.

The brain of a young child can quickly "switch off" unwanted information such as a second image which would occur at the onset of squint or the blurred image if one eye needs a stronger lens than the other. The vision in the "switched off" eye becomes lazy.

Fortunately, the vision can usually be regained, with most success if the problem is found and treated during the critical period of visual development; usually up to eight years of age, with the most sensitive time being under five years.

What happens if the amblyopia is left untreated?

If left untreated the sight of the lazy eye can drop to a very low level. However the eye will not go blind because of amblyopia.

What happens when we arrive at hospital?

Report to the outpatient reception desk and they will direct you to the Orthoptic Department.

During your appointment the orthoptist will assess your child's vision with any glasses prescribed. Their assessment will be carried out in the Orthoptic Department and you will be with your child the whole time.

What is the treatment?

Eye patching or occlusion (occlusion is the term for patching) of the "good" eye is the normal treatment for amblyopia. The brain is then forced to "look" with the lazy eye and the level of vision will improve. Your child will first need to undergo a refraction examination (test for glasses following the instillation of drops - see Glasses and testing for glasses (hospital refraction) (/glasses-and-testing-for-glasses-hospital-refraction) leaflet). Any spectacles prescribed should be worn full time and may help your child's vision to improve before the decision is made to start patching. It is important to understand that patching will only improve vision, it will not straighten a squint.

How is the patch worn?

Your orthoptist will give you a supply of patches specially designed for young children (see examples of available patches below). The patches are applied directly to the face (see photograph below) and any glasses must be worn at the same time. If your child develops a bad reaction to their patch you must contact the Orthoptic Department, and an alternative solution will be advised.

Patches available to children

How long will my child wear their patch?

If the patch is worn correctly, the aim is to keep the treatment period as short as possible: six months should bring your child's vision to its maximum potential if the patch is worn four hours daily. You will be asked to complete a patching diary (see Patching diary) which you should bring to all eye appointments, to enable you to plan your child's ongoing treatment. Patching treatment will stop when your child's vision stops improving and remains stable for four months. The patching may be reduced over the next three to four months before stopping altogether.

All treatment plans are designed on an individual basis, after speaking with you and your child.

Some patches can attach to your child's glasses, as shown in the photo on the right, but your child may peep around this type of patch if their glasses do not fit properly.

How will my child react to the patch?

Your child may dislike the patch at first, especially if their vision in the lazy eye is very poor. Your full understanding of the treatment and reassurance is essential to help your child through the early stages. As their vision improves the patch will be better tolerated.

Tips for parents

- Encourage your child to wear their patch for the suggested time each day. Some children prefer to begin by watching their favourite DVD whilst the patch is on, to help build up positive associations.
- Close work (such as colouring or playing computer games) for at least one hour each day with the patch on will help your child’s tolerance of the patch and speed up their visual development.
- The patch will reduce what your child can see on that side, which may lead to them being more clumsy. Please take extra care when crossing roads.
- Tell your child’s teacher that your child’s vision will be worse when wearing the patch and they may need more time for their schoolwork.
- A reward system can be useful, for example star charts. Ask your orthoptist if you would like a patch poster or colouring sheet.
- The orthoptist will want to see your child regularly to monitor their progress and change their patching routine as necessary. Contact the Orthoptic Department if an appointment is unsuitable, to rearrange another time.

What are the benefits of occlusion?

- Improves vision in the weaker eye.
- Increases the chance of developing 3D vision if the eyes are already straight, become straight with glasses, or squint surgery is later indicated.
- Has the potential to make sure each eye is at legal driving standard in case of future injury/disease of the other eye.
- Improved career opportunities especially in the armed forces or driving heavy goods vehicles (HGV).

Are there any risks with patching?

- Your child can have a bad reaction to the adhesive patch, causing a rash.

- Occasionally some squints may temporarily increase in size.
- There is a small risk of temporarily reducing the vision in the good eye, if more than the specified amount of occlusion is undertaken. This can be corrected by occluding the other eye.

Your orthoptist will be closely monitoring your child to make sure the risks are kept to a minimum.

Is there an alternative to patching?

Yes. In the few exceptional cases where patching is not tolerated (for whatever reason) Atropine ointment / drops may be prescribed. The ointment is instilled daily and acts to constantly blur the near vision in the good eye, to encourage the use of the lazy eye. The drops / ointment can be instilled at night when asleep.

Please discuss the use of Atropine with your orthoptist to decide whether it may be an alternative treatment in your child's case. You will also be given an information leaflet on the use of Atropine for both management of amblyopia and refraction examination.

Further information

Remember that your orthoptist is here to help, advise, and support you during your child's treatment. Do not hesitate to ask if you have any particular problems or worries. If you have any further questions, please contact the Orthoptic Department on telephone 01227 868615.

References

- Stewart, et al. Unilateral Amblyopia: Factors Influencing Visual Outcome. IOVS, September 2005: 46(9)
- Glasses and testing for glasses (hospital refraction) (/glasses-and-testing-for-glasses-hospital-refraction). East Kent Hospitals patient information leaflet.
- Orthoptic uses for Atropine (/orthoptic-uses-of-atropine). East Kent Hospitals patient information leaflet.
- Strabismus (squint) explained (/strabismus-squint-explained). East Kent Hospitals patient information leaflet.

Websites

- Trusetal (https://www.tshs.eu/en/index.html)
- Patient.co.uk (https://patient.info/childrens-health/amblyopia-lazy-eye)
- American Association for Pediatric Ophthalmology and Strabismus (AAPOS) (https://www.aapos.org/home)
- NHS: Lazy eye (https://www.nhs.uk/conditions/lazy-eye/)

Patching diary

Use the following table to calculate the total number of hours your child wears the patch. Please bring this diary to the hospital to help the orthoptist plan your child's treatment.

Day/Week	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
Monday								
Tuesday								
Wednesday								
Thursday								
Friday								
Saturday								
Sunday								
Total hours								
Grand total								

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Patients should not bring large sums of money or valuables into hospital. Please note that East Kent Hospitals accepts no responsibility for the loss or damage to personal property, unless the property has been handed into Trust staff for safe-keeping.

Further patient leaflets are available via the East Kent Hospitals website (https://www.ekhuft.nhs.uk/information-for-patients/patient-information/).

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