

Atropine eye drops for treatment of a lazy eye

(Amblyopia)



Information for parents

Ophthalmology (Orthoptics)



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What is a lazy eye?

A lazy eye is one that does not see as well as the other. This condition is also known as Amblyopia.

What causes a lazy eye?

There are a number of reasons why an eye becomes lazy. The most common reasons are:

- A childhood squint (strabismus) - the eye that turns is ignored by the brain.
- Being more long or short sighted in one eye (anisometropia) – this eye does not receive as clear an image as the other eye.
- Eye problems such as cataracts or a droopy eye lid (ptosis) – this prevents normal vision from developing.

Your orthoptist can provide you with more information about factors contributing to your child's lazy eye.

Why does a lazy eye need treatment?

Leaving a lazy eye untreated will mean the vision in that eye will always be poor. This could become a major problem if your child were to lose the vision in their better seeing eye through an accident or illness for example.

Having poor vision in one eye can affect what type of jobs your child can do in the future. There are vision requirements for jobs such as joining the armed forces or the police force, becoming a firefighter or a professional driver.

Improving vision in a lazy eye can, in some cases, encourage both eyes to work together more effectively.

Does the treatment have to be done now?

In most cases visual development occurs until around the age of 8 years.

If nothing is done to try and improve the vision before this age, it will not get better. It is important therefore to begin treatment as soon as possible.

Improvements tend to occur more quickly in younger children.

What are Atropine eye drops?

Atropine is a drug that relaxes the muscles inside the eye. When the muscles relax, the lens within the eye loses its focusing power. It also causes the pupil (black centre part of the eye) to get bigger.

These effects are temporary and the eye returns to normal when the drops wear off.

How do Atropine eye drops treat a lazy eye?

Atropine eye drops are put in the better seeing eye. The action of these drops results in the vision in the better seeing eye becoming more blurred especially for close work.

This encourages the lazy eye to be used so the vision can develop further.

What are the benefits of treatment?

Research has shown that using Atropine eye drops to blur the better seeing eye can improve the vision in the lazy eye.

Children sometimes prefer to have an eye drop once a day rather than wearing an eye patch for several hours a day.

Are there any risks of using Atropine eye drops to treat a lazy eye?

If your child has very poor vision in the lazy eye, they may struggle to see when the better seeing eye is blurred. It is important to ensure your child is supervised if this is the case.

There can be a small risk of reducing the vision in the better seeing eye even after the drops wear off. However, studies show that severe reduction is extremely rare.

In approximately 1 in 200 cases a squint can become apparent or more obvious during treatment. In older children this can rarely lead to double vision.

Your child will be closely monitored to detect any adverse visual effects quickly.

Occasionally an allergy or reaction to atropine eye drops can occur. If you have any concerns, please telephone the Orthoptic Department on:

- **0114 271 3021**

What are the side effects of Atropine eye drops?

- Your child will be sensitive to bright lights. When outside in bright conditions, a wide rimmed hat, cap or sunglasses should be considered.
- Occasionally a child may develop an irritation of the eyes in the form of redness and/or swelling around the eye.
- A slightly dry mouth
- Hyperactivity
- Raised eye pressure (extremely unlikely in children).

The following side effects have only been reported when a much larger than prescribed amount has been administered, or the Atropine has been accidentally swallowed:

- Fever, a dry mouth, dry skin and facial flushing / redness.
- Constipation, an irregular or slower heart beat, an increased urge or inability to pass urine.
- Very rarely convulsions, headaches or nausea / vomiting.

Carefully following the instructions for how to instill the drops (on pages 9 and 10 of this leaflet) will minimise the chances of unwanted side effects.

There is further information available in the information leaflet provided in the box the drops are supplied in.

Do the drops hurt?

No, the drops may be felt as a mild tingling when administered into the eye but discomfort is rare.

What do I do if I am concerned my child is reacting badly to Atropine or swallows it accidentally?

**Stop using the drops immediately
and seek medical advice.**

You can contact:

- The Orthoptic Department: **0114 271 3021**
- Emergency Eye Centre practitioners: **0114 271 2726**
- NHS 111 (if outside of working hours) Freephone: **111**

Are there any alternatives to Atropine eye drops?

Eye patches can be used to completely cover the better seeing eye. Atropine eye drops are often used when eye patches have not been possible or effective.

There are other methods such as changing the glasses prescription or frosting a lens to create blur but these tend not to be as successful.

If not treated, the vision in the lazy eye will not get better and may even get worse.

How long will the treatment take?

This varies from child to child. If you use the drops as advised and the treatment is started as soon as possible, this will maximise the chances of a shorter treatment time.

Does my child still have to wear their glasses?

Yes. This is essential as the glasses help the lazy eye to see more clearly.

How do I store the drops?

**Atropine MUST be kept out of the reach of children.
It is a very dangerous substance if swallowed.**

The drops should be stored at room temperature (below 25°C) in a dry place and away from strong light. **It is important that you:**

- Follow the instructions for use very carefully.
- Do not use the Atropine beyond the expiry date.
- Do not use it after it has been opened for 4 weeks.
- Dispose of the used container safely.
- Always wash your hands after handling the drops.

How long do the effects of Atropine eye drops last?

The effect of the blurred vision usually lasts for 2 to 3 days after the last drop is put in. The effect of the dilated pupil may last for up to 2 weeks.

If your child is having a glasses test (refraction) next visit, please ensure that the Atropine drops are stopped 2 weeks before this appointment.

Please check with the Orthoptic Department if you are not sure.

How often will my child need to attend?

Regular follow up whilst using Atropine eye drops is very important to monitor your child's progress and minimise the chances of any complications.

Appointments are usually given every 4 to 6 weeks.

If you are unable to attend, please call the department to rearrange the appointment as soon as possible.

What should I do if I run out of Atropine drops?

You can contact your GP for a repeat prescription as they should receive a letter explaining Atropine treatment has been started.

If there are any problems with this, please telephone the Orthoptic Department on:

- **0114 271 3021**

When should I put the drops in?

Please instill one drop into the eye noted below.

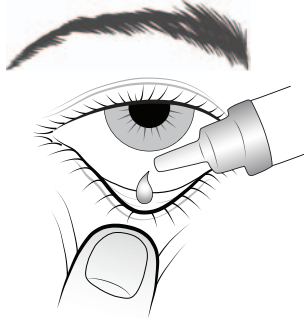
Which eye:

How often:

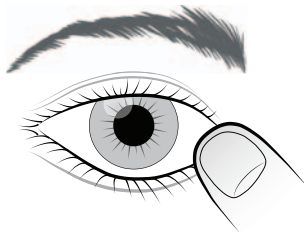
To avoid concern, please inform school or nursery that your child is using the drops and one pupil will be larger than the other.

Instructions for using Atropine eye drops

1. Wash your hands before use.
2. Twist the cap off the bottle or minim.
3. Gently pull down the lower eyelid with your finger.



4. Instill 1 drop of Atropine into the area between the eyeball and the lower eyelid, taking care to avoid touching the eye with the dropper. Release the eyelid.
5. **Press gently on the inner corner of the lower eyelid for 1 minute.** This will stop the solution draining away into the nose and being absorbed into the body.



6. **Always wash your hands and your child's hands after using the drops.**

Who should I contact if I have any questions?

If you have any problems or questions about your child's treatment, please telephone the Orthoptic Department on:

- **0114 271 3021**

Please be aware that we may need to get your child's hospital notes to answer specific questions.

Where can I find more information?

NHS website

- **www.nhs.uk** (Search for 'Amblyopia')

Patient UK health information resource

- **www.patient.co.uk** (Search for 'Amblyopia')

General information about Orthoptics

- **www.orthoptics.org.uk**

References:

- Stewart C, Moseley M, Fielder A. Amblyopia Therapy: An Update, *Strabismus*, 19(3), 91–98, 2011
Li T, Shotton K. Conventional occlusion versus pharmacologic penalization for amblyopia.
Cochrane Database of Systematic Reviews 2009, Issue 4. Art. No.: CD006460.
- Paediatric Eye Disease Investigator Group (PEDIG). A randomized trial of atropine vs. patching for treatment of moderate Amblyopia in children.
Archives of Ophthalmology 2002; 120 (3):268-78



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