



## Dilating Eye Drops

### What are dilating eye drops?

Dilating eye drops make the pupil of the eye bigger. The pupil is the black circle in the center of the colored part of the eye (iris) [See Figure 1]. There are two main types of drops. One type causes special muscles of the iris to contract, which makes the pupil bigger (dilation). The other type prevents special muscles from making the pupil smaller, and also relaxes the eye's ability to focus (cycloplegia)[See Figure 2]. All these changes are temporary, and usually last for a short amount of time (see "How long do dilating drops last?"). The two kinds of drops are usually used together, either as two separate drops, as a single combination drop, or as a spray.

### Why are dilating drops necessary?

A large pupil created by dilating drops allows the doctor to examine the inside of the eye (parts of the eye behind the iris). This is necessary to diagnose many different eye problems. Without the drops, the pupil becomes very small when a doctor shines a light in your child's eye. This is a normal pupillary response to light but does not allow for an examination of the inside of the eye. Also, relaxing the focusing muscles of the eye with the drops is the best way for the doctor to check whether your child needs glasses ([refractive error](#); [glasses for children](#)). In some cases, dilating eye drops are necessary to treat eye problems, such as amblyopia, inflammation, and progressive nearsightedness ([progressive high myopia](#)).

### How long do dilating drops last?

Dilating eye drops used for examination of the eyes usually last anywhere from 4 to 24 hours. This depends on the strength and type of the drop, and on the individual patient. Dilation can last longer in people with lighter colored eyes, and in some cases, may last longer than 24 hours. Children need stronger drops than adults to accurately measure their need for glasses ([refractive errors in children](#)). Weaker drops are used for premature babies or patients with a seizure history. Dilating eye drops used to treat certain eye diseases usually last longer than those used for the eye exam, often lasting up to 2 weeks. Even though they last longer, your doctor may still ask you to use the drop daily or twice a week for effective treatment.

### What are the side effects of dilating drops?

Light sensitivity and blurry vision at near are common side effects. Both these gradually go away within 4 to 6 hours. Sunglasses can help decrease sensitivity to light after a dilated eye exam. Children can go back to school, but teachers should expect them to have blurry vision while reading. Allergic reactions are rare but can include eyelid swelling and red eyes. Systemic side effects from Atropine (a stronger and longer acting drop) include fever, dry mouth, flushing of the face, and a fast heartbeat. Rarely, Atropine can cause new eye crossing (esotropia), or

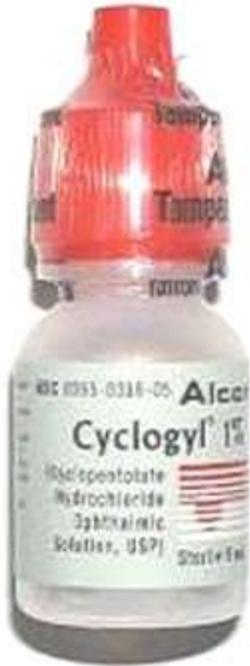
make an existing esotropia worse. When treating progressive nearsightedness ([progressive high myopia](#)) with Atropine, a very weak concentration is used. This reduces potential side effects.

### **Do dilating eye drops burn or sting?**

Like most eye drops, there may be some stinging immediately after the eye drop is used. This usually lasts only a few moments. A numbing eye drop can be used before use of the dilating drop to decrease stinging but may cause stinging of its own.



**Fig. 1: Pharmacologically dilated pupil.**



**Fig. 2: Cyclopentolate (Cyclogyl), a commonly-used dilating/cycloplegic drop.**