

Patient information from BMJ

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Cataract surgery

This information tells you about an operation to remove a cloudy lens (a cataract) in your eye. It explains how the operation is done, how it can help, what the risks are, and what to expect afterwards.

You can use our information to talk to your doctor about cataract surgery and other treatments that might help you.

What is cataract surgery?

In your eye, the lens sits behind the colored part (the iris) and helps you to see things in focus.

If you have a cataract, it means that the lens has become cloudy. This makes your vision blurred, like looking through frosted glass.

In a cataract operation your eye surgeon will remove the cloudy lens and put a clear, artificial lens in its place.

Many people have worse eyesight as they get older. About one-third of people aged over 65 have cataracts in one or both eyes. But not everyone with cataracts needs surgery.

Why might I need cataract surgery?

Cataract surgery can help you to:

- see things in focus
- look into bright light with less glare: this can help if you have problems driving because of the glare from vehicle headlights
- tell the difference between colors
- do things that your poor vision has stopped you from doing, such as driving, watching TV, reading, and working.

Doctors don't recommend cataract surgery just because someone's eyesight reaches a particular score on a sight test. Instead they look at whether your vision is affecting your quality of life, and stopping you from doing normal daily activities.

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For example, if your work or your leisure activities require fairly good vision, then a cataract operation might be a good idea. On the other hand, if your main interest is listening to music, and you don't drive, having better vision might not be a priority.

There are other reasons why a cataract operation might help you. For example:

- cataracts get worse over time and are a leading cause of blindness if not treated. This doesn't mean that you'll go blind - cataracts usually get worse very slowly, so you might never need treatment. But it's important to bear the problem in mind, and to see your optician or doctor if you are concerned
- poorer vision when you're older can make you more likely to have a fall. Improving your vision can help prevent falls
- you might need treatment for another vision problem, such as macular degeneration (when the blood supply to an eye becomes reduced) or diabetic retinopathy (vision problems caused by diabetes), and a cataract is in the way and needs to be removed first.

If you need to have cataracts removed from both eyes, you will need to have two separate operations about 6 weeks apart.

What will happen?

A cataract operation usually lasts between 10 and 20 minutes. It's usually done under local anesthetic and most people are able to go home the same day.

You'll usually only need to stay overnight if you have other problems with your eyes, or if you have problems after the operation.

Before the operation

Unlike with many types of surgery, you probably won't need to change out of your normal clothes for this operation. And you can probably walk to the operating theatre. Once you're there:

- you will be asked to lie down on a cart or bed that has a special pillow to hold your head still
- your face will be covered with sheets to keep germs out of your eye, with a space so that you can breathe
- a doctor or nurse will numb your eye with anesthetic eye drops or gel, or with an injection. This might sting a little, but the operation will be painless
- the area around your eye and your eyelashes will be cleaned with an antiseptic
- you'll need to lie still and not speak. But a nurse will explain how to signal if you feel uncomfortable.

During the operation

Surgery to remove a cataract is called **phacoemulsification**. The surgeon removes the cloudy lens and replaces it with an artificial lens called an **intraocular lens (IOL)**.

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During this operation the surgeon makes a small cut in the clear, thin film (called the cornea) that covers your eye. The cut is between 2 and 3 millimetres long (about $\frac{1}{8}$ of an inch). It isn't painful and heals very quickly. After the surgeon has made the cut:

- the surgeon inserts a tool with a fine needle through the cut to reach the lens inside your eye
- this tool gives off high-energy ultrasound waves. These sound waves break down the lens into small pieces. These pieces are then sucked out through the centre of the needle
- the surgeon puts the artificial lens into your eye
- the small cut in your cornea should heal on its own without stitches.

You might have to wear a pad over your eye for the first day or so, to protect your eye.

Different types of lens

There are several types of lens that can be inserted to replace a lens with a cataract. They might not all be available where you are, or some of them might involve extra cost.

- **Monofocal lenses** are probably the most commonly used type. These are simple lenses that work well. But they don't change focus the way that a younger person's real lens does.

This type of lens is made for either close or distance vision, but not both. So if you have this type of lens for distance vision, you'll probably have to wear glasses to read.

- **Accommodating lenses** are designed to be flexible so that they can change focus, like the eye's natural lens. But it's not clear how well they work, and it's unlikely that they will focus as well as a healthy natural lens.
- **Multifocal lenses** are also designed to focus for both close and distance vision. But they are also unlikely to focus as well as a healthy natural lens.

Whatever type of lens you choose, you might have to wear glasses some of the time.

What are the risks?

As with all operations, there are risks with cataract surgery.

Most problems are mild and can be treated. But serious problems do happen. For example, some people have much worse vision, or none at all, after the operation. This happens in about 1 in every 1000 people.

The list of possible complications below might look long and worrying. But remember, these are only things that might happen. Many people have no problems at all.

Problems that can happen during the operation

- Heavy bleeding during the operation is rare but it can happen, and it can cause vision damage.

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- The capsule that supports the lens inside your eye can tear or break during the operation. This can leave your vision worse than before.
- A piece of the lens with the cataract can break off and become lost in the eye. If this happens you will probably need another operation to remove the lost piece of lens.

Problems that can happen soon after the operation

Some complications don't happen until a little while after the operation. The most serious of these is an infection inside the eye. This is called endophthalmitis. This is rare, but very serious. The infection should be treated with antibiotics right away.

Other problems are usually mild and clear up by themselves, or they can be easily treated. These problems include:

- swelling of the cornea (the film that covers the front of your eye). This usually gets better by itself. But some people need an operation to have a new cornea implanted
- increased pressure in the eye. This is treated with eye drops
- inflammation (swelling) of the front part of the eye. This is called uveitis. It usually gets better by itself, but some people need eye drops
- swelling of the retina (the light-sensitive tissue at the back of your eye). Your sight will become cloudy a couple of weeks after your operation. This usually goes away by itself, but it can sometimes cause some sight loss.

Problems that can happen some time after the operation

Some complications don't happen for months or even years after the operation. These include:

- a cloudy lens capsule. This is called posterior capsular opacification, or PCO. This problem is fairly common and can be treated with a minor operation using a laser beam
- detached retina. This means that the retina comes away from the back of your eyeball or is torn. It's rare but very serious if not treated, and you'll need an operation to fix it.

What can I expect afterwards?

You will be able to go home soon after the operation. If you've had a sedative you'll need someone to stay with you for 24 hours.

Your eye might feel a bit uncomfortable and itchy for a couple of days, and you might be sensitive to bright light for a while. You should be able to read or watch TV almost straight away. But your vision may be blurry at first.

You'll need to use eye drops for several days or weeks to prevent infection and reduce any swelling. You might also have a follow-up appointment soon after your operation, so your doctor can check for any problems.

Your eye surgeon will give you advice at the follow-up appointment about when it's safe to drive. But you'll need to check the rules about how well you need to see in order to drive.

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