

Dilating your pupils for cataract surgery

Pupil dilation is a routine procedure used in the Eye Department. This leaflet explains why and how we dilate your pupils (make them larger) in readiness for cataract surgery.

What does pupil dilation mean?

Your pupil is the round black shape you see when you look in the middle of your eye – it is actually an opening through which all the light passes to your retina. Your pupils dilate naturally when you are in dark conditions, or if you are anxious or excited.



Why do we dilate your pupils when you visit the Eye Department?

Doctors and nurses routinely use ‘in the eye’ medicines / drugs to cause dilation artificially.

When doctors examine the inside of your eye it is like looking through a small round keyhole into a large room, so if the pupil is larger their view is much better.

Pupil dilation is frequently required before surgery too, for better, safer access to the eye. It can also be used as part of the management of some painful eye conditions.

How will you dilate my pupils?

There are two methods, and both produce temporary dilation, which can last anything from 30 minutes up to 2 hours:

- Applying multiple drops, several times, **or**
- Inserting a single, small pellet to the lower sac of your eyelid. This method is often used before cataract surgery as a more efficient alternative to drops.

The nurse or doctor will ask you to sit with your head tilted slightly back, and will gently pull down your lower eyelid. We will ask you to look up, at which point the drops or pellet will be placed into the lower eyelid sac (called the fornix).



What will I notice?

- **Drops:** Each drop might sting slightly when first applied, but this quickly fades.
- **Mydrasert pellet:** You may experience stinging, blurred vision or visual discomfort due to perception of the presence or shifting of the pellet. If you do feel discomfort after the pellet is put in, tell your nurse or doctor. If the pellet becomes dislodged it can be repositioned or removed very easily.

Your pupil normally dilates over a few minutes, and the nurse or doctor will check to make sure it is progressing satisfactorily.

You will notice that lights start to seem brighter and your vision may lose some of its sharpness, particularly when reading.

If a pellet is used it will be removed by the nurse or doctor just before the operation, in the operating theatre or anaesthetic room.

Very rarely, it can become hidden inside the eyelids and comes out naturally later at home. It is not harmful and the drug effect will have worn off about 2 hours after insertion.

You might find it on your cheek, looking like a small grain of white rice! If this happens, the pellet can just be discarded.

You should not drive until your sight returns to normal, so please arrange for someone to drive you home.

Who is not suitable for the pellet method of pupil dilation?

Mydriasset pellets are a safe method of pupil dilation for most patients but we may advise eye drops instead if:

- Your blood pressure is high on the day of surgery or if you have poorly controlled blood pressure.
- You have had a previous stroke caused by a bleed in the brain.
- If you have aortic regurgitation (leaking of the aortic heart valve).
- if you have Marfan's syndrome / Ankylosing Spondylitis (AS).
- If you have narrow angle glaucoma.
- If you have had an allergic reaction to Tropicamide or Phenylephrine eye drops previously.

Are there any side effects of pupil dilation?

Common side effects: (more than 1 in every 100 patients) include stinging, blurred vision and visual discomfort.

Uncommon side effects: (less than 1 in every 100) include watering, irritation, discomfort in bright light and temporary changes to the surface of the eye, called superficial punctate keratitis.

Rare side effects: (less than 1 in every 1000) include inflammation of the eyelids (blepharitis), inflammation of surface layer over the front of the eye (conjunctivitis), and risk of angle closure glaucoma.

Elevation of blood pressure, fast pulse rate (tachycardia), headaches, tremor, pallor and dry mouth. It is extremely rare to develop an irregularity of the heartbeat (arrhythmia).

Where can I find more information?

- <https://www.rcophth.ac.uk/patients/>
- <https://www.nhs.uk/conditions/cataract-surgery/>
- Visit the Trust website at www.royalberkshire.nhs.uk

Contacting us

If you have a minor eye problem, please seek advice from your GP, optician or pharmacist. If you think your problem might be urgent, please attend Eye Casualty.

Eye Casualty (Reading):	Mon-Fri 9am to 5pm; Sat & Sun & bank holidays 9am-12.30pm; Closed Christmas Day and New Year's Day.
Eye Casualty: Prince Charles Eye Unit (Windsor):	Mon-Fri 9am to 5pm; Sat 9am-12.30pm; Closed Sun & bank holidays.
Dorrell Ward (Reading):	0118 322 7172 (24 hours a day)
Eye Day Unit (Reading):	0118 322 7123 (Mon-Fri 7am to 6pm)
Prince Charles Eye Unit Ward (Windsor)	01753 636496 (Mon-Fri 7am to 6pm)

Outside of Eye Casualty hours, you should telephone your GP's out of hours' service, ring NHS 111 or if you have serious concerns, visit your nearest Emergency Department (A&E).

Please ask if you need this information in another language or format.

SL Watson, January 2023

Review due: January 2025