

## Pupil Dilation

### What do my pupils do?

The pupil of the eye serves as an aperture in the center of the iris, allowing light to reach the back of the eye and form an image. Adjusting size in response to changes in light intensity the pupil constricts in bright light, to limit the amount of light entering, and in dimmer environments it dilates to permit more light. This dynamic regulation is controlled by muscles within the iris.

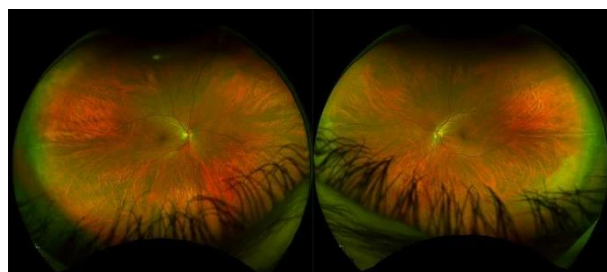
Adaptive aperture regulation optimises the amount of light entering the eye, ensuring clearer vision with light focused onto the retina. Pupil size can change based on factors such as proximity to an object, emotional states like excitement or fear, or experiences of pain.



Interestingly during sleep, when it's dark, the pupils remain small because the dilator muscles are relaxed. In most individuals, the size of the pupils remains equal in both eyes at any given time, regardless of whether one eye is exposed to light and the other is kept in darkness.

### Why does my optometrist use eyedrops to enlarge my pupils?

Buck and Todd Optometrists have an Optos Daytona Ultra-Widefield Retinal Imaging with Autofluorescence device which we use on all patients as it provides non-contact, up to 200° pole-to-periphery, ultra-widefield retinal views in a single capture helping us discover more evidence of disease and guide treatment decisions. Daytona offers multiple wavelength imaging including options for colour, red-free, and autofluorescence with green laser light.



The picture opposite shows an optometrist using an instrument called an ophthalmoscope to inspect the inside of your eye by looking through your pupils. This examination provides a 5° field of view which needs to be scanned across the retina. The bright light emitted cause the pupil to constrict, limiting the optometrist's view of the eye's interior.



We prefer to back up our 200° image with a Volk 90D Lens; the most widely recognized funduscopy lens and gold standard in exam rooms around the world. With its enhanced optical profile, it's a great lens for providing a good view even through small pupils.



If presenting symptoms indicate a possible retinal detachment or cataracts, limited eyelid aperture, poor eye control or hazy ocular media restrict our view, we will choose to dilate your pupils. This dilation allows for examination of the peripheral parts of the retina and any specific features under high magnification. Achieving pupil dilation involves placing drops in the eye, which alter the muscle balance controlling pupil size and enable the muscles responsible for enlarging the pupil to act.

## What will I experience?

The drops usually sting a little, but not for long. Depending on the colour of your eyes dilation can take between 5 to 20 minutes. Once dilated you may have trouble focusing on nearby objects such as books, and some individuals may notice blurred distance vision. Additionally, heightened sensitivity to bright lights and glare is common. We recommend sunglasses are worn when you leave. A driver to take you home is a good idea. Pupils return to normal size in around 4 hours.



In rare cases, individuals may develop itchiness and redness in the eyes due to allergies to the active ingredient. This allergic reaction can be easily treated. If you've had allergic reactions to eye drops in the past, be sure to inform your optometrist so that precautions can be taken to minimize any potential side effects.

If you have any concerns about your eyes following an examination which dilation drops were used, please contact your optometrist for advice.