Good Health

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Lenses to boost your sight while you sleep

FOR anyone who wears contact lenses, the rule is simple: remove them before going to bed, or risk a nasty eye infection. Now there are new contact lenses designed to be worn only at night.

What's more, the lenses promise to correct your sight overnight, so you won't need to wear contact lenses or glasses the next day.

The lenses, designed for people with short sight, work by gently pressing on the eye to restore it to the shape of someone with normal vision.

Around 12 million people in the UK are short-sighted — where distant objects appear blurred — and of them, three million wear contact lenses.

In people with normal vision, light rays pass into the eye through the cornea — the transparent front part of the eye that covers the iris and pupil. The light passes through the lens (responsible for focusing) and towards the retina at the back of the eye.

The retina then transforms this light into image-forming signals which are sent to the brain.

With short-sighted people, the cornea is either too curved, or the eyeball too long. This means the light rays from distant objects focus in front of the retina, rather than directly on it, making objects seem fuzzy.

Overnight lenses are made from a special hard type of plastic lens, called gas permeable. These are already available as day lenses, but most people wear soft lenses as these are more comfortable.

Picture: GETTY IMAGES

By ANNA HODGEKISS

The harder, overnight lenses work for both types of shortsightedness by gently pressing on the cornea, reducing its curvature, and thereby refocusing the light directly on to the retina. It also effectively shortens the eyeball.

The reshaping is temporary, however, because the cornea will gradually spring back to its original shape, so the lenses must be worn every night. (The lenses aren't suitable for people who are long sighted — where nearby objects are blurred — as their corneas are too flat.)

To get the right pressure, the curvature of the eye is measured — a procedure known as corneal topography. The lenses are then shaped to these contours, so pressure is applied evenly over the front of the eye.

The cornea is usually flattened slightly more than it needs to be. 'By overcompensating, this avoids sight deteriorating past perfect vision during the day as the cornea springs back to its original shape,' says Shelley Bansal, an independent optician in Middlesex, who advises one overnight lens manufacturer.

The lenses are also made to the patient's prescription in case they wake up in the night and need to see.

Although they should be worn every night, it takes a few days for the effects to wear off completely. In theory, you could avoid wearing them for a night or two, although your vision would gradually deteriorate.

This technique, known as orthokeratology, has existed for centuries. It's thought the Chinese slept with small weights or sandbags on their eyelids to reduce short sightedness.

'But until recently,' says Dr Susan Blakeney, optometric adviser to the College of Optometrists, 'it has been considered unreliable, as there was never any guarantee the lenses would work.

'Since then, techniques such as corneal topography — where the curve of the cornea is measured — have developed. This means lenses can be made to fit the curve of each person's eye very accurately.'

An independent review of overnight lenses in general, published in the prestigious journal Clinical And Experimental Optometry, found the new generation of overnight lenses can improve vision by around 70 per cent after one night, often correcting sight fully within a week.

Short-sightedness is usually picked up in childhood or the early teenage years, so it is hoped overnight lenses could at least prevent further deterioration. There are even hopes that, over time, such lenses could permanently repair vision in children.

This comes after scientists at the Hong Kong Polytechnic University suggested these lenses could actually slow the elongation of the eyeball associated with short-sightedness.

One of the latest types of overnight lens is called i-GO, which are said to treat a larger area of the eye than previous designs, meaning sight can be corrected more accurately.

'If this is the case, it's good news,' says Professor David Gartry, consultant ophthalmic surgeon at Moorfields Eye Hospital and The London Clinic. 'Essentially this is a re-hash on an existing principle — but if they flatten more of the cornea, the lens will be more effective.'

Overnight lenses are not suitable for diabetics, long-sighted people or those with eye diseases. They are also suitable only for people with a prescription of -5 or less, which accounts for 65 per cent of short-sighted people.

■ *For further information, www.igolenses.com, 0800 077 8185.*

TRUE OR FALSE? Heart attacks are more common on birthdays

TRUE: A CANADIAN study of more than 50,000 patients found heart attacks and strokes were 27 per cent more likely to occur on birthdays than on other days of the year, while the risk of other illnesses, such as headaches or asthma, stayed the same. It's thought that stress or overindulgence, such as drinking and smoking, may be to blame.