

# Gordon Turner Optometrists



The eyes have it

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**Good eye hygiene is important for many reasons, particularly since your eyes are the part of your body people usually notice and look at the most. Here are a few tips everyone can follow to keep these windows on the soul looking as good as possible.**

As the second most complex organ in the human body (after the brain), eyes need the same things as people, such as regular cleaning and plentiful sleep. Washing your face regularly dislodges oil and dirt from nearby skin that could irritate the eyes, and make-up should always be removed before going to bed, to prevent eyelids and lashes being caked in chemicals overnight.

Our eyes have their own in-built cleaning systems - eyelids are designed to sweep impurities off the surface of our eyes, and tears naturally remove toxins and irritants. Although we never think about

blinking, doing so regularly keeps the eyes hydrated, which is especially important for contact lens wearers; eye drops can improve comfort if dryness is a problem. It's vital to follow any contact lenses cleaning programmes recommended by your optician, including the use of in-date solutions, and to handle lenses with clean hands to prevent bacterial infection.

Finally, prevention is always better than cure. Smoking doesn't just cause irritation to the eye surface and a gritty sensation, it damages vision in many other ways, such as increasing the risks of age-related macular degeneration and cataract. A vitamin-rich diet can help preserve your vision and regular physical exercise helps maintain good eye health. UV-filtering lenses are also highly recommended to prevent harmful ultraviolet rays from damaging the eyes. Most importantly of all, visit your optician regularly - a qualified expert can identify potential hygiene problems much earlier, and many common eye-related conditions can be easily treated.

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Although it is important that everyone enjoys clear vision, this is particularly true for sportsmen and women. Most sporting activities place huge demands upon our eyes, from sedentary pastimes like snooker through to outdoor pursuits such as cricket and football. Poor eyesight can affect every element of sporting performance, from timing and peripheral awareness to balance and fatigue.



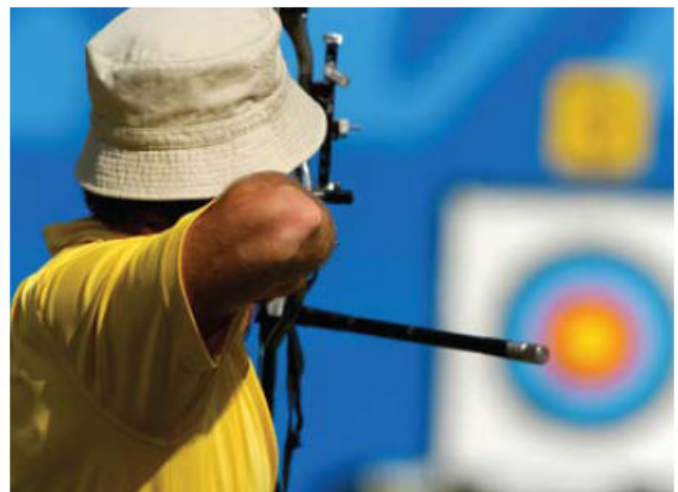
The difference between success and failure can be minimal, so optimising your eyesight is crucial, whether you're an elite athlete or an enthusiastic amateur. A study at the 1994 Winter Olympics found that half the competitors had never had their eyes tested, while almost a third had a known visual problem. If you've ever misjudged the path of a ball, or hit a bad shot and wondered why, the reason could be a lack of visual acuity – not simply short or long-sightedness, but an amalgam of other factors.

Many sports involve close co-ordination between hand and eye, yet a lot of sportsmen and women focus on the former and overlook the latter.

Ensuring that patients have good sports vision necessitates more than a basic sight test – it also involves gauging light sensitivity and judging how well the eyes work together to process images and calculate distances. Considerable research is being invested in this area, and the benefits will be especially pertinent as the 2012 London Olympics approach.

In recent years, sports vision products have become commonly available, thanks to a whole industry aimed at giving sportspeople crystal-clear eyesight, across land, air and sea. In terms of the latter, swimming is the most popular participation sport in the United Kingdom, and goggles have been used for many years. However, they've been refined and developed to the point where they now have a direct impact on performance. The same is true of other sports eyewear, with some cricket sunglasses specifically developed to improve ball visibility and reduce eye strain. Sailing lenses are calibrated to deliver better views of (and through) the water, and spectacles can be designed to prevent misting up – invaluable if you're in a shooting party on an inclement day. Some regular outdoor sporting activities can damage eye health without sufficient protection from harmful ultraviolet light, so ensure you choose well fitting sports eyewear, designed to shield your eyes as well as enhancing your vision,

Contact lenses are the secret weapon of many sportspeople, but alongside choosing the right eyewear and taking detailed sight tests, sporting success depends on the eyes being kept in good condition. Like the rest of our bodies, to perform to their full potential our eyes must be suitably hydrated, well rested and free from unnecessary stress.





The first documented record of contact lenses dates back to the early 16th century, and that well-known forward thinker Leonardo da Vinci. However, the first practical application of the concept was recorded in 1801, following the creation of a glass tube with a microscopic lens at the far end, one quarter of an inch thick and filled with water. From these rather uncomfortable origins, contact lenses have metamorphosed into tiny visual aids, worn over the cornea so comfortably that users can forget about them for hours on end.

Anyone considering contact lenses needs to make a few key decisions about their new visual correction aids, and the first choice concerns the actual lens material. Until the 1930s, all lenses were made out of glass, but advances in manufacturing mean that they can now be created from a variety of materials. Modern "soft" lenses have a higher water content and are generally agreed to be more comfortable to wear, allowing plenty of oxygen to reach the eye's surface, although they usually have a shorter lifespan as a result of their "wetter" composition.

In recent years, there has been strong growth in the popularity of "daily disposable" lenses. These are supplied individually in blister packs, worn once and then thrown away. The principal advantages of daily disposables involve hygiene and the absence of cleaning. Alternatively, it's possible to obtain lenses which are re-useable for varying time periods – often worn for a month and then discarded. These require daily care and maintenance, usually in a twin-pot plastic case with an all-in-one cleaner and disinfectant solution for overnight storage.



A relatively recent development in contact lenses is the concept of "night lenses". At their simplest, these are soft lenses that can be worn 24 hours a day; at the other end of the scale, orthokeratology lenses actually reshape the cornea during sleep, to improve correction-free vision during the daytime. These are only suitable for certain prescription strengths, but the technology behind Ortho K is improving all the time, as a painless, reversible and child-friendly solution to poor eyesight.

Speaking of children, many lenses can be worn from around the age of ten, making daily disposables a safe, popular option for youngsters. This is especially beneficial for children who regularly participate in sports.

Other innovations in contact lens design include toric lenses, with an asymmetric design for people with astigmatism, who couldn't comfortably wear normal spherical lenses. Contacts can be tinted or coloured (often for purely cosmetic rather than corrective reasons), and many incorporate UV protection against the sun's harmful rays. Bifocal contact lenses perform a similar role to the eponymous spectacles, while multifocal lenses can also be worn by sufferers of presbyopia, which is described in more detail overleaf.





Presbyopia may be an unfamiliar word to many people, but it is one of the most common conditions affecting our eyesight. In essence, it concerns the inability to focus on close objects; it is calculated using a technical measurement of distance known as a diopter.



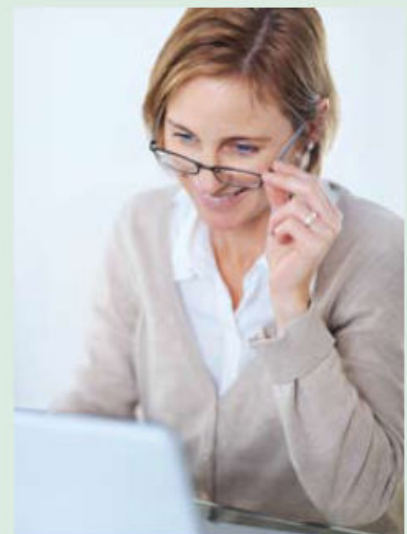
The word presbyopia is an amalgam of the Greek words for an old man ("presbys") and the eye ("opia"), since the human eye gradually loses its ability to focus as it ages. During childhood, we can see things almost immediately in front of our faces, but this flexibility diminishes over time. By the age of 40, more and more of us begin to experience problems when trying to focus on near objects, increasingly resorting to holding newspapers and books at arm's length. Eventually, when the eye is no longer able to "zoom" in and out, it will only be able to focus at a specific distance.



We know that presbyopia is a naturally occurring and universal phenomenon, but its precise cause is unclear. Most experts believe that the eye's lens hardens and becomes less elastic as it ages, making presbyopia different to more genetic conditions like astigmatism or myopia. Although there is no known way to prevent onset, people with presbyopia can now choose from a number of alternative treatments to counterbalance the condition's effect.

Reading glasses have usually been the simplest solution for people with presbyopia, although their popularity has been lessened by the development of alternative more sophisticated lenses. As the name suggests, bifocal lenses offer two types of magnification – a prescription for distance vision in the top lens, with the lower section containing a different strength for looking down at close objects. Meanwhile, the relatively recent phenomenon of progressive lenses has created seamless vision correction. These graduated lenses change in shape and strength from the top down, creating a smoother distortion-free transition between distance and close-up focus, as well as offering aesthetic benefits, with no join between different lenses. Varifocals now account for almost a fifth of lenses professionally prescribed, enabling people to use a single pair of spectacles for reading, driving and everything in between – particularly practical for close tasks using compact modern technology like mobile phones.

Contact lenses are another increasingly popular option for presbyopia sufferers, and thanks to the flexibility of modern manufacturing techniques (discussed in greater detail elsewhere in this issue), it's now possible to obtain bifocal and multifocal lenses, to achieve different prescription strengths at varying distances.



One final alternative is monovision, where one eye has a distance contact lens fitted and the other wears a near-sighted lens, although some patients find this method of vision correction takes time to adapt to, and distance perception can be affected.