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Can the wrong pair of glasses or bad light damage your eyes?

We'll tell you what happens when your eyes have to work too hard

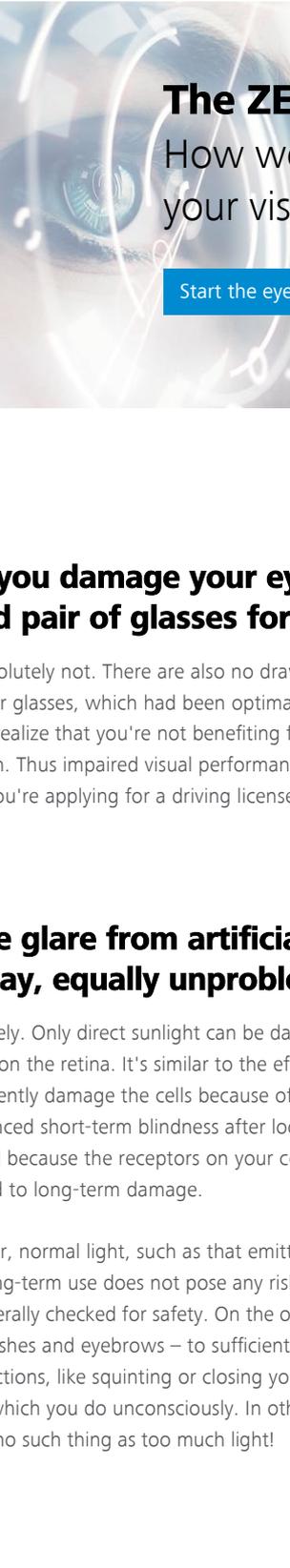
If your glasses are not optimally fitted, then there's no way you can benefit from your full visual potential. This can significantly impair your quality of life. Think about it: reading the menu in a restaurant becomes a nightmare or you feel insecure when driving. This raises several questions: can you damage your eyes if your glasses are too strong (overcorrection) or too weak (undercorrection)? What are the effects if your fields of vision are not ideally corrected? And does eye fatigue or 'poor' light – be it too bright or insufficient – pose a risk to your eyes? BETTER VISION will provide you with an overview.

Do you damage your eyes if your glasses are not optimally fitted?

No! Poorly fitted glasses don't have any long-term effect on the health of your eyes. However, we should distinguish between the eyes of an adult and the eyes of a child, the latter of which are still developing. If a pair of glasses is poorly fitted, then this can definitely impair the vision of children and young adults. Children are not emmetropic, meaning their vision is not ideal. A child's vision develops progressively: starting in its immediate vicinity, such as when looking at its mother, through the close-up range required later for painting or reading right up to 3D distance vision. In other words: this slight hyperopia is actually advantageous at first and is something which children ultimately gets used to with age. A pair of glasses can help children develop optimum vision. Visual defects don't damage adults' eyes – no matter if they're short-sighted, long-sighted, or if they wear the wrong glasses. Instead, your eyes 'learn' to correctly focus on different distances and to modify their visual performance, as well as possible, to accommodate the particular situation. If this happens over a longer period of time and requires greater effort from your eyes, then noticeable symptoms occur.

What are the negative consequences if glasses are not optimally fitted?

Glasses which are not optimally fitted to the wearer's eyes can lead to different symptoms. Here's a typical problem: you notice that your glasses don't provide you with unimpaired vision. This leads to a subjective deterioration of your vision. This doesn't cause damage, but it certainly strains your eyes. And it means that your eyes have to work harder. The possible consequences are numerous and include everything from headaches and neck pain, all the way to dizziness or double images. Burning or itchy eyes are another symptom. These aren't just a consequence of wearing the wrong pair of glasses. Dry air can also be the reason. However, an incorrectly fitted pair of glasses can contribute significantly to the problem.



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Can you damage your eyes by wearing an incorrectly fitted pair of glasses for a longer period of time?

No, absolutely not. There are also no drawbacks if your visual performance deteriorates over time and your glasses, which had been optimally fitted, no longer provide ideal correction. You may not always realize that you're not benefiting from your full visual potential – you simply get used to this situation. Thus impaired visual performance is often only discovered by an objective source, i.e. when you're applying for a driving license.

Is the glare from artificial light, such as a mobile or laptop display, equally unproblematic for your eyes?

Absolutely. Only direct sunlight can be dangerous because the lens of the eye focuses the light directly on the retina. It's similar to the effect a camera lens has on the sensor. This is sufficient to permanently damage the cells because of the damaging thermal effects. No doubt you've experienced short-term blindness after looking directly into the sun. Your vision is temporarily disabled because the receptors on your cornea are over-stimulated. Looking at the sun for too long can lead to long-term damage.

However, normal light, such as that emitted from mobile or laptop displays, is completely harmless. Even long-term use does not pose any risk to the eye. The reasons? On the one hand, these devices are generally checked for safety. On the other hand, the human eye has built in mechanisms – such as eyelashes and eyebrows – to sufficiently protect it from irritating, overly bright light. Even knee-jerk reactions, like squinting or closing your eyes, ensures an efficient reduction in light. These are all things which you do unconsciously. In other words: your eyes protect themselves automatically – there's no such thing as too much light!

By the way – do you know what 'visual acuity' has to do with all this?

Visual acuity is the term used to describe the general visual performance of your eyes: how well can you recognize patterns and contours – no matter if you have 20/20 or defective vision, or if you wear glasses or not. This value varies from person to person. It's determined using a particular vision test and is age-dependent. A good average acuity is 1.0. When you're young, your acuity is between 1.0 and 1.6. But this deteriorates over the course of a person's life. People over 70 usually have a value between 0.6 and 1.0. Drivers require an acuity of at least 0.7.

Of course this acuity plays an important role when your glasses are being fitted: your optician measures your objective visual acuity and then determines what additional refractive power is required to maintain clearly defined images on the retina. The goal: to achieve the highest possible visual acuity.

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