



Understanding Vision Oct 16, 2017

Only your glasses can do that!

Contact lenses are a very good alternative to glasses – yet there are still a few vision solutions that are only possible with good ol' glasses.

Spectacle lenses and contact lenses are able to do more and more. By constantly becoming more precise and individualised, both of these vision solutions can now compensate even more effectively for visual impairments. It's almost as natural as not wearing any glasses at all: whether for myopia (short-sightedness), hyperopia (long-sightedness) or presbyopia (gradual loss of ability to focus on near objects with increasing age). It's normally a matter of taste or habit if a person decides to wear glasses or contact lenses. Did you know that there are actually a few visual impairments which only glasses can optimally correct?

Presbyopia: progressive lenses vs. multifocal lenses

Progressive lenses and multifocal contact lenses are optical marvels because both correct two visual defects with a single lens: near and distance vision.

> **Progressive lenses** can do this thanks to their design. The eye looks through the corresponding viewing range and is corrected accordingly. The more precisely the viewing range is tailored to the wearer and the frames, the more natural their vision becomes.

Multifocal contact lenses work in a totally different way. They sit directly on your eye and move with the eye. In general you can say that there are three methods which turn contact lenses into multifocal contact lenses with different powers for near and distance vision.

1. **The monovision method** is an older, but nevertheless, simple solution to the problem: a contact lens for near vision goes in one eye, and a contact lens for distance vision goes in the other. Habit and the brain do the rest. It's important to note that this "monovision" impairs 3D vision. If there's too great a difference between the right and left eye, then this solution no

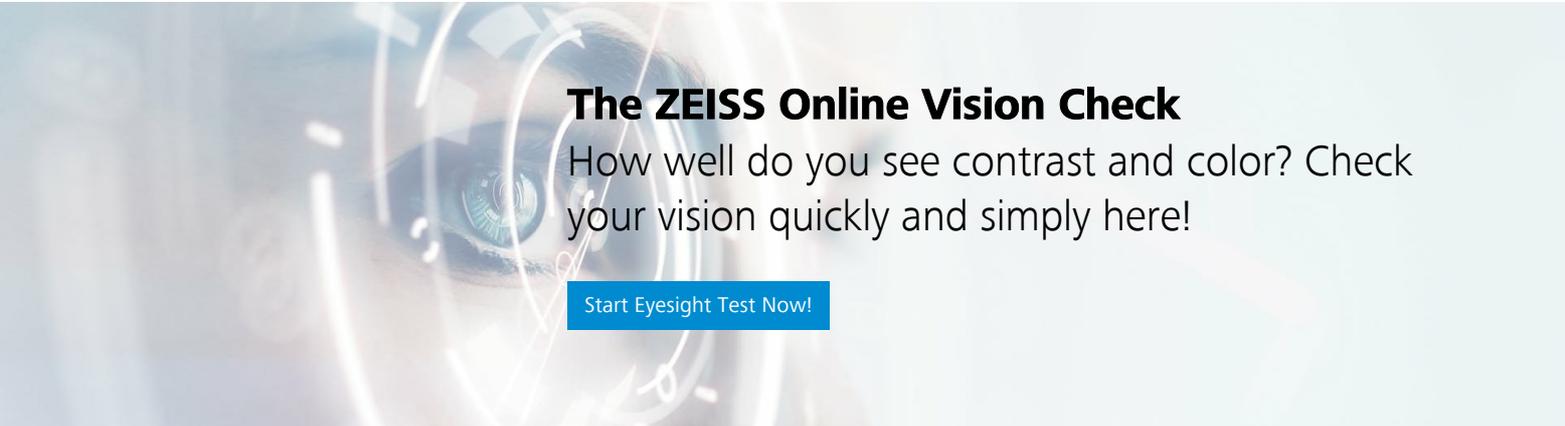
longer works. And when it comes to getting your driving license, optimum correction of your visual performance is, of course, really important.

2. **Alternating systems** go one step further. This method only works with hard contact lenses, which are currently undergoing a renaissance. The lens is made heavier on the bottom so that it does not rotate on the eye. The power for near vision is incorporated into the lower part of the lens. The power for distance vision is integrated into the upper part. An optimum fit is important so that the lens sits comfortably on the eye.
3. **The simultaneous system** is the best in its class and integrates the utmost in optical finesse with help from lenses which unite the individual powers for near and distance vision in a single lens. Different designs are used. The two distances for near and far are arranged in circular rings on the lens. There are designs where the distance range is in the middle and the near zone is outside. These designs are the most common. There are lenses with a ring for the transitional zone in between or with powers that alternate ring by ring.
Both powers are perceived at the same time. Our brain gets used to seeing the "right" image up close and far away.

Personal fitting by a qualified optician is also an absolute must for multifocal contact lenses as a part of a thorough consultation. Multifocal lenses must be adjusted to fit the pupil size exactly.

Nevertheless, when it comes to presbyopia, progressive lenses are sometimes the better choice. Multifocal contact lenses don't work for everyone, because not everyone's brain can easily "switch" between near and far without effort. In general, people who already wear contact lenses have an easier time with multifocal contact lenses. Older people and those with substantial differences in prescription power will feel better with glasses. People who opt for multifocal contact lenses need more time and patience at the beginning than those who choose progressive lenses.

And the lens designs for progressive lenses are more flexible and easier to use. Special solutions that work with glasses only partially work with multifocal lenses, e.g. solutions for [> people working at a computer](#), special vision support in the near range like [> Digital Lenses](#) or optimised designs for safer driving such as with [> DriveSafe](#).



The ZEISS Online Vision Check

How well do you see contrast and color? Check your vision quickly and simply here!

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See better at night: greater contrast and less glare

Many people realise that their contact lenses are not providing them with optimum vision at night. Spectacle lenses can be optimised for night vision, e.g. with [> i.Scription technology](#). Contrast can also be improved. Irritating glare from wearing glasses can be reduced with special coatings or, for sunglasses, with [> polarising filters](#).

The optimal solution for associated heterophoria? Glasses!

Associated heterophoria: it affects a lot of people and often goes uncorrected. It is a condition where the visual axes of the two eyes are not parallel. This is not visible to an onlooker. Associated heterophoria limits spatial vision, and the eye muscles and the brain have to continually work to

avoid double images. If undiagnosed, it can be very trying for the person affected. Quite often associated heterophoria results in repeated headaches and muscle tension. Prisms, which can be incorporated into the lenses, are one remedy. They optimise the interaction of the two eyes. After becoming accustomed to the lenses, stress-free and unimpaired vision is once again possible. Contact lenses can't do this because they move with the eye. The prisms in the lens must be precisely centred so that they provide optimum support when you look straight ahead.

Astigmatism: glasses or contact lenses?

With an astigmatism, your vision becomes blurred and things appear distorted. This is where the cylindrical powers in spectacle lenses come into play. They refract the light in different directions. The prescription contains data not only on hyperopia or myopia, but also the strength and position of the cylinder power in degrees. A particular kind of contact lens, toric lenses, can achieve this. However, if high cylinder powers are used, unstable images result with contact lenses – although they do prevent the need for thick spectacle lenses. Glasses make your vision more stable. But it's ultimately the wearer who decides which solution is right for them.

For example: for sports, contact lenses are the go-to choice because there is a lower chance of injury and fewer restrictions. Have you ever seen a professional football player with glasses? In certain cases, contact lenses are preferable in spite of the more imprecise correction. Contact lenses for sports – glasses for relaxing at home.

Pregnancy

Did you know that corneal curvature can change during pregnancy? Hormones cause the eyes to swell. The hormonal change during pregnancy can also influence the production of tears, which can lead to dry eyes. All of this not only makes wearing contact lenses quite unpleasant, but can even harm the eyes. Pregnant women who wear contact lenses and experience these symptoms should consult their eye care professional. Wearing glasses can provide relief.

A single pair of glasses for outdoors and indoors

Whether we wear glasses or contact lenses, we all need sunglass lenses for sun protection! Sunglass lenses not only protect our iris, but they also protect our entire eye, including the conjunctiva, from the damage and inflammation caused by UV rays. Glasses with [> self-tinting lenses](#) might be the solution if you want to avoid constantly taking off and putting on your sunglasses. Special molecules applied to the lens adjust to the sunlight accordingly.

No matter what vision solution you choose, it's important to consult your optician. Your optician will analyse exactly what your eyes need to overcome the challenges they face in everyday life. This will help you find the right vision solution – whether with glasses or with contact lenses.

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Determine your personal visual habits now and find your individualised lens solution.

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