



Cataract Surgery

Lens Type Information

Today's intraocular lenses

In the following, we will provide you with a brief overview of the intraocular lenses available on the market. During the pre-examination you and your doctor will select the perfect lens for you.

Monofocal lenses

Today, spheric and aspheric monofocal lenses constitute approximately 98 % of all implanted lenses. These lenses have only one focal point, i.e. they are selected so as to afford both good near and distance vision. You will continue to need glasses (reading glasses or glasses for distance vision).

Modern monofocal lenses all have integral UV protection.

The current standard lens, which is fully covered by the health insurance, is a spherical monofocal lens. The only disadvantage of this lens is that the quality of the image and the contrast vision – especially at dawn, dusk and at night – are often not ideal.

There are a number of monofocal lenses on the market today that offer further optical functionalities. These lenses are described on the next page.

Available monofocal lenses

The following other monofocal lens types are available today:

Aspheric blue light-filtering lens

This lens has an aspheric refraction that, compared to a spherical monofocal lens, considerably improves both the contrast perception and night vision. Also the glare sensitivity is reduced.

In addition to UV protection, the blue light-filtering lens has an integrated blue light filter. This reduces colour perception disorders and it is assumed that this protection can help prevent potential damage to the retina. This lens is most frequently implanted by us today. After the surgery you will need glasses (reading glasses or glasses for distance).

Especially young patients and people with retinal disorders are presumed to benefit particularly well from this artificial lens.

Monofocal plus lens

This new type of lens enables a somewhat extended depth of field. This means that medium and further distances should be sufficiently sharply imaged. Compared to the “normal” monofocal lens, the added value is a higher independence from glasses at medium distances (PC work / kitchen work), glasses are needed for reading.

Toric lens

This lens is only meaningful for patients with a pronounced irregular curvature of the cornea. A highly accurate measurement of the eye is imperative for this. During the surgery, the lens must be positioned very accurately in the eye in line with the irregular curvature of the cornea. Sometimes these lenses have to be made individually. After the surgery you will need glasses (reading glasses or glasses for distance).

Multifocal lenses and alternatives

In addition to the monofocal lenses, multifocal lenses are also available on the market today:

Multifocal lenses (bifocal / trifocal)

This type of lens is of interest to patients whose top priority is freedom from glasses, whilst optical requirements are regarded as less important. These lenses have two or three focal points, allowing you to see a sharp image at different distances. With this type of lens, you can usually cope with everyday life without having to wear glasses. Unfortunately, this lens has a number of distinctive drawbacks even today. Increased glare sensitivity, halos (rings around sources of light) and night vision problems are frequent occurrences. These potential disadvantages must be accepted in return for a life without glasses.

EDOF lenses

EDOF lenses are a special type of multifocal lenses. These lenses allow relatively glasses-free day to day life, with the exception of reading in poor lighting or reading very small fonts. The lens is beneficial for people with an active lifestyle. An EDOF lens combines several of the advantages of a multifocal lens with the minor side effect profile of a monofocal lens. Nocturnal glare may be possible but is much less common than with normal multifocal lenses.

Alternative to multifocal lenses:

Monovision

Monovision is not a lens type. Here, both eyes are “adjusted” to different distances, meaning that with one eye you will have sharp near vision, whilst with the other eye you will see clearly in the distance. The brain merges the two different images, resulting in an acceptably clear image both in the distance and up close. Disadvantage: Stereoscopic (spatial) vision is slightly restricted by monovision. We will be happy to discuss your personal suitability for monovision during your pre-examination.
