

LENS EXCHANGE

sehkraft^o

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What is special about sehkraft	06
Lens exchange	07
Refractive lens exchange	08
The lens exchange for cataract	09
The surgical procedure	12
Femtosecond laser treatment	14
Intraocular lenses (iol)	15
Premium lenses	16
Simultaneous glaucoma treatment	21
Experience	22
Team sehkraft	25
Competence and experience	26
Technology diagnostics	28
Biometry at sehkraft	29
Technology treatment	31
Opportunities and risks	32
FAQs	34
Information	37
Imprint	39





experience a new dimension

WHAT IS SPECIAL ABOUT sehkraft

As early as 1992, we were fascinated by the possibilities of modern laser technology, which today allows us to help our patients achieve perfect vision in just a few minutes, make them independent of glasses and contact lenses, and thus significantly improve their quality of life. Doing this to the highest level of perfection is a passion that unites our entire team.

In the meantime, we have specialized in the use of innovative lasers in ophthalmology for 30 years, have helped drive the development of these technologies and can look back on the experience of more than 70,000 successful LASIK treatments.

We have also been using this refractive expertise in the field of lens exchange since 2007. Through the targeted use of modern premium lenses and the use of a femtosecond laser, we have been able to significantly expand the solution options for our patients. The simultaneous correction of ametropia and presbyopia enables a spectacle-free life into old age.

We are pleased to be able to offer our patients the complete spectrum of refractive surgery. Considering your individual needs, we can thus choose the optimal treatment for you from all available treatment options.

The treatment spectrum we now offer is available only a few times in the world. We are therefore often able to help patients who cannot be treated in other centers.

**WE DO EVERYTHING FOR
THE QUALITY OF RESULTS
AND SAFETY THAT YOU
WANT FOR YOUR EYES.**

As an owner-managed family business, we are particularly proud of our exceptionally experienced and highly qualified team. This team is unique in its constellation and does everything for the optimal result of each individual patient.

This is the only way we can live up to the trust you place in us, guarantee you excellent results and maximum safety, and fulfill your dream of life without glasses.

We look forward to seeing you!

LENS EXCHANGE

The replacement of the natural lens of the eye with a slightly smaller artificial lens is the most common and successful treatment in eye surgery. Worldwide, nearly 20 million such procedures are performed each year, including approximately 800.000 in Germany.

Paradigm shift in lens surgery

The way in which surgery is performed has changed fundamentally in recent years. New developments in intraocular implants (premium lenses) and surgical techniques (small incision technology and the use of a state-of-the-art Femtosecond laser) have led to a paradigm shift. Our goal is to achieve the greatest possible freedom from glasses and, in addition, a high quality of your vision. To be able to guarantee an optimal adaptation to the individual demands and needs of our patients, we implant more than 25 different types of lenses and take a lot of time to determine the optimal lens for you.

In doing so, we do not leave the calculation of the lenses to the usual computer programs but put you in the hands of our experienced engineers for ophthalmic optics or master opticians. This "fine tuning" of the surgical quality is only done in very few centers worldwide.

Many of our lenses are custom-made for the patient. Our function as a reference center guarantees us continuous access to the latest technologies and an innovative edge.

**SIMULTANEOUS CORRECTION
OF REFRACTIVE ERRORS
FOR THE GREATEST POSSIBLE
FREEDOM FROM GLASSES AND
GOOD QUALITY OF VISION.**

On the following pages, we will inform you about refractive lens exchange for the correction of ametropia as well as lens exchange for the simultaneous treatment of cataracts and the various possibilities and advantages of state-of-the-art intraocular artificial lenses. Please contact us if you have any questions later.

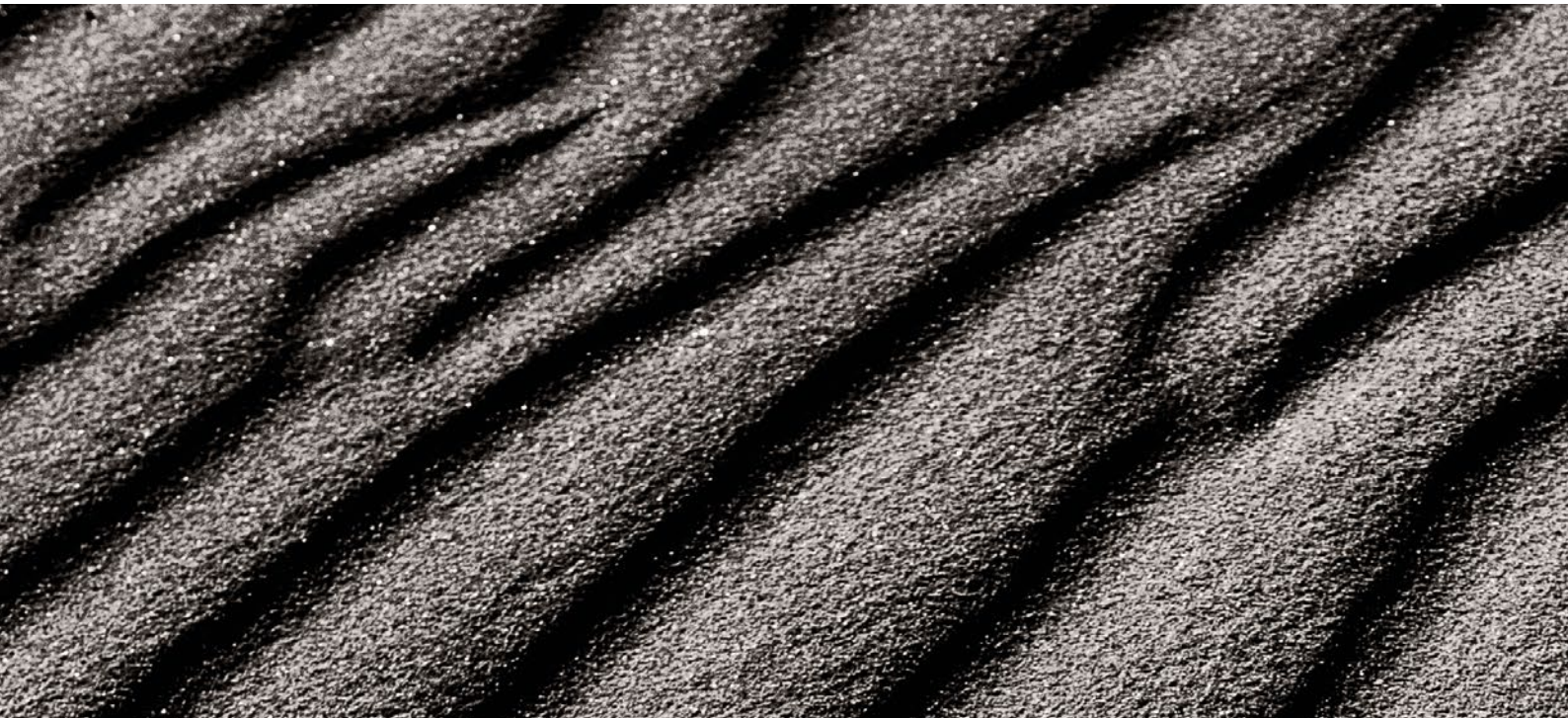
REFRACTIVE LENS EXCHANGE

Refractive lens exchange is an excellent option for people who wish to correct their refractive error and presbyopia at the same time and who want to be independent of glasses or contact lenses.

As we age, the natural lens loses its ability to accommodate. This means that near objects can no longer be seen sharply and reading glasses are needed.

In refractive lens exchange, the still clear but dysfunctional natural lens is replaced with a highly potent artificial lens that corrects both ametropia and presbyopia. Of course, we also use a special femtosecond laser here, which makes the procedure extremely precise and particularly gentle

The charming thing is that the procedure is identical to cataract surgery and prevents its development in old age. It thus enables a spectacle-free life into old age.



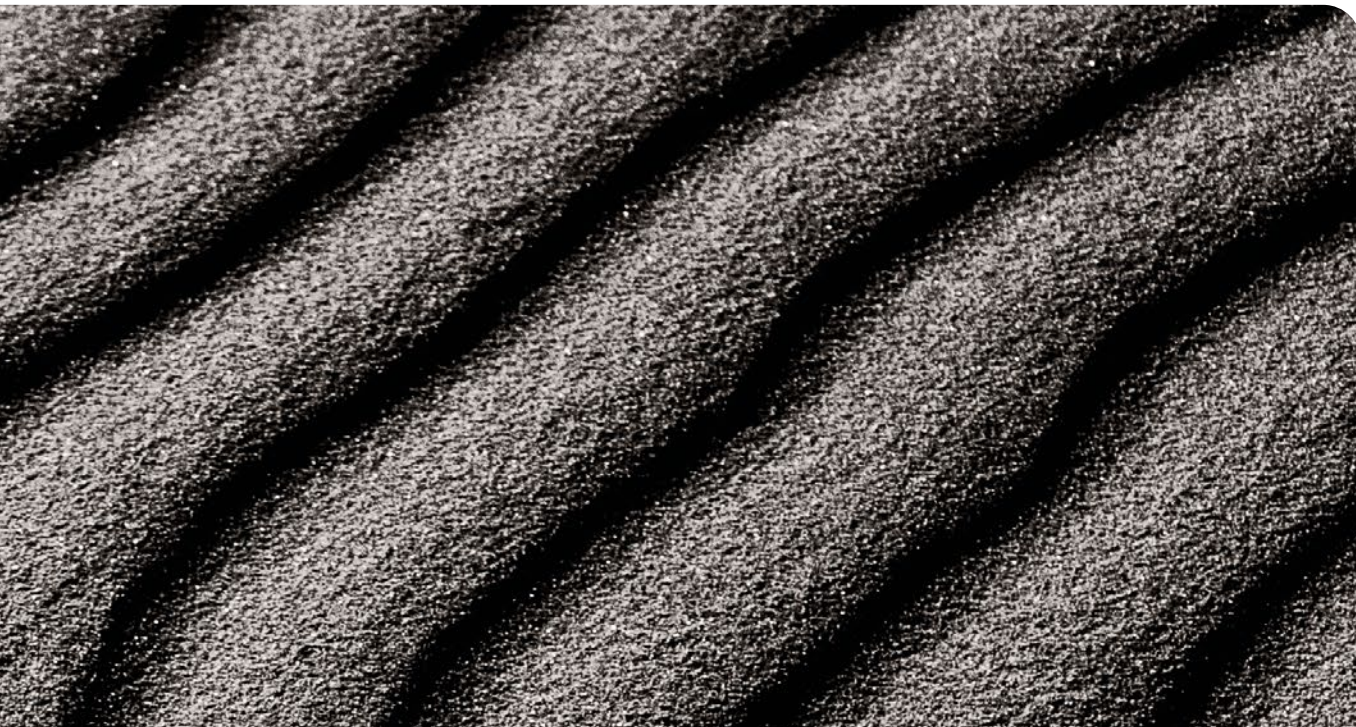
THE LENS EXCHANGE FOR CATARACT

Cataract can only be treated by replacing the clouded natural lens with an artificial lens. Today, it is no longer just a matter of treating cataracts with a standard lens, but also of correcting refractive errors such as nearsightedness/farsightedness or astigmatism.

Cataract is a clouding of the otherwise clear lens of the eye, which can lead to complete blindness if left untreated. Cataract is not a disease, but a natural sign of aging. The lens metabolism changes during life. This eventually leads to clouding of the lens.

The first sign of this process is decreased near vision. This usually begins in the mid-40s, when the lens is already so inflexible that accommodation, i.e., focusing on near objects, no longer works. One needs reading glasses or varifocals. Years later, the lens then becomes cloudy. This clouding is called a cataract.

Due to the clouding of the lens, light can penetrate the eye less easily and the incident light rays are scattered in such a way that a clear, sharp image can no longer be formed. The outside world is perceived as if through a veil and colors fade.



THE LENS EXCHANGE FOR CATARACT

Visual disturbances, glare and increased sensitivity to light, double vision in one eye, fading of colors, and sudden changes in the strength of your eyeglass lenses may be signs of cataracts.

CATARACT OR CATARACT IS A CLOUDING OF THE OTHERWISE CLEAR LENS OF THE EYE, USUALLY CAUSED BY AGE.

The deterioration of vision can significantly reduce quality of life. Everyday activities such as reading, working on the PC or even watching television become tedious, one's sporting activities are restricted or one feels unsafe in traffic, especially at night. Often, even mental alertness decreases. For example, intelligence tests after cataract surgery have shown a significant increase in mental performance due to the return of clear vision.

Since this process happens insidiously, it is often not noticed, especially in the initial phase. The onset of cataract can often be diagnosed before the age of 60. Among 65- to 75-year-olds, 90% have a cataract and only half are aware of it.

Due to new surgical techniques and innovative lens implants, cataracts are no longer left to mature, but lens replacement is performed at an early stage. At this stage, the treatment is much gentler, the results are more precise and the patient benefits earlier from the high quality of vision. Therefore, please have your eyes examined in time.



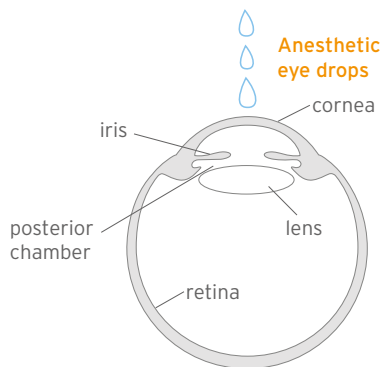
THE SURGICAL PROCEDURE

Lens exchange is a short routine procedure which is performed exclusively on an outpatient basis. In this procedure, the natural lens of the eye is replaced with a plastic lens that is individually calculated for you.

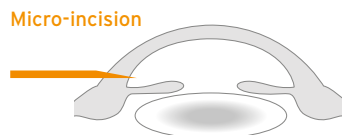
First, the eye is anesthetized with drops, and we put you into a light twilight state so that you do not notice anything of the surgery. In the next step, a tiny incision of only about 1.8 mm is made to gain access to the lens. This is then liquefied

either with ultrasound waves or - much more gently - with the latest femtosecond laser and then carefully suctioned out. The capsular bag surrounding the lens remains intact except for a small opening. It is an ideal holding device for your new artificial lens.

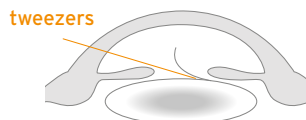
Now the artificial lens is carefully inserted through the small peripheral opening with a special instrument in exactly the same place where your natural lens was previously located. The tiny incision



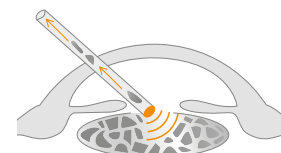
01 | Eye Drops
Administering of anesthetic eye drops.



02 | Micro-incision
With a micro diamond incision, an approx. 2 mm opening is created at the cornea's outer rim.



03 | Opening of the lens capsule
Using very fine tweezers, the lens casing is opened and the dimmed lens exposed.

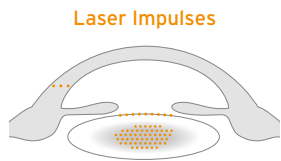


04 | Phacoemulsification
The clouded lens is divided using ultrasonic waves and simultaneously completely sucked away in tiny sections.

closes by itself due to the intraocular pressure and does not need to be sutured.

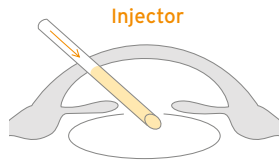
The eye is protected by a transparent eye patch, and you can relax with a snack before going home.

LENS EXCHANGE IS THE MOST COMMON AND MOST SUCCESSFUL TREATMENT IN EYE SURGERY.



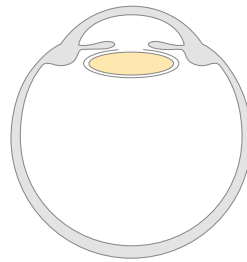
Laser Impulses

03/04 | Femto Laser
Use of the femtosecond laser makes these steps even more precise and less invasive.



Injector

05 | Implantation of the IOL
Using a microinjector, the new lens is inserted into the capsular bag and unfolds on its own.



06 | Completion
A few days after the procedure, the lens capsule nestles around the new lens.

FEMTOSECOND LASER TREATMENT

For excellent results and maximum safety during lens exchange, the most gentle removal of the natural lens as well as the precise placement and optimal determination of the individual artificial lens are crucial. Therefore, we use only the most modern technologies and experienced staff and have been offering femtosecond laser-assisted lens exchange as one of the first centers in Germany and Austria since 2012.

Surgical technology

In addition to phacoemulsification, which liquefies the lens with the help of ultrasound waves, there is now a femtosecond laser that performs this phase of the surgery computer-controlled with the highest precision. First, all relevant data of the eye are collected with the help of its unique automated measurement technology. A real 3-D model of the patient's eye is then calculated using ray tracing. This data is used to calculate the optimal treatment pattern (size, shape and position of the capsulotomy) for each individual eye, down to the thousandth of a mm. In a single step, the necessary corneal incisions, circular opening of the lens capsule and liquefaction of the lens are then performed faster and more safely than the most skilled surgeon could ever do by hand. This is especially essential for optimal placement of toric lenses and multifocal lenses.

THE FEMTOSECOND LASER AND INNOVATIVE LENSES ENABLE EXCELLENT RESULTS

If, contrary to expectations, there is still a small residual defective vision, the fine correction by means of the excimer laser is included in our treatment price.

The Femto lens exchange ensures higher precision as well as a very gentle operation and thus shortens the subsequent healing phase.

Your advantages at a glance

- 100% precise, standardized laser cuts
- perfect capsulorhexis (opening of the lens capsule) and therefore optimal positioning of the lens
- 90% less ultrasound energy - gentle treatment
- more precise results
- faster healing

INTRAOCULAR LENSES (IOL)

Today, innovative technologies in the field of intraocular lenses and the continuous development of implantation techniques enable an experienced surgeon and his team to precisely adapt the artificial lens to the individual needs of the patient and thus achieve excellent results.

Intraocular lenses (IOLs) are artificial lenses made of acrylate or silicone that mimic the body's own lens and can be implanted either in replacement or while retaining the body's own lens. The artificial lens is neither felt nor seen. All modern implants are highly compatible. Studies show that the material can remain in the eye for life without losing its properties or stability.

After a thorough examination of your eyes and detailed discussion of your expectations and our options, we will work with you to determine the best procedure for you and the most appropriate type of lens to achieve the best possible quality of vision for you.

We also strictly follow our philosophy of using only the most technically advanced and highest quality lens material when selecting an IOL. However, due to legal requirements, co-payments may be required for the use of such lenses, depending on your insurance.

Below we provide an overview of the different types of lenses and their benefits to your vision. Most types also come in combinations.

Standard lenses

Standard lenses are the lenses provided by health insurance companies in Germany for the treatment of cataracts. They are clear monofocal artificial lenses without any other additional benefits and without the possibility of considering individual parameters of the patient. The sole purpose of this lens is to replace the natural clouded lens and thus restore unclouded vision at only one distance, usually in the distance.

The results are acceptable, but the incision required to implant these lenses is much larger. Furthermore, it should be remembered that the natural filtering protection for the retina from harmful UV and blue light is not replaced by the patient's own lens, and that correction of astigmatism is not possible. As a rule, glasses must continue to be worn after the operation.

PREMIUM LENSES

Compared to standard lenses, so-called premium lenses offer considerable additional benefits. They offer better optical quality while correcting your refractive error. Permanent protection of the retina, gentler treatments, more safety, more precise results, and optimal adaptation to your individual requirements are further advantages of these implants. These lenses are always individually calculated and made to measure.

The use of such a lens is therefore more than a purely medical intervention. You gain a large piece of quality of life.

**BETTER OPTICAL QUALITY, THE
GREATEST POSSIBLE FREEDOM
FROM GLASSES AND MORE SAFETY.**

Aspherical lenses

... better night and contrast vision

Aspheric lenses are of significantly higher optical quality than standard lenses. The special optical effect of these lenses is achieved by a special lens geometry that corresponds to the flattening of the natural lens of the eye. The lens flattens more and more in its course from the inside to the outside.

This is the only way to guarantee that the refractive power is constant in all areas of the lens and

that incoming light rays are focused with the highest precision so that they meet at a single point on the retina. This results not only in improved visual acuity compared to a standard lens, but also in significantly better contrast and night vision.

We recommend aspheric lenses especially for patients who have high demands on their distance vision and quality of vision, and who frequently drive at night.

Filter lenses

... to protect the retina and in the presence of macular degeneration.

The particularly high-energy blue light present in daylight can damage the retina. The natural lens of the eye absorbs this light more and more with age and keeps it away from the retina as the body's own filter.

When the natural lens needs to be replaced with a new standard artificial lens, this also removes the natural protective function. The high-energy blue light can thus eventually penetrate almost unfiltered to the retina and damage it permanently. For this reason, filter lenses with a blue light filter were developed.

In addition to a UV filter, these lenses also have other special properties that effectively protect the retina and can thus also counter-



PREMIUM LENSES

act the development of age-related macular degeneration (AMD), which is the most common cause of blindness in Germany today.

Small-incision lenses

... for an extremely gentle treatment

In combination with the MICS surgical system, small incision lenses are currently the safest lens exchange technique. With this type of lens, only tiny incisions of 1.8 mm are necessary to perform the entire procedure. This makes the operation extremely gentle and reliable and shortens the healing process.

As a rule, all premium lenses have these 3 characteristics. Depending on the physiological and anatomical parameters of your eye as well as your personal vision requirements, it makes sense to equip your premium lens with the following additional features.

Toric lenses

... enable the correction of astigmatism

The innovative surface shape of the toric lens makes it possible to correct not only nearsightedness or farsightedness, but also astigmatism. After a special preliminary examination, the individual calculation of the anterior and posterior surface of the artificial lenses takes place. The refractive power of the lens is selected individually to the eye in each lens meridian.

Monofocal premium solution

... for improved near vision

This is a lens that does not have multiple focal points but is based on the principle of the stenopeic gap. A black ring inside the lens reduces the optically effective pupil. Similar to a photo camera, this "mini aperture" produces an extended depth of field and thus good quality of vision, especially in the middle-distance range and also at close range. It is implanted only in the non-dominant eye. If necessary, the dominant eye is fitted with a mono-focal lens for distance correction.

Lenses with improved depth of field

... for ideal vision in the distance and intermediate range.

The special design of these lens types, often referred to as EDOF lenses, is optimally adapted to the distance and intermediate range, i.e., the range between distance and near. It also creates an extended focal point that enables vision in the intermediate range. This is particularly important for patients who demand the best possible distance vision and want more independence from glasses in everyday situations, such as working on a PC, operating a smartphone, or shopping.

We recommend lenses with improved depth of focus to patients who primarily perform activities in the distance and intermediate range. Reading glasses are still required only for the near range.

Multifocal lenses

... or maximum freedom from glasses

Modern multifocal lenses, e.g., from Zeiss, allow for a further independence from glasses due to a special optical design. These lenses have several or many different focal points and therefore have the advantage that the patient can see sharply both at distance and at near and usually no longer needs glasses immediately after the operation. The optics of the multifocal lenses used by sehkraft combine the advantages of optical principles that were previously only used separately. For example, the quality of vision is optimized with the aid of so-called apodization.

This technical innovation is used in microscopy and creates smooth image transitions from near to far or vice versa. It minimizes stray light effects and increases the light yield to over 90%. Even small letters can usually be deciphered again and this with excellent distance vision.

**ENJOY THE NEWLY GAINED
QUALITY OF LIFE EVERY DAY.**

However, due to the special lens design, it can happen, especially in the first year, that punctual light sources are perceived as disturbing or dazzling and that for intermediate distances, e.g., working at the PC, light workstation glasses are needed.

We therefore recommend multifocal lenses for patients for whom the greatest possible independence from glasses is important.

Multifocal toric lenses

... combine the properties of multifocal and toric lenses.

Bioptics

... a combined treatment concept of lens exchange and LASIK.

Depending on the calculation of the new optics of the eye, in special cases only this combined form of treatment can lead to the best possible vision. For example, we can precisely correct small residual refractive errors after lens exchange with the excimer laser.

The add-on principle

An add-on lens is used in addition to an already implanted artificial lens to optimize the functionality of the older lens. In this way, we can subsequently correct any residual refractive errors or presbyopia (age-related long-sightedness), for example, without having to explant the original intraocular lens.

Monovision

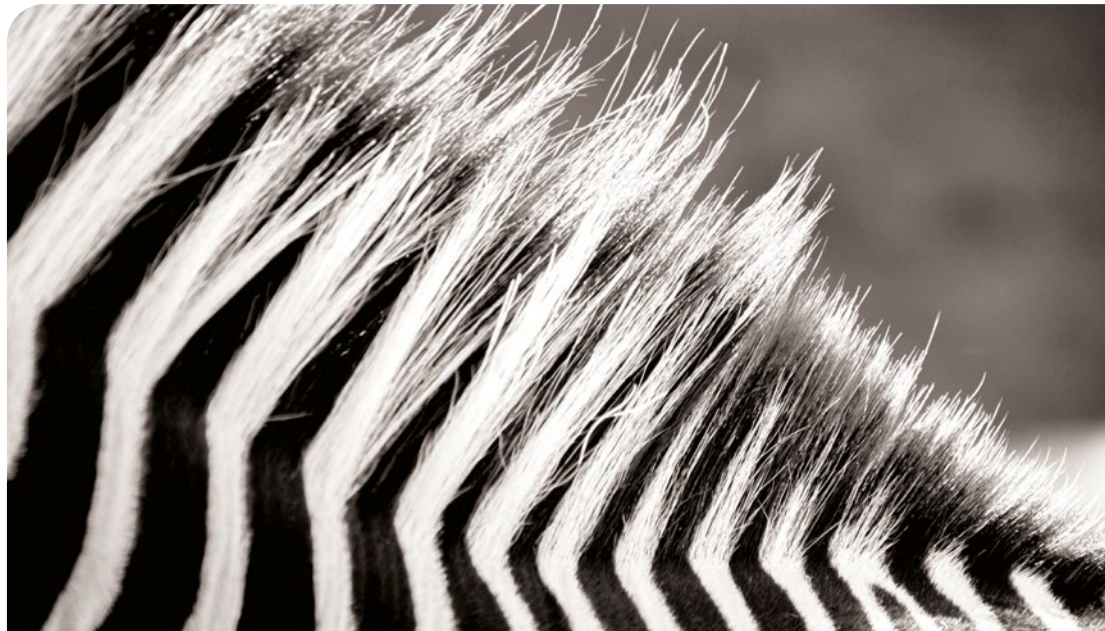
Monovision is an excellent refractive surgery procedure for correcting presbyopia and thus making reading glasses largely superfluous. This is a form of individualized Femto-LASIK.

PREMIUMLINSEN

To do this, the leading eye is optimized for distance vision and the non-dominant eye is optimized for near vision.

In order for this eye to see well at near, it is adjusted to a slight myopia of -0.5 dpt to -1.5 dpt. A prerequisite for the success of this procedure is the perfect interaction of both eyes. This can be easily tested by simulating the result of the monovision beforehand.

INDIVIDUALLY CALCULATED
FOR YOU.



SIMULTANEOUS GLAUCOMA TREATMENT

We have a convenient solution for all patients who require a reduction in intraocular pressure and/or who would benefit from a reduction in medication as part of their glaucoma therapy.

Immediately following lens exchange, we can also implant the iStent inject. It works like a micro-bypass. The iStent is inserted into the blocked trabecular meshwork and connects the anterior chamber directly with Schlemm's canal. This allows the aqueous humor to flow out again in a regulated manner and the eye pressure drops to a normal level. The use of pressure-lowering medication becomes unnecessary or is significantly reduced. 75% of all patients no longer need any drops at all. Approximately

100,000 iStents have been implanted worldwide to date.

ISTENT REDUCES YOUR EYE PRESSURE SUSTAINABLY.

The iStent is the smallest implant for the human body. It is only 0.36 mm long and has a diameter of only 0.23 mm. Therefore, the implant is completely invisible and you do not feel it.



EXPERIENCE

Your surgery day

After you have decided to have your lenses replaced, we will schedule a treatment appointment with you, as well as appointments for the next day's checkup and after one week. One week before your appointment, we will talk on the phone again to answer any questions you may have.

Three days before your appointment, you will start taking eye drops. Contact lens wearers may not insert their lenses from this point on.

Due to the anesthesia, you will not be allowed to eat for 6 hours prior to surgery, and you will not be allowed to drink for 2 hours prior to surgery. In the first 24 hours after the treatment, you are not allowed to drive a vehicle or actively participate in traffic, and you should not be alone. For legal reasons, we may only discharge you after the operation if you are accompanied. However, this can also be a cab driver who picks you up.

Female patients must refrain from wearing make-up and nail polish on the day of treatment. It is comfortable to wear a blouse or shirt so that you do not have to pull your clothes over your head and bandaged eye after the surgery and in the evening. We may perform some more examinations in the morning.

Before the actual surgery begins, your eyes will be prepared for the surgery with eye drops and our anesthesiologist will discuss with you the medical documents you brought with you, as well as the exact sedation procedure and answer all your questions. In between, we will give you eye drops every now and then. Please bring some time with you for these preparations, as it can sometimes take longer for the pupil to dilate.

Afterwards, our surgical staff will assist you in putting on the surgical gown and a hood. Of course, you can lock your valuables in a separate locker. After you lie down on the treatment couch, we will disinfect the area around your eyes and cover them in a sterile manner. The anesthesiologist will put you into a twilight sleep. Throughout the surgery, your heart and circulatory function will be monitored by our anesthesiologist.

At the beginning of the surgery, the surgeon carefully opens the eye with a minimal incision and finally implants the artificial lens, which has been individually calculated for you beforehand. These modern lenses allow such small incisions that they heal even without sutures. You will not feel or see anything. After an average of 7 minutes, the surgery is finished, and your eye is protected by a transparent eye patch.

After the treatment

After the treatment you can refresh yourself with coffee or tea and breakfast. You will receive your lens pass from us. After 2-3 hours of stay, you can then leave our center accompanied and rest at home.

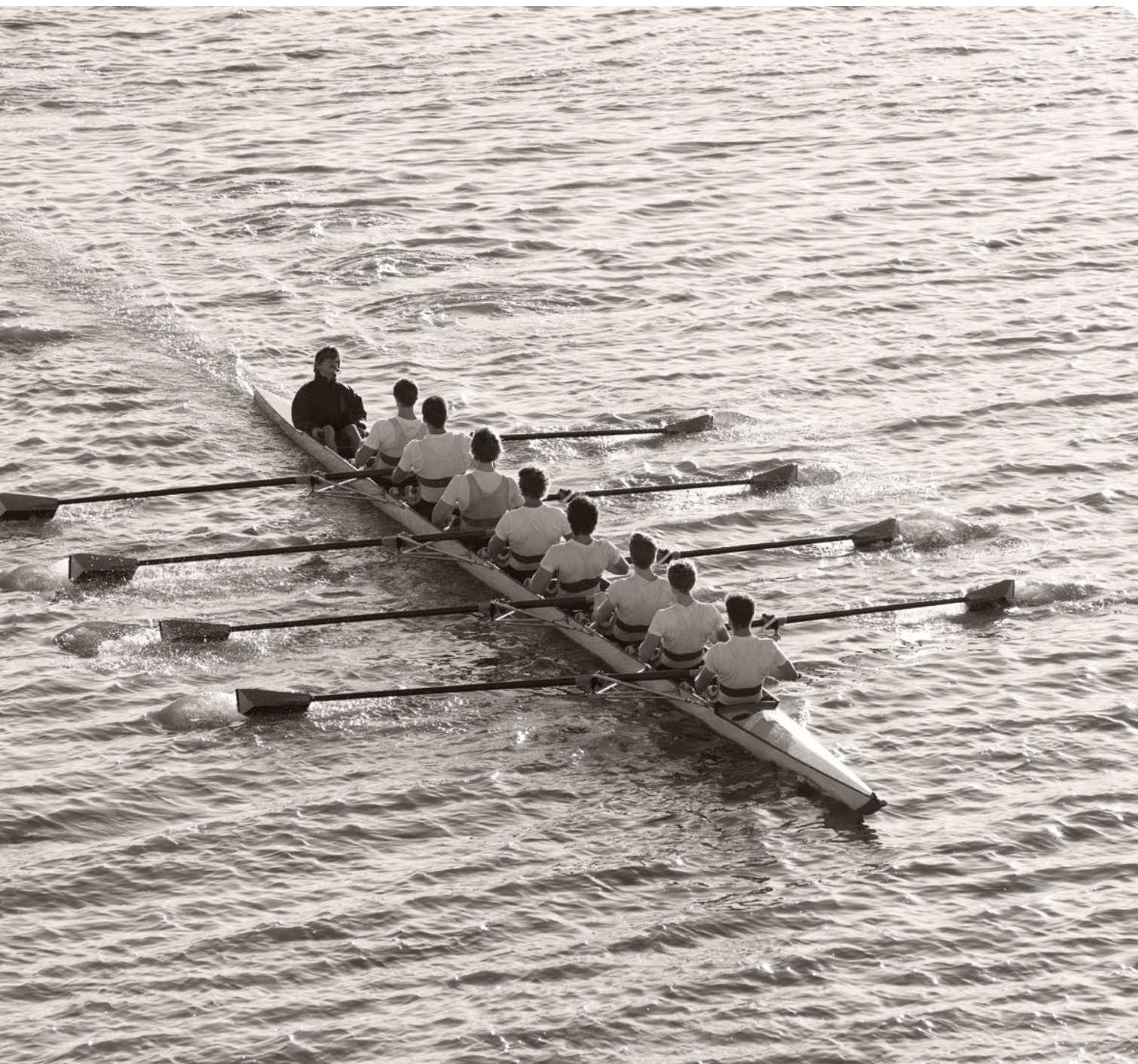
Please remember not to rub your operated eye under any circumstances. Also, please make sure that no water gets to the eye and avoid major physical exertion.

After your surgery

The next day you will have a check-up with us or your referring ophthalmologist. The eye will be examined and we will discuss the application of eye drops and the further course of treatment. Usually, your vision is already significantly improved at this time, but still blurred due to the ointment. Please give your eye time to get used to the new lens! Usually, final vision is achieved after about 4 to 6 weeks, and you can finally see your surroundings clearly again.

During follow-up examinations by your ophthalmologist, you will find out when you will be allowed to drive your own vehicle again and when which leisure activities will be possible again.





TEAM sehkraft

Precision, perfection, attention to detail, quality awareness, joie de vivre, empathy, reliability, sense of responsibility - these are qualities that unite our team.

We all share the same passion for the fascinating possibilities of modern refractive surgery, combined with a high ethical standard in our work.

THE HIGHLY QUALIFIED AND EXPERIENCED TEAM IS THE KEY TO OUR SUCCESS.

Our high-performance team consists of more than 50 employees, including ophthalmologists as well as graduate engineers in ophthalmic optics, Master of Science in ophthalmic optics/optometry, Bachelor of Science in optometry, optometrists, master optometrists and opticians, who are responsible for all measurements and, above all, for the validation of the collected data as well as the performance of international studies. Besides, they explain competently, understandably and with time.

Our qualified medical and reception staff are specially trained in their fields to ensure adequate advice and care for our patients.

The creative head and medical director of this team is Matthias Maus, founder and sole owner of sehkraft. He has been practicing as an ophthalmologist since 1991 and has been working in the field of photorefractive corneal surgery since 1992. He is one of the pioneers in the technical advancement of lasers and applications, and with more than 70,000 LASIK surgeries under his belt, he is one of the most experienced surgeons internationally.

All our surgeons have been intensively educated and trained by Matthias Maus and of course operate according to the same high "sehkraft standard".

In order to ensure and permanently improve our high-quality standard and to promote the motivation and personality of our employees, regular internal and external training and further education, feedback meetings, audits as well as consistent coaching take place.

Together we have only one goal: that you can enjoy life without glasses and contact lenses and see better than ever before - and that is our motivation!

COMPETENCE AND EXPERIENCE

Due to its qualifications, the sehkraft team has been an international reference center for leading companies in the field of ophthalmology for many years and has an active exchange of experience with the development departments.

The core of these relations is on one hand the active product development and on the other hand the education and training of international ophthalmologists. This function as a reference center guarantees us continuous access to the latest technologies and a permanent innovative edge.

Quality standards

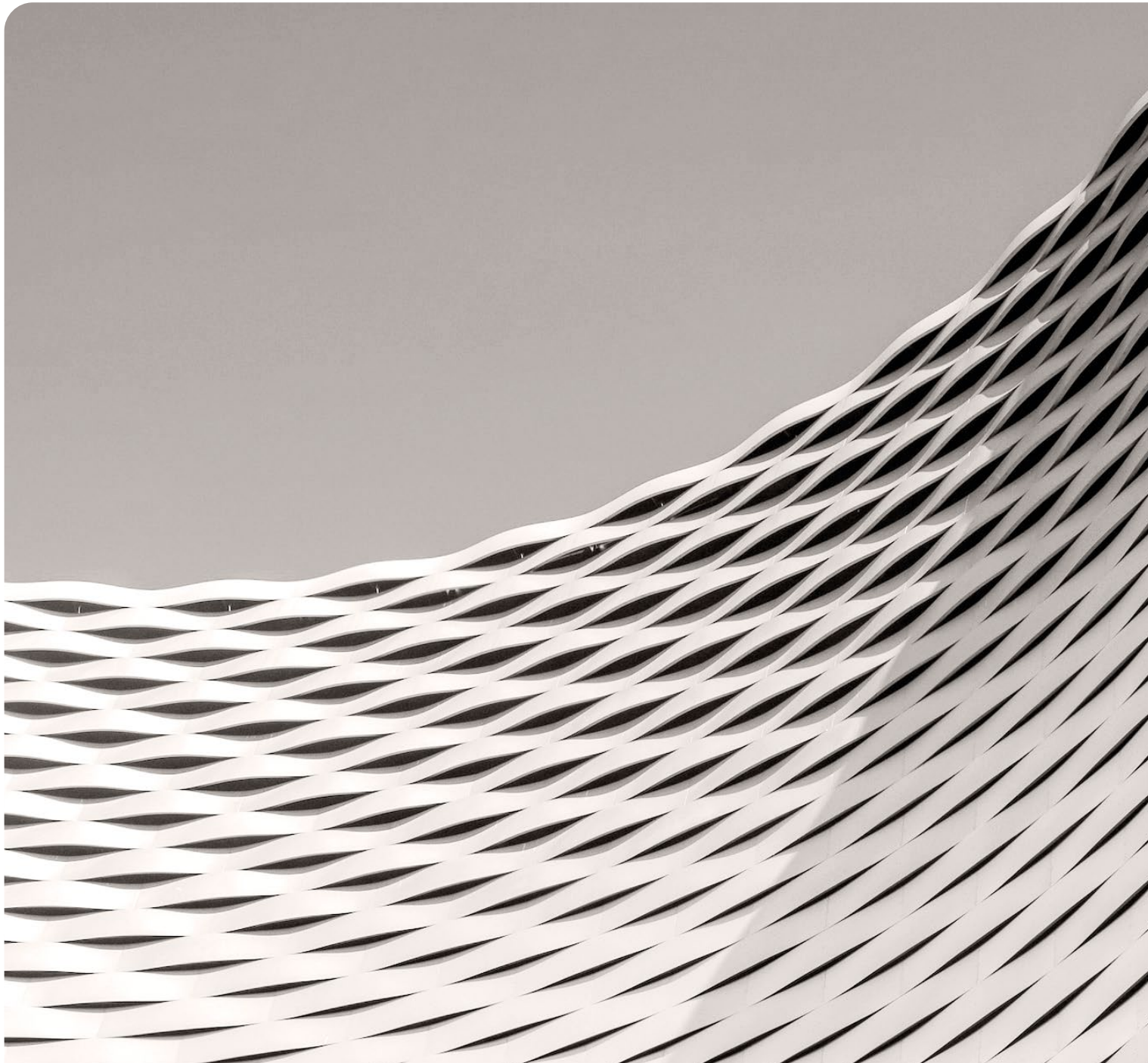
It is our own claim to be the international quality leader. For years, we have been committed to the international definition and control of quality and safety standards in the field of refractive surgery to provide patients with objective decision-making criteria. The requirements for our own sehkraft internal quality standards go far beyond this.

Internal quality assurance

One of the highest quality criteria in the field of lens surgery are specific formulas for lens calculation individualized to the surgeon. This is referred to as A-constant optimization. Here, the formula used to calculate the lens is specifically adapted to the individual surgeon and based on his or her personal surgical results and is thus optimized.

**WE MEET THE HIGHEST
QUALITY CRITERIA AND HAVE
BEEN DOING SO FOR MORE
THAN 30 YEARS.**

This "fine-tuning" of the surgical quality only takes place in a few centers worldwide. At our center, the department for instrumental diagnostics is also responsible for this responsible task.



TECHNOLOGY DIAGNOSTICS

Particularly in the area of diagnostics, there have been considerable improvements in recent years, which have contributed significantly to the fact that today we no longer just aim for 100% vision for our patients but set higher standards with regard to the quality of vision.

Precise measurement of your eye and careful selection and calculation of the optics used during surgery is a top priority. Each lens implanted at sehkraft is individually selected in advance by our engineers and master opticians, precisely calculated and tested several times.



BIOMETRY AT sehkraft

The determination of the values required for lens calculation is called biometry. It includes, among other things, the precise measurement of eye length, corneal radii and anterior chamber depth. Only the consideration of all these factors and their interaction allows an optimal calculation of the individual lens.

The standard procedure is ultrasound biometry, which requires local anesthesia of the eye with drops because the surface of the eye must be in direct contact with the measuring device.

Since we need much more precise measurement data for our calculations, we exclusively perform non-contact measurements using optical biometry.

With the IOL-Master from Carl Zeiss and the BioGraph™, sehkraft currently has the world's most modern measuring devices for eye biometry. They are the basis for the best possible treatment and lead safely and contact-free to the custom-made eye lens.

Optical Biometry

IOL Master (Carl Zeiss)

As an optical biometry device, the IOL-Master has revolutionized lens surgery. Today it is the diagnostic system for precise measurement of the axial length of the eye, the distance

between the cornea and the lens, the corneal diameter, and the corneal curvature radii.

**STATE-OF-THE-ART DIAGNOSTICS
ENABLE OUR STAFF TO MAKE
PRECISE MEASUREMENTS.**

BioGraph™ and Pentacam AXL

The BioGraph™ is a combined optical biometer based on the so-called OLCR (Optical Low Coherence Reflectometry) measuring principle for precise and contactless measurement of eye length and other structures of the eye. This new and patented method enables the exact determination of the axial eye dimension by means of a 16-fold scan per measurement and provides reliable data of the entire anterior eye segment as well as for the individual calculation of suitable intraocular lenses with only one single measurement. The Pentacam AXL combines precise measurement of eye length and position determination of the crystalline lens with three-dimensional corneal measurement at 25,000 points.

All 3 instruments validate each other, resulting in an exceptionally accurate prediction.

Endothelial cell biomicroscopy

Endothelial cell biomicroscopy is an examination of the cornea's innermost cell layer, the endothelium,

BIOMETRY AT sehkraft

using a high-precision computer-assisted microscope. The structure and density of the endothelial cells can thus be measured and visualized without contact. If the cell density is too low, lens treatment might be contraindicated. This examination thus makes it possible to detect changes in the cornea at an early stage so that these can then be considered in the treatment of cataracts, if necessary.

Pentacam

The Pentacam we use allows us to determine the actual thickness of your cornea and to measure the optics of the eye in three dimensions. More than 25,000 points are evaluated, which enables a precise analysis of existing corneal or lens opacities. In addition, other important parameters for lens calculation are determined. It gives you the certainty that we can calculate and control your treatment in the best possible way.

Topography

Using our color-based video topography system, we determine the actual surface shape of your cornea in 22,000 measurement points. The device we use is 10 times better than any other system in terms of reproducible values. Based on this precise representation, we can reliably diagnose, for example, certain corneal diseases that may be a contraindication for certain types of lenses. In addition, the individual curvature of the cornea is included in the planning and calculation.

PRECISE MEASUREMENTS ARE THE BASIS FOR THE OPTIMAL CALCULATION OF YOUR INDIVIDUAL LENS.

OCT

With the OCT Triton from Topcon, we have the OCT device with the fastest scanning speed in the world for examining the back of the eye. Changes in the retina and optic nerve can be classified and their progression observed. Optical coherence tomography (OCT) is characterized by a non-contact type of examination that is both effortless and painless for the patient. The resolving power of this measurement method is significantly higher than that of other measurement techniques such as ultrasound, MRI or CT. The high-resolution images thus enable the diagnosis of superficial changes as well as changes that extend into the depth of the retina.

TECHNOLOGY TREATMENT

LENSAR - The femtosecond laser

The LENSAR system is a femtosecond laser of the very latest generation and was specially developed for refractive lens exchange. It replaces the surgeon's scalpel and, due to its high degree of automation, provides an unprecedented level of precision in refractive lens exchange, even for astigmatism patients.

The unique automated measurement technology and image processing 3D-CSI makes it possible to display all relevant surfaces of the anterior eye segment from the anterior corneal surface to the posterior capsular surface of the lens and to calculate the biometry from this.

The image processing uses the ray tracing principle to automatically create a true 3D model of the patient's eye. This data is then used to calculate the optimal treatment pattern (size, shape, and position of the capsulotomy) for each individual

eye, accurate to the thousandth of a mm. When correcting astigmatism (corneal curvature), the axis is marked beforehand with the help of the laser to guarantee the optimal fit of the toric lens. CSI stands for "Confocal Structured Illumination". The beam paths for the laser and for the scan optics are identical. This guarantees that the laser beam is placed exactly in the points previously scanned by the scanner.

In addition, the treatment algorithms are optimized for each degree of cataract and the system fragments the lens with maximum efficiency. This results in a significant reduction or even elimination of the ultrasound energy normally required to subsequently fragment the lens. As a result, the treatment is much gentler.



OPPORTUNITIES AND RISKS

Now that we have informed you about the possibilities and chances of lens exchange, we would like to inform you about potential risks and side effects of the procedure.

We deliberately mention extremely rare side effects, because we want you to include them in your decision-making process. Fortunately, complications are very rare with competent eye surgeons and can be safely managed in most cases. By carefully determining the optimal implants on an individual basis and adhering to international guidelines and quality standards, we reduce the risks up front. If you go to a state-of-the-art center with an experienced surgeon, follow all instructions exactly and keep all follow-up appointments, you will have done everything for an optimal result from your side.

The implants are very well tolerated and can remain in the eye for a lifetime without losing their properties or stability. Cataract surgery is the most frequently performed surgery in the world. Long-term results and the experience and routine of the surgeon are the basis for maximum safety. If there is any residual defective vision after the lens exchange after the lens exchange, we can usually compensate for this without any problems with a subsequent Femto-LASIK. If you have opted for a femtosecond laser-assisted lens exchange, this correction is included in the price.

In rare cases, there may be a temporary increase in intraocular pressure. For this reason, we regularly monitor your intraocular pressure in the first few days after the procedure and, if necessary, prescribe regulating medication to lower the intraocular pressure again.

In twilight or darkness, depending on the type of lens, increased glare may occur due to the refraction of light at the edge of the artificial lens. This can lead to similar phenomena during nighttime driving as experienced by wearers of hard contact lenses. Often the phenomenon is perceived as identical to "seeing circles of light around headlights", which was already normal for most patients before the operation. On the positive side, neural adaptation by the brain takes place in the first 12 months after implantation and the phenomena usually disappear completely.

After cataract treatment, a fine opacification of the posterior lens capsule may occur after some time in connection with a deterioration of vision.

This so-called cataract developed in the past in up to 50% of the operated eyes. However, the modern lens designs and surgical procedures we use have significantly reduced the post-cataract rate. The posterior cataract can be easily removed by means of a YAG laser treatment on an outpatient basis, painlessly and in just a few minutes. In this

procedure, after the pupil has been dilated with medication, the posterior lens capsule is opened with several laser pulses, thereby restoring the optical imaging quality of the eye.

Extremely rarely, the posterior capsule does not withstand the stress of the surgery. In that case, the procedure may need to be extended and the choice of lenses to be implanted adjusted.

LENS EXCHANGE IS THE MOST SUCCESSFUL TREATMENT IN EYE SURGERY.

Also extremely rare is the occurrence of circulatory disturbances in the center of the retina after surgery. This side effect occurs mainly in severely myopic patients and is essentially dependent on the patient's retinal sensitivity. With our atraumatic surgical technique and the small incisions as well as the use of the Femtolaser we reduce the risk to a minimum. As with any surgical procedure, there is an extremely small risk (1:10,000) of postoperative infection after lens implantation. This can usually be well controlled with medication. In extremely rare cases, further surgery may be necessary. You will therefore receive prophylactic antibiotic eye drops before, during and in the first weeks after the surgery. Therefore, please be sure to adhere to your drip schedule.

Bleeding of the conjunctiva, choroid or retina can also occur very rarely. After replacement of the lens, the retina should be checked at regular intervals, as there is a slightly increased risk of retinal detachment. Therefore, we perform at least 3 control examinations after each treatment.

Of course, the vision that can be achieved by lens exchange depends not only on the quality of the operation itself, but also on the other condition of your eye. Diseases that can cause a deterioration of vision on their own and then limit the ability of the eye to regenerate after the operation are, for example, circulatory disorders of the retina (macular degeneration), diabetic retinal changes, glaucoma and corneal scars or opacities.

FAQs

Our answers to your questions

Is the procedure painful?

You are in a twilight sleep and will not notice anything from the surgery.

Do I feel the lens in my eye?

No, you do not perceive the artificial lens as a foreign body because it is inside the eye.

Can you see the lens in the eye?

No, the lens is located behind the colored iris.

Can I have an allergic reaction to the lens, can it cause rejection?

No. The intraocular lens is made of a tried and tested material that has been used in and on the eye for more than 50 years. Its use is safe. It is highly biocompatible.

How long does the lens last?

The lenses can remain in the eye for a lifetime without losing their properties or stability.

When is my eye completely healed?

This varies from person to person. You can usually see quite well the very next day. A stable result is usually achieved after 4-6 weeks.

What is the advantage of the Femtolasers?

The precise laser-guided incision facilitates optimal positioning of the artificial lens during surgery. In addition, less energy is required to liquefy the lens, making this procedure much gentler on the eye.



What is the advantage of premium lenses?

They not only eliminate cataracts, but also provide better optical quality while correcting refractive errors. Permanent protection of the retina, gentler treatments, more safety, more precise results and optimal adaptation to your individual needs are further advantages of these implants.

Information events

We present the possibilities of our individual treatment options at regular information events. You can find the current dates at www.sehkraft.de and www.sehkraft.at.

Consultation center

In our advice center in Cologne, we will advise you free of charge and without obligation on all aspects of lens exchange.

Telephone and video consultation

For all those who wish to live without glasses and cannot or do not want to visit us, we have set up our telephone and video chat consultation. We will be happy to answer any questions you may have and advise you individually on your treatment options - in the comfort of your own home and even outside of practice opening hours.



Simply make an appointment via www.sehkraft.de or www.sehkraft.at.



**IF YOU HAVE ANY FURTHER
QUESTIONS, PLEASE DO NOT
HESITATE TO CONTACT US.**



INFORMATION

Investment

In the case of a cataract, only the provision of a standard lens is completely covered by the statutory health insurance.

The treatment with premium lenses and the use of the femtosecond laser have been included in the catalog of individually financed health services (IGeL) by the German Medical Association. Since 2012, however, it has been possible to receive a co-payment from the health insurance company in the amount of the standard benefit. Refractive lens exchange is generally not covered by statutory health insurers.

Private insurers cover the costs of lens exchange for cataract treatment. However, the reimbursement behavior for premium lenses and femtosecond lasers varies.

When it comes to the reimbursement for refractive lens exchange and the use of the Femtosecond laser, the behavior of private insurers varies greatly. We therefore recommend that you submit a cost proposal in advance.

Financing

Of course, you can also finance your treatment with premium lenses. Please contact our staff for further information.

Ability to work

After a lens exchange, you are usually only able to work to a limited extent for 10 to 14 days.

Location

sehkraft Köln is conveniently located on the back side of Neumarkt in the central area of downtown Cologne, only a few minutes walk from the cathedral and the main train station. From Cologne Bonn Airport you can reach us in only 15 minutes.

sehkraft Vienna in the Golden Quarter is in the heart of Vienna in the immediate vicinity of St. Stephen's Cathedral. From the airport you can reach us in 25 minutes.

sehkraft Berlin is in the center of Berlin, just a few minutes from the Gendarmenmarkt, Reichstag and Brandenburg Gate. From the airport you can reach us in about 45 minutes.

Hotels

We have arranged attractive special rates with some hotels for our patients. Please see the details on our website or contact us.

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COLOGNE

Eye Center

Wolfsstraße 16
50667 Cologne

Fon +49 (0) 221 860 16 33
mail@sehkraft.de

COLOGNE

Counselling Centre

Wolfsstraße 2-4
50667 Cologne

Fon +49 (0) 221 860 16 88
beratung@sehkraft.de

BERLIN

Eye Center

Oberwallstraße 7
10117 Berlin

Fon +49 (0) 30 862 04 66 66
berlin@sehkraft.de

VIENNA

Eye Center

Goldenes Quartier
Seitzergasse 6
1010 Vienna

Fon +43 (0) 1 904 88 89
wien@sehkraft.at

EDITOR


sehkraft


Matthias Maus
Ophthalmologist

Wolfsstraße 16
50667 Cologne

Fon +49 (0) 221 860 16 0
mail@sehkraft.de

[sehkraft.de](https://www.sehkraft.de)
[sehkraft.at](https://www.sehkraft.at)

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