



LASER EYE SURGERY

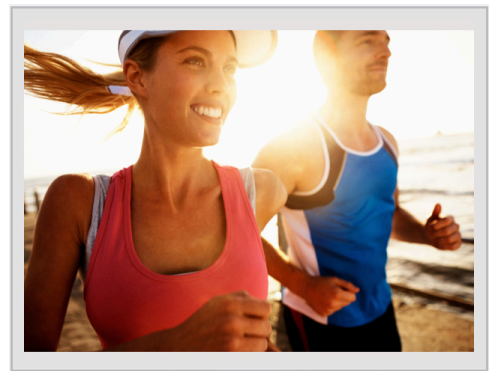


Praktijkadres Mediclinic - Bogaardenstraat 49c - B-3050 Oud-Heverlee
+32 16 58 59 58 - info@medifocus.be - www.medifocus.be
ING Bank - IBAN BE79 363113081933 - BIC BRUBEBB

A life without glasses or contact lenses

Seeing is living, every single day, every single moment. Seeing is freedom. If today you are being bothered by glasses or contact lenses that you need to have sharp vision at your job, for sports or for entertainment, Medifocus can help you. An eye laser treatment can improve your daily life by eliminating your dependence on visual aids such as glasses or contact lenses.

Maybe you are considering an eye laser treatment. The final decision to have the procedure is one you'll have to make yourself. We are not trying to make the decision for you. We want to provide you with objective information about eye laser surgery. This is why we made this flyer for you.



Eye laser treatments have been performed for many years with the help of an excimer laser. However, the most modern techniques also use a femtosecond laser. As Medifocus in 2013 invested in the most recent models of both lasers, we are able to perform all possible eye laser techniques.

The choice of the right technique that offers the best results for you depends on the shape of your eyes, but also on your professional activity, your hobbies and personal preferences. We will sit together with you and look at which technique suits you best, not only from a medical point of view but also according to your lifestyle.

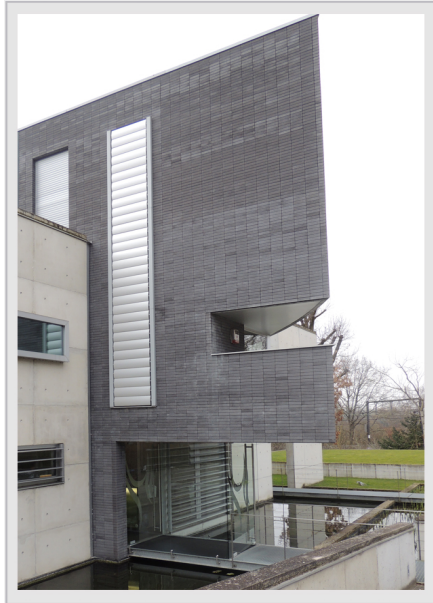
If you think, after reading this brochure, that an eye laser treatment might be the start of a life without glasses or contact lenses, feel free to make an appointment at Mediclinic, the private clinic where Medifocus is located. In this high-tech clinic, we have the most modern equipment and brand-new treatment rooms. You can find our contact information on the back of this leaflet.

Eye Laser Treatment at Medifocus

Eye laser treatments have been performed for the past 30 years and can be considered today as one of the most successful and safest types of surgery. However, not all eye laser treatments are the same. There are different techniques, types of equipment and clinics.

Safety first

Individuals do not like to take risks when dealing with their eyes. At Medifocus, we spare no effort or cost to make our treatments comply with the highest medical standards. We work according to the most modern methods and chose the equipment of Carl Zeiss, the leading supplier of high-quality laser equipment. Therefore, we are one of the few centres performing the ReLEx smile treatment, a new technique that is less invasive to the surface of the eye and thus safer. Only qualified ophthalmologists and optometrists perform the treatments and the examinations.



Experience in eye laser technology

Today, Medifocus deals with the most advanced techniques in a successful manner thanks to 15 years of experience. Furthermore, we actively exchange experiences with Carl Zeiss, the company who has been developing high-quality laser equipment for a long time.

As a result of this collaboration, Medifocus has become a reference centre for Carl Zeiss. We organise trainings together and conduct research on the development of new treatments. This exchange of knowledge is central to our mission. We truly believe that we can take our practise to a higher level by continuous training and by sharing our knowledge with other ophthalmologists.

The right choice, the right treatment

In 2013, Medifocus installed a brand-new treatment area in Mediclinic. With the Carl Zeiss MEL excimer laser and the Visumax femtosecond laser, we have the most recent-generation equipment at hand. This is why we can perform long-established eye laser treatments such as PRK/LASEK and Femto-LASIK with very high precision

Medifocus is also one of the few centres in Europe offering the brand-new ReLEx smile concept. About 90% of our patients qualify for this revolutionary technique. This type of treatment combines higher precision with lower incidence of complications. As we are able to perform all currently available laser treatments, we can decide with you which solution is best for your lifestyle. So, we provide a tailor-made service.

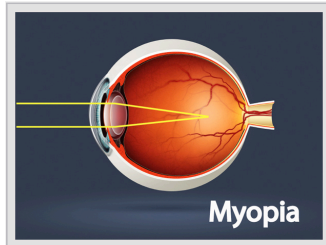
Continuous improvement of knowledge and quality

We save all our treatments in a specially developed medical database. This database is updated daily. This way, we monitor and analyse our results continuously. Several times a year, our ophthalmologists give lectures on international specialist conferences in order to share this information. Our results are not a secret. On the contrary, we are proud of them. This is why your ophthalmologist will discuss the data from our database with you during the preliminary examination. This will allow you to know what result you can expect after the treatment.

Medifocus doesn't only perform PRK/LASEK and femto-LASIK but is also one of the few centers in Europe offering the brand-new ReLEx smile concept. This technique combines higher precision with lower incidence of complications and is suitable for 90% of our patients.

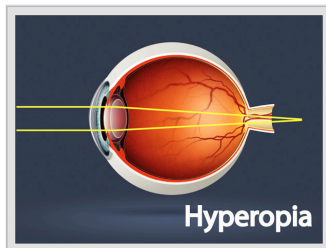
Errors in light refraction

In general, we can state that near-sightedness can be treated for errors between 0 and -8 dioptres. Far-sightedness can be treated between 0 and -3 dioptres. Astigmatism can be treated between 0 and 4 dioptres. However, the possibilities for treatment also depend on other factors such as the thickness and the curvature of the cornea. All these factors are analysed during the preliminary examination.



Near-sightedness

Myopia—or near-sightedness—is an error where objects nearby are clearly visible, while objects that are far away appear blurry. Myopia occurs when the eyeball is a little longer than normal. This causes the light to focus on a point in front of the retina instead of directly on the retina.



Far-sightedness

Hyperopia—or farsightedness—occurs when the light that enters the eye does not have enough space to focus on the retina and focusses behind it. The eyeball of a hyperopic person is shorter than normal. People with hyperopia can suffer from a bad vision but also from headaches due to fatigue of the eyes.



Astigmatism

In the case of astigmatism, the shape of the cornea is not a perfect sphere. Therefore, the light rays converge at several focus points and the image becomes blurry. Patients with a cylindrical error often suffer from near-sightedness or far-sightedness as well.

Presbyopia

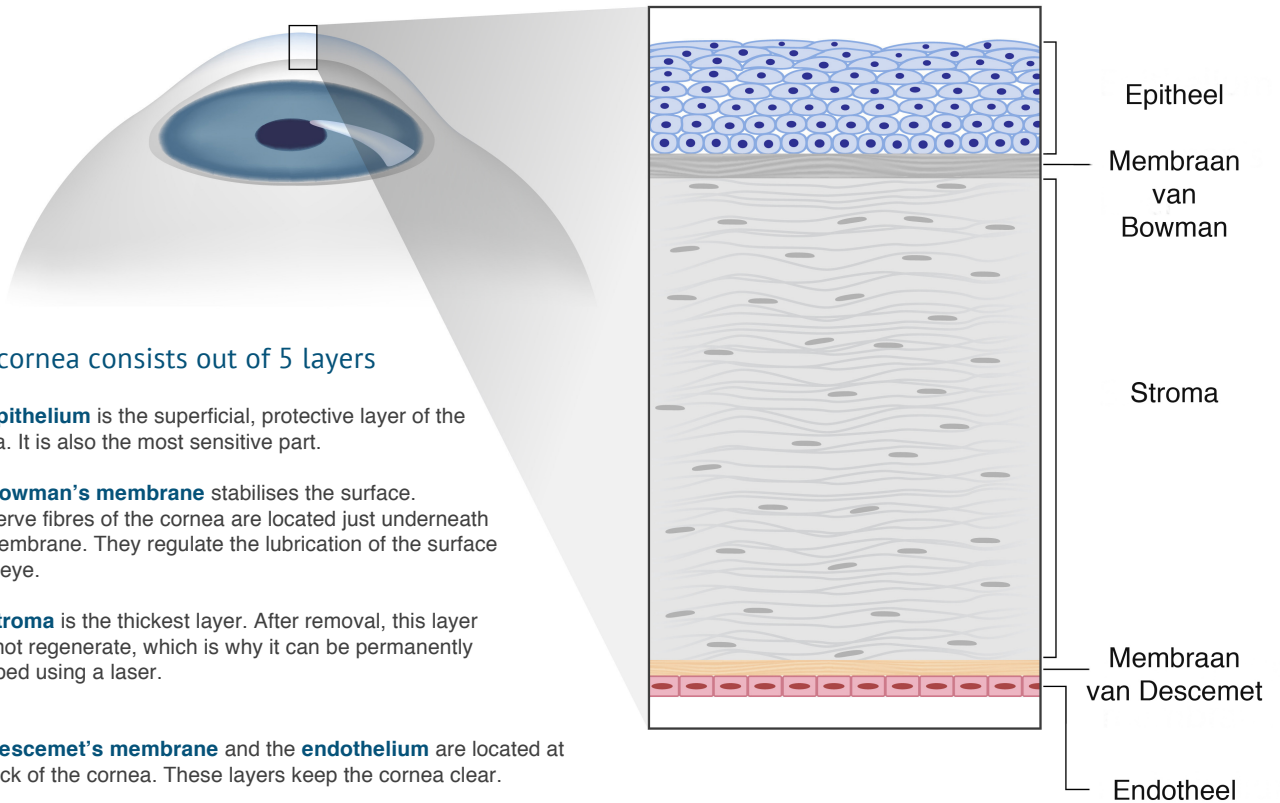
Presbyopia is an unavoidable consequence of getting older and starts to appear in most people as they reach their early forties. People who don't have problems seeing far often must use reading glasses eventually. When a correction is necessary for far sight, most of them use multifocal glasses or separate glasses for seeing far and for reading.

Basically everybody is confronted with presbyopia sooner or later. The first complaints of presbyopia appear when reading very small letters (i.e. medical leaflets), especially in combination with poor lighting conditions. Over the years, the dependence on reading glasses increases.



Treatments

Eye laser surgery reshapes the cornea so that the light is focussed precisely on the retina again. The correction is made in the stroma, the thickest and firmest part of the cornea.



The cornea consists out of 5 layers

The **epithelium** is the superficial, protective layer of the cornea. It is also the most sensitive part.

The **Bowman's membrane** stabilises the surface. The nerve fibres of the cornea are located just underneath this membrane. They regulate the lubrication of the surface of the eye.

The **stroma** is the thickest layer. After removal, this layer does not regenerate, which is why it can be permanently reshaped using a laser.

The **Descemet's membrane** and the **endothelium** are located at the back of the cornea. These layers keep the cornea clear.

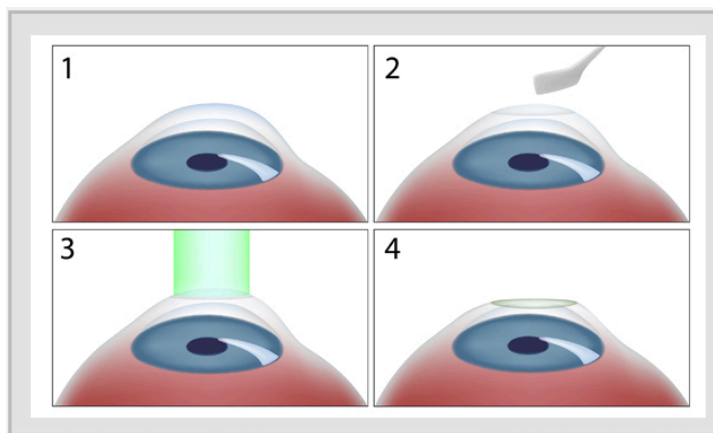
Eye laser surgery remodels the cornea so that the light is focused precisely on the retina again. The correction is made in the stroma, the thickest and firmest part of the cornea. After the treatment, the cornea keeps its new shape for life. Therefore, the effect of the treatment is permanent.

PRK / LASEK

The PRK eye surgery (photo refractive keratectomy) is the technique with the longest history within the area of eye laser surgery. During a PRK treatment, the ultra-thin, superficial layer of the eye (the epithelium) is first separated and then removed.

After the removal of the epithelium, the eye surgeon reshapes the exposed stroma with the excimer laser. At the end of the treatment, he places a protective contact lens on the eye. The epithelium regenerates quickly under this contact lens.

The difference between PRK and LASEK is minimal. The principle of correction of the cornea is identical. In the case of a PRK treatment, the epithelium is removed. However, at the end of a LASEK intervention, the epithelium is draped back over the corneal surface. In terms of recovery and results, there is no difference between the two techniques.



1. In the case of PRK/LASEK, the surface of the cornea is being treated.

2. The epithelium is removed with a special instrument

3. The cornea is reshaped using an excimer laser.

4. After the treatment, the epithelium recovers quickly.

From a technical point of view PRK/LASEK is the least challenging technique because only the excimer laser is used. As the technique has been routinely used for 30 years, the method has been proven and tested.

The laser correction itself takes less than 60 seconds. The whole intervention takes approximately 5 minutes.

The technique with the longest history

- The technique with the longest follow-up
- The technique with the fewest technical challenges
- A procedure that is fast and painless. After the treatment, however, one can experience irritation and photophobia during the first 3 days, and sometimes the eye can be painful, for which analgesic drops or tablets can be used.

The technique that requires only an excimer laser ('all-excimer')

- Only an excimer laser is used
- Complete stabilisation of visual acuity takes 2 to 3 months, but the main part of the recovery is present after 2 weeks.

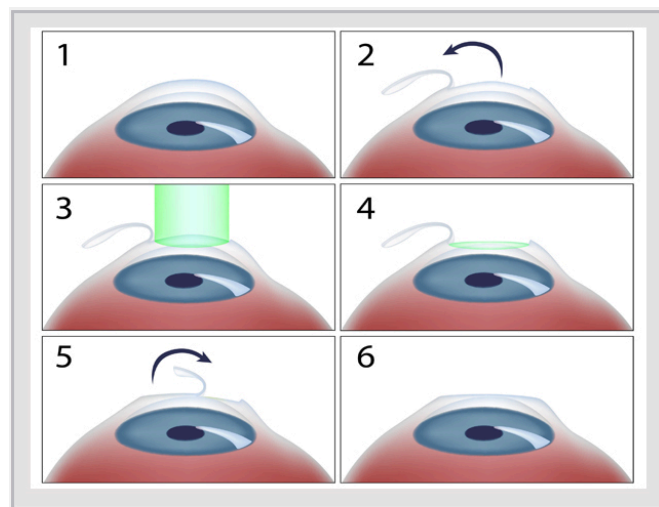
Femto-LASIK

'Laser-assisted in situ keratomileusis' (LASIK) is categorised as flap surgery, where the flap is cut into the stroma directly. LASIK requires a deeper cut into the cornea than surface techniques require, and by lifting the flap, the stroma is exposed. After this step, the surgeon can shape the deeper layers with an excimer laser.

The flap used to be made with a microkeratome (a thin and sharp blade), but is now more commonly created using a femtosecond laser, which is more precise and thus safer.

At Medifocus, we perform all LASIK treatments using a Zeiss Visumax femtosecond laser. This is called femto-LASIK. We guarantee that we never use a microkeratome.

- 1 With LASIK, the deeper layers of the cornea are being treated.
2. The surgeon creates a flap with a femtosecond laser and lifts the flap to reach the stroma.
3. The stroma is treated using an excimer laser.
4. This treatment changes the shape of the cornea.
5. The flap is repositioned.
6. After the surgery, the cornea maintains its new shape.



With Femto-LASIK, the effect of the treatment is already visible after 24 hours. Complete recovery of the eyesight takes about 6 weeks.

The treatment employs two lasers

- Both a femtosecond and an excimer laser are used, installed across from one another.
- The effect of the treatment is visible after 24 hours. Complete stable refraction is typically achieved within 6 weeks.

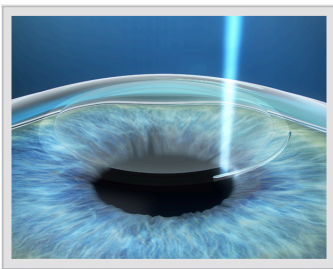
Two-step treatment

- The flap is created using a femtosecond laser, and the actual stromal correction is performed using an excimer laser.
- The laser correction takes about 10 minutes per eye.
- It is a painless procedure with minimal discomfort after the surgery.

ReLEx smile

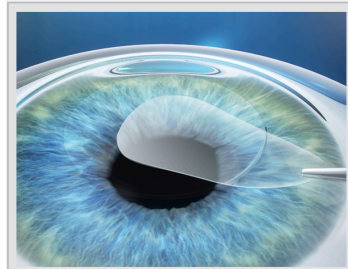
The ReLEx smile technique differs on several important points from the techniques such as PRK/LASEK and LASIK. The VisuMax femtosecond laser creates a small disc with certain light refractory properties in the cornea. We call this disk the lenticule.

The lenticule has the exact shape and volume necessary for the correction of the vision defect. After the creation of the lenticule by the laser, it is brought to the surface of the cornea and removed through a small incision of only two millimetres.



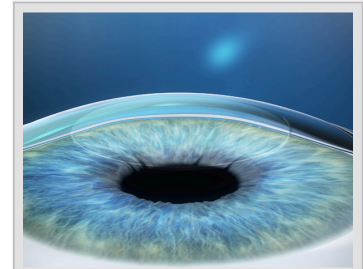
Step 1:

In a single step, the VisuMax femtosecond laser creates a thin lenticule and a small access point measuring less than 2 mm in the intact cornea.



Step 2:

The surgeon removes the lenticule through the small tunnel. No flap is created like for LASIK procedures. The front side of the cornea is not treated either, for a PRK/LASEK procedure.



Step 3:

The removal of a small layer of the corneal tissue changes the shape of the front of the cornea, correcting the refractive error of the eye.

Only the visumax femtosecond laser is used, and therefore the whole procedure can be performed in one single step. This makes ReLEx smile a fast and predictable procedure. Furthermore, the correction is being made in the deeper layers of the cornea, not at the surface. The surface of the cornea remains intact. This is why ReLEx smile is minimally invasive.

ReLEx smile combines the advantages of PRK/LASEK (no incision for a flap) with those of the femto-LASIK (fast recovery of the visual acuity), but without the disadvantages. Therefore, we can state that ReLEx smile ushers in a new era of laser refractive surgery.

Research has shown that ReLEx smile has a higher precision than PRK and LASIK, with errors between -4 and -10. Nevertheless, PRK/LASIK and femto-LASIK remain valuable and reliable treatment methods because not all eyes qualify for a ReLEx smile treatment. This depends on the error to be corrected and the thickness of the cornea. About 90% of our patients are being treated with ReLEx smile. This means that Medifocus still performs 10% of the treatments with the PRK/LASEK or femto-LASIK technique.

Flapless treatment

- There is no risk of shifting or displacement of the flap as the result of rubbing or other physical contact after the operation. In this respect, this technique is safer than LASIK.
- The incision to remove the lenticule from the cornea is only a couple of millimetres long. Therefore, the nerve fibres responsible for the regulation of the lubrication of the corneal surface stay intact over a larger area. This significantly reduces the risk of dry eyes after the surgery.
- The procedure is practically painless during and after the treatment.

Single step treatment with 1 laser (“all-femto”)

- The whole correction is performed in one single step and only takes a couple of minutes.
- The effect of the treatment is visible within 24 hrs. A complete stabilisation of the vision is typically achieved after 6 weeks.

Minimal surgery at the surface

- The correction is made in the deeper layers of the cornea, not at the surface.
- Therefore, the surface of the cornea (epithelium) remains intact. This is the big difference with PRK/LASEK where the epithelium is being removed.



Research has shown that ReLEx smile results in a higher precision, with refractive errors between -4 and -10 in comparison with femto-LASIK and PRK. Therefore, the percentage of necessary retreatments for ReLEx smile is not more than 1%.

For errors between 0 and -4, the results of the different techniques are comparable, but ReLEx smile remains the safest and the least invasive option.

Similarities between the treatments

PRK/LASEK and femto-LASIK have been used routinely worldwide for many years. This is different for ReLEx smile. Only a limited amount of clinics have the required knowledge and equipment for the application of this technique.

It is important to be aware of the similarities and differences between the techniques. Indeed, your lifestyle, professional activity and personal preference are determining factors in the choice of the technique that will be applied.

What general properties are applicable for each technique, PRK/LASEK, femto-LASIK or ReLEx smile?



- All procedures are fast. With the current equipment available, a treatment only takes 5 to 10 minutes. As the procedure takes so little time, it is not considered unpleasant.
- All techniques are simple from the patient's point of view. This means you'll have little to do during the treatment. During the eye laser treatment, you will be lying on a treatment table, and your eye will be positioned under the laser's microscope. During treatment, you will be asked by your surgeon to look at a blinking light, which will be easy to see.
- All procedures are painless because your eyes are numbed with eye drops. This means you will feel some sensation, but it will not be painful.
- By the end of the recovery period, all techniques have the same excellent results for myopia between 0 and -4 dioptres. For errors between -4 and -10 dioptres, the visual results of ReLEx smile are significantly better than those for PRK and LASIK.

Differences between treatments

The table below shows the differences between the various procedures. Obviously, this is a general overview, and individual recovery terms may vary.

However, this table gives a clear overview of the advantages and disadvantages of each technique. Where a technique provides a relative advantage compared to the other techniques, this is indicated with a \checkmark .

	PRK/LASEK	Femto-LASIK	ReLEx smile
In use for	\checkmark 30 years	10 years	5 years
Recovery of eyesight	7 days	\checkmark 24 hours	\checkmark 24 hrs
Full stabilisation of eyesight	3 months	\checkmark 6 weeks	\checkmark 6 weeks
Side effects after treatment	Irritation, lasting 3 days, occasional pain possible	\checkmark irritation lasting 24 hours	\checkmark irritation lasting 6 hours
Risk of dislocation, tearing or loss of corneal flap	\checkmark No	Yes	\checkmark No
Dryness of the eye after treatment	Yes Temporary	Yes Permanent in rare cases	\checkmark No
Re-treatment rate	4%	7%	\checkmark 1%

Who qualifies?

Medifocus offers all possible techniques for eye laser surgery. We perform PRK/LASEK as well as ReLEx smile treatments. However, not everybody qualifies for a treatment. There are certain conditions to be fulfilled in order to qualify for refractive surgery.

- Eighteen years of age or older
- Stable refraction for a minimum of 1 year (preferably 3 years)
- The cornea needs to have a regular shape
- The cornea needs to be thick enough in all the necessary places in order to surgically change its shape
- No other eye problems such as, for example, herpes, glaucoma or problems with the retina
- No systemic autoimmune diseases such as lupus, rheumatism or uncontrolled diabetes



A thorough preliminary examination

To determine whether you are a suitable candidate for treatment, we conduct a thorough preliminary examination. In turn, we expect the following from you:

- You should stop wearing soft contact lenses 2 weeks prior to the examination (4 weeks in the case of hard contact lenses). Contact lenses change the curvature of your cornea and may therefore affect the examination measurements.
- After the preliminary examination, you cannot drive yourself home. We use dilating drops to examine the inside of your eye, and these will temporarily blur your vision.

The results of this preliminary examination are valid for 3 months.

After this preliminary exam, we can inform you about the different options for treatment. Therefore, we take into account your personal preferences and lifestyle as well as the results of the measurements during the exam. This way, we can propose the technique that is best and offers the safest results for you.

Medifocus, partner of Mediclinic at Oud Heverlee

Medifocus is located in a brand-new facility of Mediclinic, a private clinic located in Oud Heverlee, between Louvain and Brussels. The ultra-modern infrastructure of Mediclinic gives us the opportunity to offer high-standard ophthalmology in a discrete and quiet environment. You can find more information about Mediclinic at www.mediclinic.be.



Medifocus I Mediclinic
Bogaardenstraat 49c
3050 Oud Heverlee
Belgium
Tel +32 16585958
Email info@medifocus.be
Website www.medifocus.be

Mediclinic has a KIWA-quality certification and complies with the strict S3-norm, which is exceptional for a private clinic. Furthermore, Mediclinic is a founding member of the non-profit organisation Belgian Society for Private Clinics. This organisation strives to allow only clinics invested in safety, quality and infrastructure to offer services as a "private clinic".

Privacy and safety are high priorities for us. When you contact us for an appointment or information, we guarantee that we are treating your personal data with discretion and care. We will never transfer your personal data to a third party.

Why Medifocus

- ✓ **Both femtosecond and excimer lasers**
- ✓ **All possible laser treatments: PRK/LASEK, LASIK, ReLEx smile**
- ✓ **LASIK always with a femtosecond laser, never with microkeratome**
- ✓ **One of the few centres in Europe performing ReLEx smile**
 - ✓ **15 years of experience**
 - ✓ **Exhaustive safety policy**
- ✓ **Highest degree of sterility in the operating rooms**
 - ✓ **Carl Zeiss Reference Center**