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# ASA Lux®

## A caress of light for the most delicate eyes

Solutions in sight
www.seri-lugano.ch


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# The best treatment using light for the ultra-thin cornea

ASA Lux® is an ophthalmic procedure that **uses the photons from two distinct light emitters** to correct **myopia (short-sightedness), hypermetropia (long-sightedness), astigmatism and,** in selected cases, also **presbyopia** (with the specific Pinelli Presby Profile® algorithm). The photonic energy of **excimer lasers** and **ultraviolet rays** is in fact combined in this **treatment which affects the surface of the cornea.** ASA stands for Advanced Surface Ablation and indicates a type of intervention that **modifies the curvature of the cornea.**

It is the **only technique that can be used in cases where the corneal thickness is too thin** to be treated with **Femtolasik Lux®.**

**ASA Lux®** is performed **by administering a few anaesthetic eye drops to the cornea** before the procedure: the patient is awake, alert and does not feel any pain. The treatment is always **bilateral** (i.e. it is carried out on both eyes during the same session) and **lasts a few minutes.**

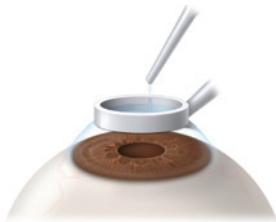
# How does asa lux® work?

**ASA Lux® allows one or more vision deficiencies to be eliminated at the same time,** and is divided into several stages:

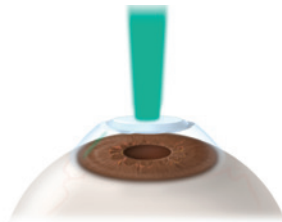
1. **The first phase involves the removal of the most superficial and external layer of the cornea** (the corneal epithelium). This is done **through the use of a hydroalcoholic solution** that "softens" the cells of the corneal surface and facilitates their removal. In not inflicting excessive trauma on the cornea, **ASA Lux®** differs significantly from PRK, in that it results in far less postoperative discomfort.

2. **The second phase uses the excimer laser (excimer),** which vaporizes the corneal tissue for a few seconds and **corrects the curvature of the cornea** just sufficiently to eliminate the visual defect.

3. **The third phase uses the synergistic action of UV-A (ultraviolet light) and riboflavin** (vitamin B2), administered by **ParaCel®,** the highly osmotic eye drops developed by Dr. Roberto Pinelli and assigned to the American multinational Avedro Inc. The combined action of light and riboflavin serves to **strengthen the bonds** between the collagen fibers present in **the corneal tissue.** At the end of the procedure, **a soft contact lens is applied that allows the reconstitution of the removed epithelium.** Once the epithelium has reconstituted, **the contact lens can be removed** within a few days (usually 3-5 days).



A hydroalcoholic solution is instilled into the eye



Excimer laser surgery

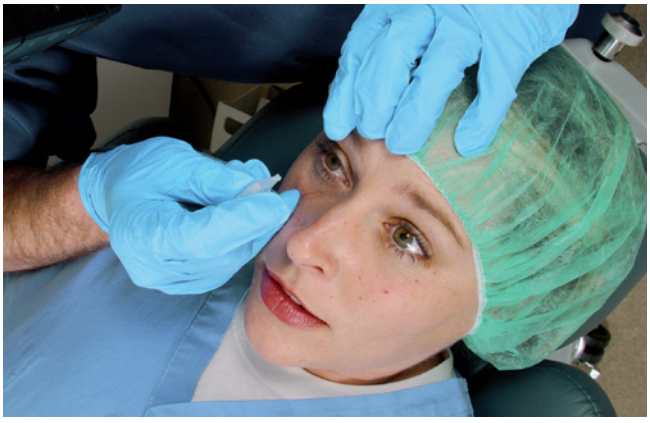
# What are its advantages?

- **It can treat visual deficiencies in patients whose cornea is too thin** to be treated with Femtolasik Lux®.
- It is non-invasive (no cutting), **completely safe** and therefore particularly welcomed by patients.
- **Procedure-related discomfort is very slight** and well tolerated by patients.
- The intervention is **bilateral** and allows **normal activities to be resumed within a few days.**
- It guarantees **considerable corneal strengthening.**

# who is it for?

Those who, due to certain physiological characteristics and excessive corneal thickness, cannot undergo **Femtolasik Lux®**. Cases of

- myopia (short-sightedness)
- hypermetropia (long-sightedness)
- astigmatism
- presbyopia (selected cases only)



# Let's see more clearly: visual impairments

The human eye is the main organ of sense. Its functioning is the result of a delicate and perfect biological balance in which however, certain imperfections may arise in some cases. The most common are:

**Myopia, or short-sightedness**, in which the individual sees clearly at a reading distance, but cannot see clearly from a far distance. Causes include an excessive curvature of the cornea, an accentuated curvature of the lens or an elongation of the eyeball

**Hypermetropia, or long-sightedness**, in which distant vision is clear but nearby objects are blurred. The cause is a too slight curvature of the cornea, which causes the images to focus *behind* the retina, instead of *on* the retina.

**Astigmatism,** in which it is difficult to focus both from a distance and close up. The cause is an irregular curvature of the cornea, which does not refract light rays from an object in the same way, varying the ability to focus at different points.

**Presbyopia,** a physiological condition that occurs over the years and which leads to a progressive weakening of the ability to focus. This happens when the crystalline lens (the lens of the eye that presides over focusing) thickens and gradually becomes resistant to the mechanism of accommodation.

The Switzerland Eye Research Institute (SERI Lugano) is a centre for research and innovation in vision science. Founded in Lugano in 2013, it offers solutions for all visual impairments (including presbyopia) through scientifically validated, non-invasive, bilateral procedures that are consistently pain-free.

SERI Lugano not only deals with the correction of visual defects, but also offers services recognized by LAMal (the Swiss Federal Law on Health Insurance) for personalized diagnosis and treatment in all areas of ophthalmology, from retinal disorders to pediatric ophthalmology.

Under its Scientific Director, Dr. Roberto Pinelli, SERI Lugano is continuously developing its research in the fields of vision science, medical ophthalmology, paediatric ophthalmology, and the use of nutraceuticals and light in ophthalmology.

SERI Lugano delivers a range of treatments, whether medical or involving a range of photon-based procedures, which are always in keeping with the most innovative, safe, and effective scientific developments. These results have been brought about through continuous ongoing research and state-of-the-art diagnostic and procedural tools and technology.

The treatment procedures are many and varied; the approach is completely personalized and based on the use of sophisticated equipment. The latest generation of advanced technology is always combined with the technical and interpersonal skills of the various specialists who work within the institute.

SERI Lugano is inspired by, and committed to, an institutional culture of excellence in the field of vision science and in patient satisfaction.

**Switzerland Eye Research Institute SA (SERI Lugano)**

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