



SERI

SWITZERLAND
EYE
RESEARCH
INSTITUTE



Children's Eye Care Service

Solutions in sight
www.seri-lugano.ch



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SERI Lugano has set up a special Children's Eye Care Service, dedicated to the assessment of visual capacity and possible eyesight problems.

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SERI Lugano devotes particular attention to its youngest patients, following an approach that treats the uniqueness of the individual as a priority, taking into account the specific needs of each boy and girl

The Children's Eye Care Service of SERI Lugano ensures that dedicated and specially trained professionals, who know how to make the child feel instantly at ease, carry out the various diagnostic visual tests and procedures. This is done in a playfully engaging and relaxed environment to encourage a cooperative and collaborative relationship and minimize any discomfort that a child may feel at the thought of undergoing a medical examination.

The importance of a trusted orthoptist

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Orthoptics is a set of techniques aimed at vision rehabilitation, which addresses the muscular, nervous, and sensory deficits that affect the visual system.

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An orthoptist is a healthcare professional specializing in the prevention, assessment, and rehabilitation of visual impairments, and carries out a range of diagnostic tests and procedures. In SERI Lugano, the orthoptist works closely with the ophthalmologist and the psychologist to identify any motor deficits (e.g., strabismus) and visual deficits (e.g., amblyopia), and to remedy them through a rehabilitative pathway that is tailored to the patient.

In the Children's Eye Care Service, the orthoptist's task is to identify and correct refractive anomalies and closely monitor eye motility, which is crucial to perfect visual function of the patient in adulthood.

1. A simple examination, without fuss

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In SERI Lugano, children undergo a complete eye examination consisting of three successive phases, which allow the accurate assessment of any visual or functional impairments.
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✴ **The first step**

In this initial phase of the examination, various diagnostic tests are carried out in order to identify and assess any possible refractive defects – hypermetropia (long-sightedness), astigmatism, and myopia (short-sightedness) - as well as the presence of disorders of ocular motility (accommodative and non-accommodative strabismus) or amblyopia (so-called “lazy eye”).

Visual acuity is assessed through several non-invasive tests that allow the type and severity of possible visual defects to be determined. We also perform a biomicroscopic examination and the examination of the ocular fundus, both aimed at establishing the general state of health of the eye by a detailed analysis of its structures.

✴ **A non-invasive examination**

During this first examination, corneal topography is performed: this procedure is non-invasive. In about five minutes, it allows the ophthalmologist to construct a map of the anterior part of the cornea and thereby assess its conformation, geometry, and possible irregularities.

The examination detects the presence of astigmatism and corneal diseases that are important to diagnose early, such as keratoconus.

2. Dilation of the pupils

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During the next step, the eye examination is carried out by dilating the pupils beforehand.

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✱ A few pain-free eye drops

The application of special eye drops (termed examination under cycloplegia) ensures that the natural mechanism of accommodation - particularly effective and active in younger patients - does not affect the assessment of any refractive defects, which can then be accurately and objectively measured.

In fact, it is known that there is a significant difference between the values resulting from the autorefractometry examination performed under cycloplegia, compared to the values that can be obtained without dilating the pupils: the natural accommodation reflex tends to conceal any hypermetropia or astigmatism, and this reflex is concomitantly greater the younger the person is.

3. An accurate and reliable diagnosis

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After a new refraction examination, a diagnosis is made, and solutions are proposed to correct any visual impairments.

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✦ **Targeted and tailored solutions**

During the third and final step, a further refraction examination is carried out. This takes into account the findings of any previous examinations, making it then possible to identify the most suitable solution for the young patient, whether it be the prescription of lenses or a specific treatment.

With the support of the orthoptic staff, the ophthalmologist then supervises the young patients throughout the rehabilitation process, making them feel at ease through a playfully engaging approach.

Intervening from an early age



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The earlier eye disorders are detected and treated appropriately, the better the outcome.
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It is important that each child undergoes their first eye and orthoptic examination in the first years of life, in order to ensure an effective early diagnosis as soon as possible.

The development and improvement of the visual system takes place during the first six months of the newborn's life, and then reaches full maturity between the ages of six and eight years.

Gradually, the visus - i.e., the visual capacity - changes and progresses with growth: at birth, it is generally about 1/20, at four months it is about 2/10, and at one year it reaches 3-4/10. Only by the age of three years does the visual capacity reach 10/10.

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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