SERI

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EYE
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INSTITUTE

Disorders of the retina: today they are easier to cure

Solutions in sight
www.seri-lugano.ch

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Nourishment for a healthy retina

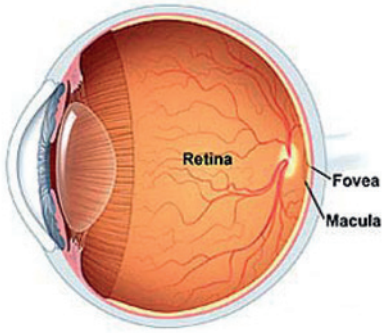
The research conducted by **Dr. Roberto Pinelli** in **Ayurvedic phytotherapy** and **traditional Chinese medicine** led to the first **nutraceutical specifically for the retina.** It is called **"Retina Project Pinelli"** and is a **significant innovation in visual well-being.** Its extremely pure formula is made up of **totally natural plant ingredients** and was conceived by **Dr. Pinelli** rigorously **based on the results of the most renowned scientific publications.** The preparation is presented in powder form, and dissolved in a little lukewarm water. It is sipped in small quantities to be held under the tongue for a few minutes: in this way, through the sublingual vessels, **the active ingredients of the extracts of Emblica Officinalis, Resveratrol, Myrtillus Nigrum, Tagetes, and Centella Asiatica** reach the visual system in a few minutes, without needlessly passing through the stomach. **Retina Project Pinelli®** is available only through the alivedavision.com website.

The best solutions for the retina and its disorders

In recent years, **the treatment of retinal disorders has progressed by leaps and bounds.** Today, **many solutions** are available, depending on the different situations, ranging from **eye drops** to **targeted drugs,** from **microsurgery** to **treatments using light.** The use of photons - **light particles that are already used in the treatment of visual deficiencies** and some corneal diseases - can now **also be applied in the retinal environment in certain specific situations.**

The most exciting **innovation** proposed by **SERI Lugano** is a treatment known as **PhotoBioModulation (PBM)** which **uses photons** to **treat certain retinal diseases.**

This treatment, entirely in harmony with the now-famous therapeutic approach of **Dr. Roberto Pinelli**, is based on the **photobiomodulation of retinal cells.** This involves a highly regulated radiation of light on the eyes at a predetermined frequency that revitalizes the activity of the **cellular mitochondria,** i.e., the parts of the cell responsible for **producing the energy necessary for the biological functioning of the cells themselves.**

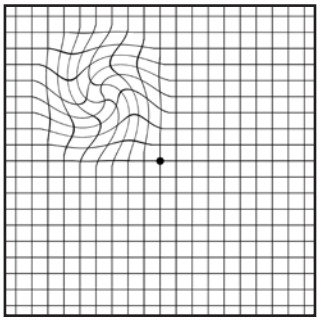


How does photobiomodulation work?

The light radiation produced by **photobiomodulation** activates **mitochondrial respiration,** thus promoting **cell proliferation** and **cytoprotection,** i.e., **the cells' ability to defend themselves.**

Photobiomodulation acts through the **absorption of photons by the photoreceptors** of the target tissue. In this way, **increases in energy production** and the supply of oxygen, nitric oxide, and calcium occur at the cellular level, **slowing down the aging process, delaying cell death, and improving cell survival.**

Photobiomodulation is a **painless, non-invasive process that does not generate heat, does not damage tissue, and stimulates a cellular response.** It is currently used in various areas of medicine: for the treatment of arthritis, for wound repair and to heal trauma, sprains, and musculoskeletal and ligament damage. Its benefits are also **increasingly recognized for certain neurological disorders,** traumatic events such as stroke or global ischemia, degenerative diseases such as Alzheimer's or Parkinson's disease, and certain **psychiatric disorders** such as depression and anxiety.



Distorted vision
due to macular degeneration

Advanced macular degeneration:
loss of central vision

Photobiomodulation (PBM) for the retina

With **photobiomodulation (PBM), it is possible to treat various eye diseases and injuries,** including inflammation, oedema, or drusen deposition. It can also contribute to wound healing **following trauma or eye surgery,** as well as **increasing visual acuity,** and contrast sensitivity in patients with **degenerative diseases,** such as dry **age-related macular degeneration.**

The entire procedure takes about ten minutes and does not require any anaesthesia or hospitalisation: **the patient is discharged immediately after treatment.** The patient sits in front of the device, fully awake, and **does not feel any pain. Photobiomodulation** emits wavelengths that are biocompatible with the **mitochondria,** which are organelles contained in the photoreceptors. This is why it is called **"non-invasive treatment,"** where the opposite term "invasive" means - as far as the eyes are concerned - introducing devices or frequencies into the eye that are not appropriate to its nature (such as traditional surgical scalpels and instruments).

PBM consists of four phases: a first and a third phase with the eyes open, each phase lasting approximately 35 seconds, with the eyes being exposed to the wavelengths of yellow pulsed light and near-infrared radiation (NIR); **a second and a fourth phase with eyes closed,** each phase lasting 90 seconds, with exposure to the wavelengths of continuous red light. During treatment and immediately afterwards, the patients experience a **sensation of glare and a slight feeling of heat,** which they report as **very pleasant.** Depending on the type of dry macular degeneration, **more than one session may be required.**

What are the retinal disorders?

Retinal disorders are also known as **"retinopathies."** They manifest themselves with **different symptoms depending on which part of the retina they affect.** Diseases affecting the **central retina,** called **maculopathies,** cause a reduction in vision while diseases of the **peripheral retina** generally alter the visual field, **narrowing the lateral vision.**

Many of these diseases are **congenital,** i.e., present since birth. Some of them are **inherited from the parents** due to genetic abnormalities; others **are caused by infections** contracted during pregnancy.

The retinal diseases that recur most frequently are **maculopathy and diabetic retinopathy.** Recent statistics show that **90% of maculopathies are "dry" and 10% are "wet."** The onset of the **disease is generally of the "dry type,"** but, over time, **about 10-15% of these cases evolve into "wet type" maculopathy. Detachment of the retina** occurs when the retinal tissue, responsible for vision, becomes raised, giving rise to sudden flashes and sudden declines in vision. Retinal detachment requires urgent treatment. **SERI Lugano,** under its Scientific Director, **Dr. Roberto Pinelli,** offers the services of a dedicated team of professionals, with expertise in the field of **retinal diseases** and provides **state-of-the-art solutions.**

The other retinal treatments offered by SERI Lugano

SERI Lugano has a spacious medical area equipped with sophisticated devices for the diagnosis and therapy of retinal diseases.

Maculopathy - The progression of this disease can be slowed down through targeted clinical intervention or by controlling risk factors such as hypertension, diabetes, and hypercholesterolemia. As with all treatments for eliminating visual deficiencies, our institute favours a non-invasive approach based on the use of light in ophthalmology. In dry type maculopathy, the most innovative feature is photobiomodulation (PBM) of the photoreceptors, the retinal cells responsible for vision. Dr. Pinelli is an internationally renowned pioneer of this completely non-invasive treatment.

Diabetic Retinopathy - The control of diabetes and the monitoring of blood laboratory values is indispensable when it comes to diabetic retinopathy. The eye is in fact, both a witness and victim of a systemic disease that is generally managed by the internal medicine physician. This is also the case in the presence of arterial hypertension or cardiovascular diseases in general. Dr. Pinelli and his team are evaluating the effectiveness of the use of photobiomodulation (PBM) associated with the intake of specific nutraceuticals. As with other diseases affecting vision, it is crucial to ensure that the retinal tissue is nourished with phytochemicals derived from natural plants.

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)

Photo by F. Simonetti - Studio Camponovo archive.

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