XENIA®

CORNEAL IMPLANT

FOR **PRESBYOPIA**

MY
VISION.
MY
LIFE.

XENIA®
P
FOR **PRESBYOPIA**

RESTORING NEAR VISION

CORNEAL MULTIFOCALITY

XENIA for PRESBYOPIA

XENIA implants for presbyopia are used to restore patients' near vision and **eliminate** their dependency on **reading glasses**.

The XENIA implant for presbyopia is less than 2mm in diameter and less than 30µm in thickness. It is implanted in a **micro-invasive** corneal pocket created by a femtosecond laser.

Manufactured from purified natural collagen, XENIA implants are **entirely biocompatible** and fully tolerated in the patient cornea.

Its **unique design** provides the patient with **multifocal optics**, satisfying the patient's need for both near, as well as distance vision in an optimized optical outcome.

NATURAL COLLAGEN IMPLANT

CERTIFIED MDR APPROVED CONFORMITY

The XENIA Corneal Implant is MDR-approved as a custom-made device, and in full compliance with the Regulation (EU) 2017/745.

SMART

THE SMART CORNEAL SOLUTION FOR PRESBYOPIA

Many people suffering from presbyopia are looking for a way to bring back their ability to read books or easily use their mobile devices.

The XENIA corneal implant for presbyopia is a **permanent solution** for these patients. The procedure is a **supplementary intervention** compensating for insufficient crystalline lens accommodation.

XENIA provides the first of its kind option for **multifocal optics** in a corneal implant. Multifocal optics are well-proven and have been successfully used in Intra-Ocular Lenses (IOLs) for a long time. They provide patients with an optimized combination of near, intermediate and distance vision. However, implantation of an IOL is a very invasive procedure deep inside the human eye.

In contrast, the implantation of the XENIA corneal implant for presbyopia is a quick and safe procedure: A femtosecond laser creates a **micro-invasive** corneal pocket in which the XENIA implant is inserted and positioned. No tissue is removed, **no sutures** are required.

If necessary, the XENIA implant can easily be re-positioned in the cornea or exchanged, or even entirely removed, effectively restoring the corneal situation from before the implantation.

The XENIA corneal implant for presbyopia is **custom-made** for each and every patient. The surgeon can prescribe the implant's specifications for **optimal visual performance** in the individual patient.

OPTICALLY ACTIVE MINIATURE LENS
MICRO-INVASIVE
QUICK PROCEDURE
ADJUSTABLE AND REVERSIBLE
NATURAL CORNEAL COLLAGEN

CUSTOM-MADE

THE REAL THING...

What is XENIA?

XENIA is a **corneal implant** made of natural corneal collagen of animal (porcine) origin.

The XENIA material, natural corneal collagen, has been successfully validated by Mother Nature – with **a follow-up of more than 450 million years** with excellent results.[1]

The XENIA material undergoes a special process to remove foreign cells including antigens. This special process is called **decellularization**.

It has been routinely used for more than 30 years in cardiology (artificial heart valves/bioprosthesis) and has helped countless patients with heart problems who needed heart valve replacement.

XENIA is like "the real thing": it is made from **natural corneal collagen**, just like traditional corneal transplants used in millions of successful corneal procedures for more than 100 years.

XENIA is in fact "even better than the real thing": a human transplant still contains corneal cells from the donor (e.g. keratocytes), while the XENIA material is completely devoid of foreign cells and, hence much more **tolerable**.

XENIA is a **custom-made** product that is available only on a physician's prescription and is exclusively manufactured for the individual patient.

The XENIA Corneal Implant is MDR-approved as a custom-made device, and in full compliance with the Regulation (EU) 2017/745.

[1] Parker, A. R. (2009). "On the origin of optics". Optics & Laser Technology. 43 (2): 323–329.

...EVEN BETTER THAN THE REAL THING

ADDITIVE

XENIA® IS UNIQUE IN MANY WAYS

XENIA is additive
Unlike many other corneal procedures that are subtractive (taking away material from the cornea), XENIA provides the patient with extra collagen material to optically improve, re-shape and strengthen the cornea.

XENIA is reversible
It can always be removed from the patient cornea, essentially restoring the situation from before the implantation.

XENIA is exchangeable
In some cases the patient's vision or corneal situation changes over time. In such a case the XENIA implant can be exchanged with another XENIA implant that is better aligned with the new corneal or visual situation of the patient.

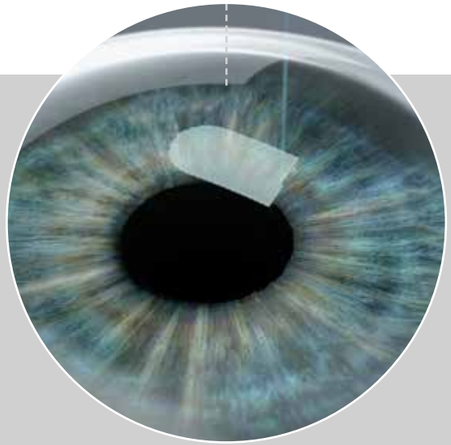
XENIA is custom
Unlike the vast majority of ophthalmic implants (e.g. intra-ocular lenses – IOLs) that are mass-manufactured to pre-defined standards the XENIA implant is custom-made for each and every patient. It can be tailored individually to be perfectly aligned for the individual need of the individual patient.

ADDITIVE
REVERSIBLE
EXCHANGEABLE
CUSTOM

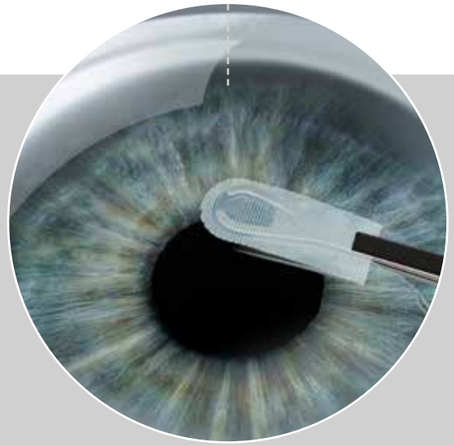
THE SURGICAL PROCEDURE

SMALL-INCISION **LIKE**®
LENTICULAR **I**NTRASTROMAL **KE**RATOPLASTY

1 For presbyopia patients a micro-invasive **corneal stromal pocket** with a small opening is created.



2 The XENIA implant for presbyopia is **inserted** into the corneal pocket.



3 The XENIA implant for presbyopia is **centered** on the patient's visual axis.

MICRO INVASIVE

TECHNOLOGY

CUTTING EDGE CORNEAL TISSUE ENGINEERING

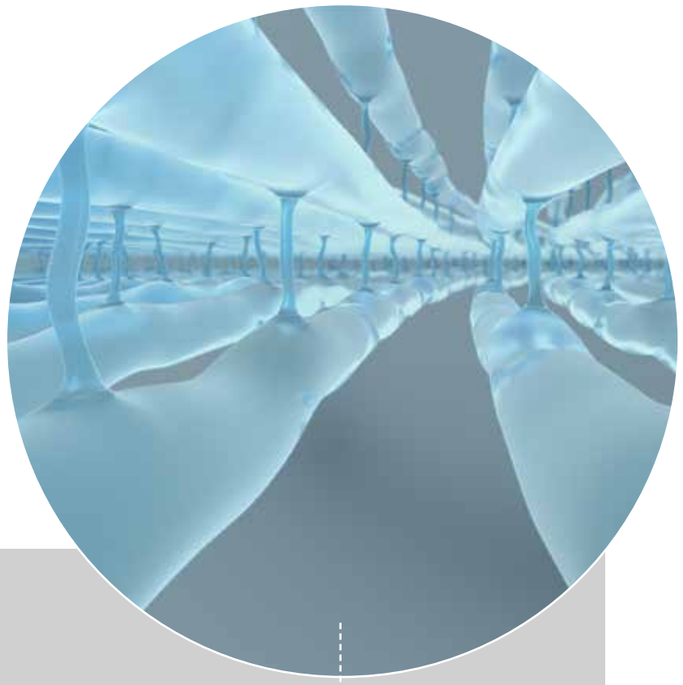
In order to create highly **compatible** and purified corneal collagen, a **sophisticated biochemical decellularization process** is applied. This process removes all foreign cells as well as all unwanted epitopes and antigens from the XENIA material.

In addition to this, the XENIA material undergoes a **proprietary crosslinking process** which stabilizes the material, providing the XENIA implant with **significant strength.**

1 Porcine corneal collagen with **keratocytes,** carrying epitopes and antigens.

2 Decellularization process: **Removal** of all foreign cells with all unwanted epitopes and antigens.

3 **Purified** corneal extracellular matrix.



4 The XENIA material after crosslinking process: **Natural corneal collagen, purified and stabilized.**

Xenia – Greek: **ξενία**
Romanized: **xenía**

Xenia – meaning "guest-friendship" – is the ancient Greek concept of hospitality.

According to the concept of Xenia, a host shall be hospitable to the guest, and a guest shall offer presents, be gentle, and not be a threat or a burden to the host.

The XENIA team has gone to great lengths to develop the XENIA implant to be fully compatible with our patients' cornea, and at the same time provide the highest degree of performance.

In the spirit of Xenia, our implant is designed to provide patients with a gift of improved vision and a better quality of life.

XENIA – My Vision. My Life.

THE GIFT OF VISION

MY VISION.
MY LIFE.

OVER 40 YEARS OF INNOVATION AND EXPERTISE IN OPHTHALMOLOGY

The XENIA company's history of extensive and groundbreaking developments brings ophthalmology exciting new products for innovative surgical procedures.

We offer peak performance medical products for corneal surgery that have never been available before.

Through our time-honored and respected knowledge, we thrive on innovative developments by continuously cooperating with top class ophthalmologists worldwide and observing market requirements.

We apply this valuable input to implement new technological advancements into all our ophthalmic medical products, which we manufacture in our German facility based near Stuttgart.

Our experienced, highly motivated, and specialized employees ensure the highest level of superior quality products and services in accordance with our quality management system certified to ISO 13485, and in full compliance with the EU Medical Device Regulation 2017/745 (MDR).

CONTACT OUR XENIA APPLICATION SPECIALISTS

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