# Reshaping Sight with CTAK

## Your Complete Guide

CorneaGen™

# CTAK

*Corneal Tissue Addition for Keratoplasty*

CTAK is the latest advancement in keratoconus treatment, focused on accuracy and precision for both patients and surgeons. This innovative procedure involves the use custom tissue inlays, designed to optimize corneal flattening, improve visual acuity, and add thickness to the cornea.

Using a Ziemer Neo Z8 Femtosecond Laser, CorneaGen processes tissue to the precise parameters for each patient. The tissue is sterilized, packaged and shipped with custom surgical plan options.



## Advantages of CTAK

CTAK creates an offering to improve outcomes by treating each patient for the unique progression of keratoconus they've experienced.

- Precision and accuracy of a Ziemer Z8 laser-cut custom tissue inlay
- Biocompatible and fully customizable
- Clinical study showed no rejection of tissue post-transplant
- Custom surgical options detail inlay placement and sizing
- Topography flattening and visual acuity improvement
- Gamma-irradiation adds rigidity to the inlay and stability for the surgeon

## Recommended Patients

Moderate keratoconus: 50D-75D.
***Patients with ectasia need more care and can schedule a consultation.***

- Moderate sized cones: ≤4.0mm in width
- No cone which extends outside of the central 6mm optical zone (~3.0mm from the center of the pupil)
- No scarring in the visual axis
- BCVA < 20/20

# CTAK Onboarding Process


During the onboarding process, CorneaGen partners with you to ensure a seamless integration into your practice.

**Training:** Comprehensive wet lab sessions and online modules to ensure understanding of techniques.

**Patient Selection:** Guidance on identifying 3-4 suitable patients before scheduling a wet lab at your practice.

**Sending Scans:** Upload files to the secure CorneaGen Online Surgeon Portal or email to CTAK@CorneaGen.com for review.

**Surgical Plan:** Receive surgical plan options for each patient based on their specific needs.

**Order:*** Place order using *Tissue Request Form* and include a copy of your selected surgical plan.

**Surgery:**** Execute the procedure with support from CTAK's tools and resources.

****Please anticipate a 3-week period from CTAK order to delivery date.***

*****To honor the processing of donor generated tissue and quality controls, any cancellation will result in invoiced responsibility to surgical facility.***

## Practice Responsibilities

To ensure a successful partnership, the following items are required from your practice:

**Reimbursement:** Establish protocols for patient billing and insurance claims. CorneaGen will share our CTAK Billing Primer to support the process.

***Scan for additional CTAK reimbursement resources.***

**Instruments:** CorneaGen partners with Corza for required surgical instrument for CTAK procedures. Your CorneaGen team will assist in aligning the local Corza representative with the designated surgical facility.

**Tomography:** ***Pentacam*** 2012 or newer model with iris camera. HR, AXL, and AXL Wave. ***Galilei*** G4 & G6 with CTAK module (software update released July 2025).

- **Files:** Securely upload files to the CorneaGen Online Surgeon Portal or send via email to CTAK@CorneaGen.com

**Laser:** Femto laser with corneal ring application installed – may require laser representative assistance. The following lasers are currently applicable for the CTAK procedure:

- **Alcon:** FS200 and LenSx
- **Zeiss:** VisuMax 500
- **Ziemer:** Z4, Z6, Z8
- **J&J:** IntraLase (iFS)

# Vendor Guide - US

## Lasers

**Ziemer**

*Femto LDV Z4, Femto LDV Z6, Femto LDV Z8*

The all-in-one femtosecond laser for refractive, cataract and therapeutic surgery.

usa@ziemergroup.com

**Alcon**

*WaveLight® FS200*
*The WaveLight® FS200*

Femtosecond Laser offers a large variety of personalized treatment options Provides consistent, stable energy delivery for a highly reproducible, precise performance.

alcon.medinfo@alcon.com

*LenSx*

The Alcon LenSx is a high-repetition rate femtosecond laser used for precise and customizable incisions in cataract refractive procedures.

alcon.medinfo@`alcon.com

**Zeiss**

*VisuMax 500*

With its cutting precision, speed and gentle treatment approach, the ZEISS VisuMax is the ideal platform for cutting-edge corneal surgery applications – including Flaps, Keratoplasty, and Incisions for ICR and ZEISS SMILE.

*Dawn Pelfrey*
dawn.pelfrey@zeiss.com

**Johnson & Johnson**

*iFS (IntraLase)*

The iFS Laser is a comprehensive platform built on intraLase™ Technology's legacy of surgical precision.

John Austin
jausti10@ITS.JNJ.com

## Diagnostics

**OCULUS**

*Pentacam HR, AXL, AXL Wave Contact-free*

Pentacam® measurement provides the basis for precise and reliable diagnostics and successful treatment of the anterior segment.

sales@oculus.de

**Ziemer**

*Galilei G4 & G6*

All-in-one diagnostic device integrating Optical Biometry with Dual Scheimpflug Tomography and Placido Topography.

usa@ziemergroup.com

## Cross-Linking

**Glaukos**

*iLink®*

iLink® is the first and only FDA-approved corneal cross-linking procedure that slows or halts the progression of keratoconus and helps preserve vision.

info@glaukos-ilink.com

## Instruments

**Corza**

*CTAK Instruments*

A set of specialized instruments, tailored for accurate marking, dissection, and tissue implantation and manipulation are utilized during the CTAK procedure.

corzaeye@corza.com

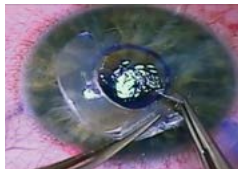
# Procedure Overview

## Preparing the patient for channel creation

Mark the graft angles. Then mark the distance from center of pupil, inferior and temporal based on surgical plan. Using an Optical Zone Marker encompass the inferior and temporal marks.

Center the laser over the optical zone marker, perform the laser cut, and clear the channel.

## Inserting the inlay



Hold the CTAK tissue near the proximal end. While holding the channel open with straight forceps begin inserting the segment into the channel. Continue to progress the inlay throughout the channel.

Once you cannot advance the inlay further, use the CTAK Manipulator to clear the final turn.

Use the CTAK Applinator to smooth the inlay out, matching the incision angles provided on the surgical plan.



# Example Surgical Plan

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**Example Plan - 180 deg**

CorneaGen

**CTAK**

*Corneal Tissue Addition for Keratoplasty*

### Patient Information

| | |
|---|---|
| First Name | |
| Last Name | |
| Date of Birth | |
| Eye | OS |

| | |
|---|---|
| Doctor Name | |
| Design Generated | |
| Scan Instrument | |
| Scan Date | |

### Tissue: (*)

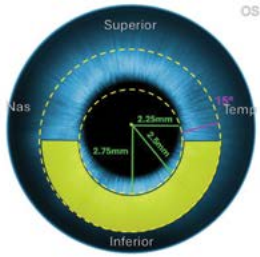
* CTAK design options provided below are based on uploaded scan data, which is reviewed by a CorneaGen Medical Director/Designee and approved by the requesting surgeon. Design options are provided to allow for correction modifications based on surgeon discretion.

| Parameter | Option 1 | Option 2 | Option 3 |
|---|---|---|---|
| CTAK Inner Diameter | 4.5 mm | 4.5 mm | 4.5 mm |
| CTAK Outer Diameter | 8.0 mm | 8.0 mm | 8.0 mm |
| CTAK Thickness | 350 µm | 250 µm | 450 µm |
| CTAK Length | 180 deg | 180 deg | 180 deg |

### Laser: (*)

* Laser parameters are based on CTAK design options, which are reviewed by a CorneaGen Medical Director/Designee and approved by the requested surgeon. Laser parameters are solely to aid during the input of information into a femtosecond laser.

| | |
|---|---|
| Channel Inner Diameter | 4.5 mm |
| Channel Outer Diameter | 8.0 mm |
| Channel Depth | 200 µm |
| Incision Angle | 15 deg |




Disclaimer:

This CTAK Design Plan is meant to serve as an adjunct tool for CorneaGen. It is intended to be used in conjunction with a comprehensive ophthalmic examination and the appropriate diagnostic tests and measurements necessary for corneal surgery candidates being considered for a CTAK surgery. The results obtained by the designer are not intended to serve as medical or surgical instruction from CorneaGen or CTAK LLC; nor can CorneaGen or CTAK LLC guarantee that the results will be accurate in every case. Physicians who receive and accept this design plan need to make their own independent determinations regarding the proper treatment for their patients and are solely responsible for the outcome. By using this CTAK design plan, you agree to waive and hold CorneaGen and CTAK LLC harmless from any claims you may have arising out of your use of the plan reviewed with the CorneaGen Medical Director/Designee.

The information and/or materials on this plan are provided without warranty of any kind, express or implied. CorneaGen and its employees, CTAK LLC and its employees and consultants, and anyone connected to the construction or content of this report, are not liable for damages of any kind, whether indirect or consequential, arising from the use of information supplied herein, or for any errors or omissions. It is the transplant surgeon's responsibility to determine suitability of the plan.

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# Example Surgical Plan

**PAGE 2 OF 2**

**Example Plan - 180 deg**

CorneaGen

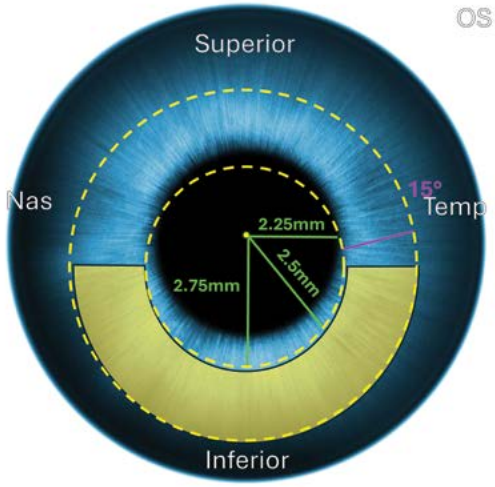
**CTAK**

*Corneal Tissue Addition for Keratoplasty*

**Patient Information**

| | |
|---|---|
| First Name | |
| Last Name | |
| Date of Birth | |
| Eye | OS |

| | |
|---|---|
| Doctor Name | |
| Design Generated | |
| Scan Instrument | |
| Scan Date | |




**Placement: (*)**

* Placement of the CTAK inlay is approximate and is intended solely as an aid based on a review by a CorneaGen Medical Director/Designee. Markings are measured from the pupil center to the inner radius of the CTAK inlay. See green lines in the diagram for reference.

| | |
|---|---|
| Inferior Offset | 2.75 mm |
| Inf-Temporal Offset | 2.50 mm |
| Temporal Offset | 2.25 mm |
| CTAK Edge Angle 1 | 0 deg |
| CTAK Edge Angle 2 | 180 deg |

Contact us for questions or assistance. ctak@corneagen.com 1-888-CorneaGen

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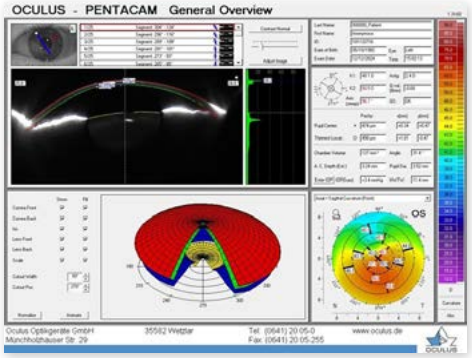
# Tomography Overview

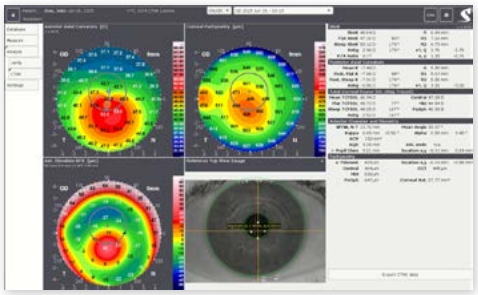
**PENTACAM**

The Pentacam General Overview screen is the main screen that should be used when sending scans. This screen includes the external software button that will be used to send your scans to CorneaGen.




**GALILEI**

The Galilei CTAK map is the primary screen that is used when sending scans. This screen includes a button in the lower right corner that exports CTAK data to a saved drive on the Galilei. Files can then be uploaded to CorneaGen's Online Surgeon Portal.



# Key Billing & Reimbursement Insights

## BILLING CODES

- **CPT 65710:** This code represents the surgical procedure itself, which is for Anterior Lamellar Keratoplasty.
- **HCPCS V2785:** This code signifies the acquisition of corneal tissue, including processing, preservation, and transportation.

## MEDICARE REIMBURSEMENT BY SETTING

- **Hospital Outpatient Department (HOPD)** – Covered under Ambulatory Payment Classification (APC), with separate reimbursement for corneal tissue (V2785).
- **Ambulatory Surgery Center (ASC)** – Reimbursed under ASC payment system, with separate corneal tissue payment (V2785).
- **Physician's Office** – Typically not covered for facility fees under Medicare; requires payer-specific approval.

## COMMERCIAL PAYERS

- Coverage varies, and prior authorization is often required.
- Some payers bundle corneal tissue reimbursement into procedural costs.
- Important to verify payer-specific policies.

## LASER CLICK FEES

- Typically bundled into procedural reimbursement.
- Some commercial payers may allow separate reimbursement if justified.

## IMPORTANT POINTS TO REMEMBER

- Verify insurance coverage and benefits prior to performing CTAK.
- Confirm the submitted codes CPT® code 65710 and HCPCS code V2785 are current and match the procedure being performed.
- Review your current payer contract to ensure there are no restrictions or limitations as well as a payment rate for both the procedure and tissue.
- Understand prior authorization processes and documentation requirements for commercial payers.

# Common Reimbursement Questions & Answers

**Is CTAK reimbursed by Medicare?**

Yes, Medicare covers CTAK when medically necessary. Tissue (V2785) is reimbursed separately with an invoice. Coverage varies based on the setting (HOPD, ASC, Physician's Office).

**Do commercial insurers cover CTAK?**

It depends on the insurer. Some require prior authorization, and others bundle corneal tissue costs. Always check the specific policy.

**Can facilities bill separately for laser click fees?**

Generally, no. However, some commercial payers allow separate billing if medical necessity is documented.

**Where can I find more details on reimbursement and documentation?**

We have a comprehensive Reimbursement Guide for CTAK and an extensive library of pre-authorization and appeal documents available for use to assist you with your insurance payer discussions.

**Scan or visit** CorneaGen.com/reimbursement/CTAK **to access all reimbursement resources.**

**Disclaimer:**

*All customers be aware that coverage and reimbursement can change and private payer policies can be different from Medicare depending on a provider's contract. Contact payers directly for reimbursement information and instructions.*



# Learn More About CTAK with Educational Webinars & Talks

**Peter S. Hersh, M.D.** and **Brandon Ayres, M.D.** showcase CTAK in this presentation from AAO 2024. They cover what is CTAK, which patients are good candidates, and the step-by-step of the procedure.

**Scan to watch the talk now.** CorneaGen.com/CTAK-AAO

**David Hardten, M.D.** and **Elizabeth Davis, M.D., F.A.C.S.** team up to discuss CTAK, the latest innovation in keratoconus treatment. During this webinar they cover patient selection, instruments, procedure steps, and when to do crosslinking.

**Watch the webinar now at** CorneaGen.com/CTAK-Webinar

## *Start Your Training Today!*

We're excited to help you take the first step toward offering this innovative procedure by offering a short 15-20 minute online training course for surgeons interested in offering CTAK in their practice.

**The online CTAK training will:**

- Introduce you to CTAK and its procedural requirements
- Provide insights into patient selection and surgical planning
- Offer step-by-step instructions to prepare you for hands-on practice

**Scan or visit** CorneaGen.com/CTAKtraining **and start today!**

# CTAK

## *Corneal Tissue Addition for Keratoplasty*

- **Improved Visual Acuity:** Patients report significant visual improvements at day 1 post-op*
- **Personalized Surgical Plan Options:** CTAK provides personalized surgical plan options for every patient, saving valuable time and focus in the O.R.
- **Maximizes Tissue Donation:** Honors the gift of donation by utilizing underused cornea tissue

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CorneaGen™

*Data on File