# STAARSURGICAL™

#### A Multicenter Clinical Evaluation of the Clinical Performance of a Phakic Intraocular Lens

#### PROTOCOL

**STUDY #CP17-01** 

#### **SPONSOR:**

STAAR Surgical Company

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This clinical investigation is being conducted in accordance with EN ISO 14155: 2011 Clinical Investigation of Medical Devices for Human Subjects-Good Clinical Practice, ICH GCPs, applicable local regulations, and with the ethical principles laid down in the Declaration of Helsinki.

**Revision Chronology:** 

Revision 1	2017.11.09
Revision 2	2018.01.19
Revision 3	2018.01.30
Revision 4	2018.08.14

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#### SPONSOR APPROVAL PAGE

#### A Multicenter Clinical Evaluation of the Clinical Performance of a Phakic Intraocular Lens

#### PROTOCOL

#### STUDY #CP17-01

 Approved By:
 2018/08/14

 Vice President, Global Clinical and Medical Affairs
 Date

 Global Head Regulatory Affairs and Quality Assurance
 Date

 Chief Technology Officer
 Date

 Vice President Global Quality
 Date

The final document associated with this signature approval is maintained in the STAAR Surgical eQMS system.

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Date Anguet 2018

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#### INVESTIGATOR STATEMENT OF APPROVAL

#### A Multicenter Clinical Evaluation of the Clinical Performance of a Phakic Intraocular Lens

#### PROTOCOL

#### STUDY #CP17-01

I have read the attached document, concur that it contains all information necessary to conduct the study, and agree to abide by all provisions set forth therein.

I agree to conduct this study in accordance with the relevant, current version of this protocol, EN ISO 14155: 2011 Clinical Investigation of Medical Devices for Human Subjects-Good Clinical Practice, ICH GCPs, applicable local regulations and with the ethical principles laid down in the Declaration of Helsinki. I will not initiate the study until I have obtained written approval by the appropriate EC and have complied with all financial and administrative requirements of the governing body of the clinical institution and the Sponsor. I will obtain written informed consent from each study subject prior to performing any study specific procedures.

I understand that my signature on a case report form indicates that the data therein has been reviewed and accepted by me.

I understand that this document and related information is subject to confidentiality terms found in my signed Confidentiality or Clinical Services Agreement. I agree to protect the confidentiality of my patients when allowing the Sponsor of this clinical investigation, and/or relevant regulatory authorities and ECs, direct access to my medical records for study subjects.

Principal Investigator, Printed Name

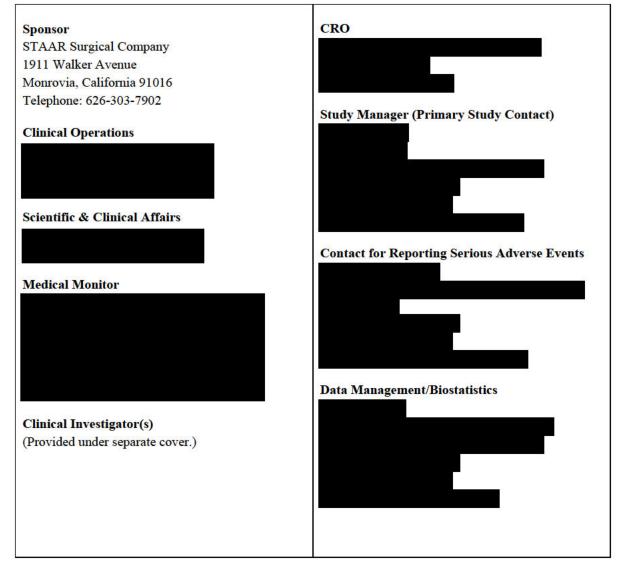
Principal Investigator, Signature

Date

Upon signing, provide a copy of this page to STAAR Surgical Company and retain a copy for your files.

#### PERSONNEL AND FACILITIES

NOTE: The information on this page is subject to change. All changes will be provided under separate cover.



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# LIST OF ABBREVIATIONS

Abbreviation /Acronym	Term
ACD	Anterior Chamber Depth
ADE	Adverse Device Effect
AE	Adverse Event
AL	Axial Length
BCDVA	Best Corrected Distance Visual Acuity
BCNVA	Best Corrected Near Visual Acuity
BfArM	Federal Institute for Drugs and Medical Devices (Bundesinstitut für Arzneimittel und Medizinprodukte)
BSS	Balanced Salt Solution
CE	Conformité Européene
CECC	Corneal Endothelial Cell Count
CIP	Clinical Investigation Plan
CRF	Case Report Form
CRO	Contract Research Organization
CTS	Clinical Trial Suite
D	Diopter
DCIVA	Distance Corrected Intermediate Visual Acuity
DCNVA	Distance Corrected Near Visual Acuity
DOA	Delegation of Authority
EC	Ethics Committee
ECD	Endothelial Cell Density
EDOF	Extended Depth of Focus
eQMS	Electronic Quality Management System
ETDRS	Early Treatment Diabetic Retinopathy Study
EU	European Union
FAS	Full Analysis Set
FMEA	Failure Mode Effects Analysis
FTP	Foam Tip Plunger
GCPs	Good Clinical Practices
HEMA	Hydroxyethylmethacrylate
НОА	Higher Order Abberrations
ID	Identification
ICF	Informed Consent Form
ICH	International Conference on Harmonisation/ Implantable Collamer® Lens for Hyperopia
ICL	Implantable Collamer® Lens
ICM	Implantable Collamer® Lens for Myopia
IOL	Intraocular Lens

Abbreviation /Acronym	Term
ISO	International Organization for Standardization
LASIK	Laser Assisted In Situ Keratomileusis
MeDRA	Medical Dictionary for Regulatory Devices
MPG	Medical Devices Act- Germany
MPSV	German Safety Plan for Medical Devices (Medizinproduktesicherheitsverordnung)
MRSE	Manifest Refractive Spherical Equivalent
OCT	Optical Coherence Tomography
PI	Principal Investigator/ Peripheral iridotomy/iridectomy
pIOL	Phakic Intraocular Lens
PPS	Per Protocol Set
PT	Preferred Term
SADE	Serious Adverse Device Effect
SAE	Serious Adverse Event
SAP	Statistical Analysis Plan
SD	Standard Deviation
SE	Spherical Equivalent
SES	Safety Evaluation Set
SOC	Standard of Care/System Organ Class
SOP	Standard Operating Procedure
SPK	Superficial Punctate Keratitis
UCDVA	Uncorrected Distance Visual Acuity
UCIVA	Uncorrected Intermediate Visual Acuity
UCNVA	Uncorrected Near Visual Acuity
US	United States
USADE	Unanticipated Serious Adverse Device Effect
UV	Ultraviolet
VA	Visual Acuity
VICH6	STAAR EVO+ Visian <sup>™</sup> Implantable Collamer® Lens (VICL) with Aspheric (EDOF) Optic for hyperopia
VICL	Visian <sup>™</sup> Implantable Collamer <sup>®</sup> Lens
VICM6	STAAR EVO+ Visian <sup>™</sup> Implantable Collamer® Lens (VICL) with Aspheric (EDOF) Optic for myopia

NOTE: The first occurrence of some abbreviations is not spelled out in the document (eg, units of measure).

# SYNOPSIS

STAAR Surgical Company Study #CP17-01		
Revision chronology:	Rev 01, 2017.11.09 Rev 02, 2018.01.19 Rev 03, 2018.01.30 Rev 04, 2018, 08.14	
Title:	A Multicenter Clinical Evaluation of the Clinical Performance of a Phakic Intraocular Lens	
Type of study:	Performance	
Objective(s):	The objective of this clinical study is to evaluate the clinical performance of the STAAR EVO+ Visian <sup>™</sup> Implantable Collamer® Lens (VICL) with Aspheric (EDOF) Optic [EDOF ICL] in improving uncorrected near visual acuity (UCNVA).	
Study design:	This prospective, open-labeled, evaluation of clinical performance of the CE-Marked EDOF ICL for the improvement of UCNVA will be conducted at approximately 6 clinical sites in Europe. Approximately 48 subjects who meet all eligibility criteria will undergo phakic IOL implantation in both eyes.	
	Postoperatively, subjects will undergo ophthalmic examination at regular intervals per the study visit schedule up to 6 months after surgery.	
Inclusion criteria:	1. Subjects must be able to read, understand and provide written informed consent on the Ethics Committee (EC) approved Informed Consent Form (ICF) and provide authorization as appropriate for local privacy regulations,	
	2. Willing and able to comply with all treatment and follow-up study related procedures,	
	<ol> <li>Subjects who require a spherical lens power from -0.50 D to -18.00 D must be 40 - 60 years of age at time of surgery,</li> </ol>	
	4. Subjects who require a spherical lens power from 0.0 D to +3.00 D must be 35 – 45 years of age at time of surgery,	
	5. Preoperative refraction that can be fully corrected (target emmetropia) with available ICL powers, with $\leq 0.75$ D preoperative refractive and residual cylinder,	
	6. Must have less than 0.75 D spherical equivalent (SE) difference between cycloplegic and manifest refractions,	
	<ol> <li>Must have a stable correction (± 0.50 D) as determined by manifest refractive spherical equivalent (MRSE) from consecutive refractions, medical records, or prescription history,</li> </ol>	
	8. Best Corrected Distance Visual Acuity (BCDVA) 20/20 or better in both eyes,	
	9. Requires +1.00 D to +2.50 D reading add,	
	10.	

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	11. ACD $\geq$ 2.8 mm as measured from the corneal endothelium to the anterior lens capsule for subjects who require a spherical lens power from -0.50 D to -18.00 D
	12. ACD $\geq$ 3.0 mm as measured from the corneal endothelium to the anterior lens capsule for subjects who require a spherical lens power from 0.0 D to +3.00 D,
	13. Anterior chamber angle $\geq$ Grade III,
	14. Phakic in both eyes,
	15. Current contact lens wearers need to demonstrate a stable refraction, (± 0.5 D), expressed as MRSE, on two consecutive examination dates with refractive stability determined by the following criteria:
	<ul> <li>a. contact lenses were not worn for at least 2 weeks (rigid and toric contact lenses) or 3 days (soft contact lenses) prior to the first refraction,</li> </ul>
	b. two refractions were performed at least 7 days apart.
Exclusion criteria:	1. Participation in a clinical trial within 30 days prior to entry into this study and/or during the period of study participation,
	2. Previous intraocular or corneal surgery in either eye, including refractive surgery (e.g., LASIK),
	3. Progressive sight threatening disease or other previous or current ocular conditions, other than myopia, that may predispose for future complication (e.g., diabetic retinopathy, pseudoexfoliation, retinal detachment, ocular hypertension or glaucoma, clinically significant corneal disease (Fuchs, keratoconus, herpes simplex or zoster keratitis), retinal vascular disease, cataract, etc.) in either eye,
	4. Low/abnormal corneal endothelial cell density (ECD) according to recommendations in ISO-11979-10 (Tab. A.1),
	5.
	6. Amblyopia,
	<ol> <li>Presence of active or history of chronic inflammation in either eye (e.g., scleritis, uveitis, etc.),</li> </ol>
	8. Clinically significant irregular astigmatism in either eye, as determined by the Investigator,
	9. Serious (i.e., life threatening), acute, chronic or systemic, non- ophthalmic disease or illness that would increase the operative risk, confound the outcome(s) of the study or which may preclude study completion (e.g., immunocompromised, connective tissue disease, clinically significant atopic disease, uncontrolled diabetes, insulin dependent diabetes, etc.),
	10. Use of topical steroids at time of implantation,
	11. Systemic or topical medication, other than prescribed study medications (e.g., systemic corticosteroids, anti-metabolites) that may confound the outcome or increase the risk to the subject,

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	12. Allergy to anesthetics or other postoperative medications required in this study,	
	13. Subject who is pregnant, plans to become pregnant, or is lactating during the course of the study, or has another condition associated with the fluctuation of hormones that could lead to refractive changes,	
	14. Subjects who, in the judgment of the Investigator, present any emotional, physiologic, or anatomical condition which may preclude participation in this study or provide an inappropriate landscape for the intended study treatment.	
Investigational device:	The EDOF ICL includes a refractive optic and features a single piece lens design with a convex/concave optic zone of 4.9 to 6.1 mm diameter (according to model and power) and a 0.36 mm diameter central hole in the optic known as the KS-AquaPORT®. The lens is manufactured in five overall diameters: 11.6, 12.1, 12.6, 13.2, and 13.7 mm to accommodate different eye sizes. The lens is manufactured from Collamer, a proprietary polymer made from collagen, hydroxyethylmethacrylate (HEMA) and an ultraviolet (UV) absorber. The 10% UV cut-off for the ICL is at 387 nm wavelength. The lens is supplied with a delivery system for implantation through an incision of 3.5 mm or less.	
Study endpoints:	Performance Endpoints	
	Primary performance endpoint:	
	• Achievement of monocular UCNVA of Snellen equivalent 20/40 or better at 40 cm at Visit 5 (6 months after implantation) in equal to or greater than 75% of implanted eyes (responder rate)	
	Secondary performance endpoints include the following:	
	• Percentage of implanted eyes achieving monocular UCNVA of Snellen equivalent 20/40 or better at 40 cm at Visit 3 and 4 (1 and 3 months after implantation respectively)	
	• Change from baseline in monocular uncorrected intermediate visual acuity (UCIVA) at 80 cm at postoperative Visit 3, 4 and 5	
	• Change from baseline in monocular UCNVA at 40 cm at postoperative Visit 3, 4 and 5	
	• Change from baseline in monocular distance corrected intermediate visual acuity (DCIVA) at 80 cm at postoperative Visit 3, 4 and 5	
	• Change from baseline in monocular distance corrected near visual acuity (DCNVA) at 40 cm at postoperative Visit 3, 4 and 5	
	• Change from baseline in binocular UCNVA at 40 cm at postoperative Visit 3, 4 and 5	
	There are no prespecified performance targets for the secondary performance endpoints.	
	Safety Endpoint	
	• Ocular adverse event (AE) rates assessed in implanted eyes	
	There are no prespecified performance targets for the safety endpoint.	
Statistical methods:	The primary performance endpoint is defined as achievement of monocular UCNVA of Snellen equivalent 20/40 or better at 40 cm at Visit 5 (6 months after implantation) in equal to or greater than 75% of implanted eyes (responder rate). The analysis will be performed on all	

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	eyes.	
	The implant procedure is defined as successful if the responder rate is equal to or greater than 75%. The corresponding statistical hypothesis is therefore as follows:	
	H <sub>0</sub> (null hypothesis): $\pi < 0.75$	
	H <sub>a</sub> (alternative hypothesis): $\pi \ge 0.75$	
	where $\pi$ is the true proportion of eyes that achieve the performance endpoint at 6 months postoperative (6-month responder rate). Fleming's two-stage design was used to optimize the sample size while allowing for early termination due to rejecting the null hypothesis. It is expected that 90% of eyes will achieve the performance endpoint and the sample size was therefore conservatively determined based on an 87.5% responder rate.	
	In the first stage, 27 patients (54 eyes) will be evaluated. If there are 43 or less response the trial will be stopped for futility since the likelihood of still obtaining a significant result is too low to continue the study under ethical considerations. If there are 48 or more responses the trial will be stopped and the null hypothesis rejected as enough statistical evidence has been accrued to determine that, within the certainty of the controlled one-sided type I error probability of 2.5%, the true responder rate is not lower than 75%.	
	Otherwise, 16 additional patients (32 eyes) will be recruited for a total of 43 patients (86 eyes). The null hypothesis will be rejected if 73 or more responses are observed among the 86 eyes. This design yields a one-sided type I error probability of 2.5% and a power of 80% if the true response rate is 87.5%.	
	Summaries for continuous variables will include the number of non- missing observations, mean, standard deviation (SD), median, minimum, and maximum. Summaries for discrete variables will include the tabulation of frequencies and percentages.	

# **1.0** INTRODUCTION

The STAAR Implantable Collamer® Lens (ICL) first obtained approval in 1997 for the original ICH (for hyperopia) and ICM (myopia) lens models. Since the approval of the first ICL, incremental improvements and expansion in the technology have been brought to patients globally. The ICL has a substantial history of clinical effectiveness while presenting a favorable safety profile with over 700,000 ICLs implanted globally.

The STAAR EVO+ Visian<sup>™</sup> Implantable Collamer<sup>®</sup> Lens (VICL) with Aspheric (EDOF) Optic (models VICH6 and VICM6 [EDOF ICL]) received CE Mark on May 11, 2017.

The EDOF ICL is indicated for use in phakic eye treatment in adults with an anterior chamber depth (ACD) equal to or greater than 3.0 mm, as measured from the corneal endothelium to the anterior lens capsule, and:

1. 21- 60 years of age for the correction/reduction of myopia in adults ranging from -0.5 D to -20.0 D at the spectacle plane.

Or

2. 21-45 years of age for the correction/reduction of hyperopia in adults ranging from +0.5 D to +16.0 D at the spectacle plane.

The EDOF ICL models include a combination of the most advanced elements of the ICL platform, an increased diameter of the optic to accommodate larger pupils and the center port (KS-AquaPORT®) allowing for implantation without the need of peripheral iridotomies/iridectomies (PIs). These features are combined with asphericity, the addition of hyperfocal optics utilizing circularly-symmetric Zernike polynomial aberrations (to 8,0). The added aspheric optic is designed to provide extended depth of focus (EDOF).

The ICL is intended to be implanted within the posterior chamber, directly behind the iris, and in front of the anterior capsule of the human crystalline lens. It offers an intraocular alternative for the correction of refractive error in those who currently utilize spectacle and/or contact lenses correction. Other alternative refractive surgical procedures include: excimer laser surgery (including photorefractive keratectomy (PRK) and laser assisted in situ keratomileusis (LASIK)), radial keratotomy (RK), automated lamellar keratectomy (ALK), epikeratoplasty, intracorneal implants (lenses or rings), anterior chamber and sulcus-placed phakic intraocular lenses (pIOLs), refractive lens exchange, and combinations of two or more of these procedures.

Presbyopia is a condition associated with the expected age-related decline in near-focusing ability that becomes manifest at approximately age 45.<sup>1,2</sup> Presbyopia affects all people, regardless of their underlying refractive error. Those who are farsighted prior to the onset of presbyopia will likely experience difficulty with near vision at a somewhat younger age, while those who are nearsighted may not notice the onset of presbyopia until somewhat later. Regardless, all people will eventually require optical correction in addition to any distance correction for near vision tasks such as reading.

Presbyopia is associated with reduced health-related quality of life,<sup>3</sup> and presbyopia corrected with glasses is associated with a nominal decrease in quality of life, similar to that of treated systemic hypertension. Approximately 10% of presbyopic patients suffer such inconvenience from spectacle correction that they would consider surgical intervention.<sup>4</sup>

Individuals who have had refractive surgery such as LASIK for correction of their distance vision will still experience presbyopia when they reach their mid-forties. Monovision, the intended correction of one eye for near vision and the fellow eye for distance vision, represents a common strategy for addressing presbyopia in older patients undergoing LASIK. Intraocular lens (IOL) implants intended for use at the time of cataract surgery have also been used to provide monovision. While monovision correction of presbyopia is related to some improvements in health-related quality of life, the quality of life with monovision is still worse than the quality of life for younger subjects with emmetropia.<sup>1</sup> Specific presbyopia-correcting IOLs have also been developed incorporating multifocal and EDOF optical elements intended to provide simultaneous vision at near and far distances.<sup>5,6</sup> While monovision LASIK, multifocal IOLs and corneal implants have been developed to improve near vision, these methods typically result in some expected degradation of distance vision and unwanted optical side effects such as halos and glare in order to gain an improvement in uncorrected near vision.

# 1.1 Clinical and Non-clinical Information

Preclinical bench-testing conducted by STAAR has demonstrated that the STAAR EVO+ Visian Implantable Collamer Lens (VICL) with Aspheric (EDOF) Optic [EDOF ICL] demonstrates at least 1.5 D of field depth with acceptably high image quality (20/20) both at distance focus and throughout the depth of field.



# 1.2 Hypothesis

The implant procedure is defined as successful if the responder rate is equal to or greater than 75%. The corresponding statistical hypothesis is therefore as follows:

H <sub>0</sub> (null hypothesis):	$\pi < 0.75$
H <sub>a</sub> (alternative hypothesis):	$\pi \ge 0.75$

where  $\pi$  is the true proportion of eyes that achieve the performance endpoint (i.e., uncorrected near visual acuity (UCNVA) of Snellen equivalent 20/40 or better at 40 cm) at 6 months after implantation (6-month responder rate).

# 2.0 OBJECTIVE

The objective of this clinical study is to evaluate the clinical performance of the STAAR EDOF ICL in improving UCNVA.

# 3.0 STUDY DESIGN

#### 3.1 Description of Study Design

This is a prospective, open-labeled, multi-site evaluation of clinical performance of the CE-Marked EDOF ICL for the improvement of UCNVA. Approximately 48 subjects who meet all eligibility criteria will undergo phakic IOL implantation in both eyes. All eyes will be followed for 6 months after surgery.

The first eye implanted with the study lens and the appropriate time for fellow eye implantation will be determined by the medical judgement of the Investigator. All eyes will be analyzed for safety and performance.

The subject will have completed the entire study when the study lenses have been implanted bilaterally and the Sponsor receives completed case report form (CRF) documentation for all visits. A Study Exit CRF for each eye must be completed for all subjects enrolled in the study.

# 3.2 Selection of Study Population

A total of up to 48 subjects (96 eyes) at approximately 6 clinical sites in the EU who meet all eligibility criteria will be offered enrollment into this study.

#### 3.2.1 Eligibility

# 3.2.1.1 Inclusion Criteria

This study will include subjects who meet the following criteria:

- Subjects must be able to read, understand and provide written informed consent on the Ethics Committee (EC) approved Informed Consent Form (ICF) and provide authorization as appropriate for local privacy regulations,
- 2. Willing and able to comply with all treatment and follow-up study related procedures,

- 3. Subjects who require a spherical lens power from -0.50 D to -18.00 D must be 40 60 years of age at time of surgery,
- 4. Subjects who require a spherical lens power from 0.0 D to +3.00 D must be 35 45 years of age at time of surgery,
- 5. Preoperative refraction that can be fully corrected (target emmetropia) with available ICL powers, with  $\leq 0.75$  D preoperative refractive and residual cylinder,
- 6. Must have less than 0.75 D spherical equivalent (SE) difference between cycloplegic and manifest refractions,
- Must have a stable correction (± 0.50 D) as determined by manifest refractive spherical equivalent (MRSE) from consecutive refractions, medical records, or prescription history,
- 8. Best Corrected Distance Visual Acuity (BCDVA) 20/20 or better in both eyes,
- 9. Requires +1.00 D to +2.50 D reading add,
- 10.
- 11. ACD  $\ge$  2.8 mm as measured from the corneal endothelium to the anterior lens capsule for subjects who require a spherical lens power from -0.50 D to -18.00 D,
- 12. ACD  $\ge$  3.0 mm as measured from the corneal endothelium to the anterior lens capsule for subjects who require a spherical lens power from 0.0 D to +3.00 D,
- 13. Anterior chamber angle  $\geq$  Grade III,
- 14. Phakic in both eyes,
- 15. Current contact lens wearers need to demonstrate a stable refraction,

 $(\pm 0.5 \text{ D})$ , expressed as MRSE, on two consecutive examination dates with refractive stability determined by the following criteria:

- contact lenses were not worn for at least 2 weeks (rigid and toric contact lenses) or 3 days (soft contact lenses) prior to the first refraction,
- two refractions were performed at least 7 days apart.

# 3.2.1.2 Exclusion Criteria

This study will include subjects who do not meet the following criteria:

- 1. Participation in a clinical trial within 30 days prior to entry into this study and/or during the period of study participation,
- 2. Previous intraocular or corneal surgery in either eye, including refractive surgery (e.g., LASIK),
- 3. Progressive sight threatening disease or other previous or current ocular conditions, other than myopia, that may predispose for future complication (e.g., diabetic retinopathy, pseudoexfoliation, retinal detachment, ocular hypertension or glaucoma, clinically significant corneal disease (Fuchs, keratoconus, herpes simplex or zoster keratitis), retinal vascular disease, cataract, etc.) in either eye,
- Low/abnormal corneal endothelial cell density (ECD) according to recommendations in ISO-11979-10 (Tab. A.1),
- 5.
- 6. Amblyopia,
- 7. Presence of active or history of chronic inflammation in either eye (e.g., scleritis, uveitis, etc.),
- 8. Clinically significant irregular astigmatism in either eye, as determined by the Investigator,
- 9. Serious (i.e., life threatening), acute, chronic or systemic, non-ophthalmic disease or illness that would increase the operative risk, confound the outcome(s) of the study or which may preclude study completion (e.g., immunocompromised, connective tissue disease, clinically significant atopic disease, uncontrolled diabetes, insulin dependent diabetes, etc.),
- 10. Use of topical steroids at time of implantation,
- 11. Systemic or topical medication, other than prescribed study medications (e.g., systemic corticosteroids, anti-metabolites) that may confound the outcome or increase the risk to the subject,
- 12. Allergy to anesthetics or other postoperative medications required in this study,

- 13. Subject who is pregnant, plans to become pregnant, or is lactating during the course of the study, or has another condition associated with the fluctuation of hormones that could lead to refractive changes,
- 14. Subjects who, in the judgment of the Investigator, present any emotional, physiologic, or anatomical condition which may preclude participation in this study or provide an inappropriate landscape for the intended study treatment.

#### 3.2.2 Subject Completion

The subject has completed the entire study when the study lenses have been implanted bilaterally and the Sponsor receives completed CRF documentation for all visits. Subjects who require further follow-up for an adverse event (AE) will be followed according to Section 6.3.5.

A Study Exit CRF for each eye must be completed for all subjects who complete the study.

#### 3.2.3 Subject Discontinuation

A subject may be discontinued (at the discretion of the Investigator, the Sponsor and/or the EC) prior to the final study visit for several reasons, including, but not limited to:

- voluntary withdrawal
- death
- surgical complication preventing implantation of the study lens
- explant of the study lens(es)

If the study lens is explanted, a minimum of one post-explant visit should be completed to record safety measures for the subject (e.g., BCDVA, cataract/lens evaluation, endothelial cell count, etc.).

Prior to discontinuing a subject, every effort should be made to contact the subject, schedule a final study visit, and obtain as much follow-up data as possible.

Adverse events will be followed as described in Section 6.3.5. Subject withdrawals will be documented clearly on the source document and applicable CRF.

Only subjects who do not receive successful bilateral implantation MAY be replaced. Subjects who are discontinued from the study following treatment will not be replaced.

Discontinued subjects should be followed outside of the study protocol according to the Investigator's normal postoperative standard of care.

#### 3.2.4 Lost to Follow-up

Subjects who do not return for postoperative Visit 5, as defined by the visit window and cannot be contacted, will be considered lost to follow-up. All follow-up attempts will be documented in the subject's source documentation, and the applicable CRFs will be completed.

### 3.3 Investigators

- The study will be conducted at approximately 6 clinical site(s) located in Europe (Spain, Belgium and Germany).
- The study will be conducted by Investigators who have completed the STAAR Surgical EVO Visian ICL Physician Certification Program and are determined by STAAR Surgical to be suitably qualified by training and experience to conduct this study in compliance with all applicable GCPs and local regulations. Sub-Investigators will be identified on the Device Investigator Agreement (DIA)/ Delegation of Authority Log (DOA).
- Each Investigator will enroll approximately 10 subjects (20 eyes). In the event that selected sites do not meet full enrollment, the Sponsor may decide to increase enrollment as needed at other currently active sites and additional site(s) may be added to satisfy the enrollment requirements of the study.

# 3.4 Study Duration

The duration of the study, including the time to recruit all subjects, will be approximately 18 months. Eligible subjects who are enrolled in the study will be seen for 7 scheduled study visits (per eye) over the course of approximately 6-9 months.

# 4.0 STUDY MATERIALS

#### 4.1 Description of Investigational Device

The EVO+ Visian ICL with Aspheric (EDOF) Optic includes a refractive optic and features a single piece lens design with a convex/concave optic zone of 4.9 to 6.1 mm diameter (according to model and power) and a 0.36 mm diameter central hole in the optic known as the KS-AquaPORT®. The lens is manufactured in five overall diameters: 11.6, 12.1, 12.6, 13.2, and 13.7 mm to accommodate different eye sizes. The lens is manufactured from Collamer, a proprietary polymer made from collagen, hydroxyethylmethacrylate (HEMA) and an ultraviolet (UV) absorber. The 10% UV cut-off for the ICL is at 387 nm wavelength. The lens is supplied with a delivery system for implantation through an incision of 3.5 mm or less. STAAR will provide the following materials:

- EVO+ Visian ICL with Aspheric (EDOF) Optic
- Supplemental lens for each eye
- MICROSTAAR injector MSI-PF or MSI-TF reusable injector with SFC-45, single use cartridge and foam tip plunger (FTP)

The study lenses will be packaged and labeled in a manner consistent with the study design and applicable regulations.

#### 4.2 Instructions for Use and Administration

#### 4.2.1 Surgical Procedure

Surgery to implant the EDOF ICL will be performed in accordance with instructions provided in Appendix B.

#### 4.2.2 Storage Requirements

The study lenses are to be stored at room/ambient temperature. The storage location at the clinical site must have limited access, available to study site personnel only.

# 4.3 Treatment Replacement

A supplemental lens will be provided for each eye. Study lens accountability should be maintained as described in Section 4.6.

#### 4.4 Other Materials

STAAR will provide the following ancillary materials for use during the study:

- M&S Clinical Trial Suite Vision Tester
- iTrace Aberrometer

# 4.5 Packaging and Labeling

The Study Lenses will be packaged and labeled in a manner consistent with the study design and applicable regulations. In addition to the standard labelling of the product, a study-specific label will be attached to the outer packaging and will contain information as required by EN ISO 14155 and local labelling requirements together with caution statement that it is for clinical trial use only.

# 4.6 Accountability

The Investigator will be responsible for keeping current and accurate records of all study lenses received, dispensed, and returned to the Sponsor. The study lenses must be stored under the appropriate conditions in a secure, limited access area and are to be implanted only in subjects enrolled in the study, in accordance with the conditions specified in this protocol.

Accountability records will include:

- Serial number of each study lens
- Date received by site
- Names of site personnel who receive, use and dispense the study lens
- Date of dispensation/use
- Subject treated with each study lens
- Date of return to Sponsor and reason (e.g., damaged, defective, back-up not used), if applicable

At time points throughout the study and/or upon completion of the study, the Sponsor/Sponsor's representative will review and verify the Investigator's accountability records. Following verification, and as directed by the Sponsor, all unused or explanted study lenses must be returned to the Sponsor, as directed.

#### 4.6.1 Treatment Allocation

All patients at study sites who provide informed consent to participate and meet all eligibility criteria will be offered the opportunity to enroll in this study in a consecutive manner. Upon enrollment, subjects will be assigned the next available Subject ID number.

#### 4.7 Risk Assessment

The EVO+ EDOF ICL has been assessed for risk control measures per established risk analysis and FMEA reports. The use of CE-Marked model in the context of this clinical study requires the residual risk to be balanced against the anticipated benefit of the procedure. The risk level has been determined to be in the lowest category, deeming the risk to be acceptable, and it is believed that the benefits outweigh any of the identified or associated residual risks with this clinical evaluation.

If new information regarding new risks to patients is made available during the course of the study, the EC and applicable regulatory agencies will be notified, the informed consent will be updated and the Investigator will be required to provide new information to patients and have them sign the revised ICF.

# 5.0 STUDY CONDUCT

# 5.1 Study Visits

All Subjects who meet the eligibility criteria will be seen according to the following schedule.

Preoperative Visit	Days -90 to 0
Operative Visit	Day 0
Postoperative Visit 1	Day 1 (1 day)
Postoperative Visit 2	Week 1 (5 – 9 days)
Postoperative Visit 3	Month 1 (3 – 5 weeks)
Postoperative Visit 4	Month 3 (10 – 14 weeks)
Postoperative Visit 5	Month 6 (21 – 26 weeks)

Refer to Appendix A for a schedule of visits and parameters and Appendix C for methods of clinical evaluation.

Following identification of a potential subject, the Investigator (or designee) will explain the purpose of the study, procedures, risks/benefits, and subject responsibilities to the potential subject. The subject's willingness and ability to meet the follow-up requirements of the study will be determined. If the subject chooses to participate in the investigation, written informed consent will be obtained. The subject and the person obtaining written consent, will sign and date the EC-approved ICF. The original signed document will be retained in the subject records, and a copy will be provided to the subject. In addition, the applicable privacy regulation requirements must be met.

#### 5.1.1 Preoperative Visit – Days -90 to Day 0

Prospective subjects who have provided informed consent will be screened to determine eligibility for treatment in the study. Demographic information, relevant ocular medical history, and current ocular medication use will be collected. The preoperative clinical evaluation will consist of a complete ophthalmic examination conducted no more than 90 days prior to surgery.

Refer to Appendix A: Schedule of Visits and Parameters for assessments to be performed.

#### 5.1.2 Operative Visit – Day 0

Subjects will be reassessed to confirm eligibility. In addition, any changes in concomitant medications or AEs will be recorded. If the subject no longer meets eligibility criteria, he/she will be considered a screen failure. If the subject is eligible, he/she will be enrolled in the study and undergo surgery according to the surgical procedure described in Appendix C. If the study lens is not implanted due to a surgical complication, the subject will be discontinued from the study.

At approximately 1-6 hours after surgery, an intraocular pressure (IOP) reading in the implanted eye(s) will be conducted. Any complications, AEs, or associated treatment given will be appropriately documented and reported.

#### 5.1.3 Postoperative Visits – Day 1 to Month 6

Each treated subject will be seen for 5 postoperative visits according to the schedule in Appendix A.

#### 5.1.4 Unscheduled Visits

Additional visits may be scheduled, as necessary, to ensure the safety and well-being of subjects. All additional exams should be fully documented in the source documents and on Unscheduled Visit CRFs, as appropriate. Visits intended to fulfill scheduled visit requirements that fall outside the designated scheduled visit range, are not Unscheduled Visits. In these cases, the visit data will be collected and transcribed to the appropriate scheduled visit CRF.

If a subject is seen for multiple visits during a given visit timeframe, the data from the visit that is intended to meet the protocol requirements for the scheduled visit should be captured on the visit CRF. Where such a determination cannot be made, the first visit within the scheduled visit interval will be used for completion of the protocol required scheduled visit CRF. Data from any additional visits within a scheduled visit interval will be captured on an Unscheduled Visit CRF.

#### 5.1.5 Missed Visits

If a subject misses any scheduled follow-up visit and cannot be seen prior to the start of the visit range for the next scheduled follow-up visit, the visit will be documented as missed in the source documents and CRFs.

# 5.2 Study Completion

STAAR Surgical will notify the Investigator when to contact the EC to inform them that the study is complete.

#### 5.2.1 Early Study Termination

If during the study it becomes evident to the Sponsor that the study should be stopped prematurely, the study will be terminated and appropriate notification will be given to the Investigator(s), EC, and Local Health Authority, as applicable. STAAR Surgical will instruct the Investigators to stop dispensing study materials/treatment, to assure appropriate follow-up for all enrolled subjects and arrange for study closeout at each site as appropriate.

#### 5.2.2 Post-study Follow-up

If a subject requires further follow-up of a serious adverse event (SAE) upon discontinuation or completion of the study, the Investigator should schedule post-study follow-up visits, as necessary. Refer to Section 6.3.5 for follow-up of SAEs following study exit.

#### 5.3 Concomitant Medications/Therapy

The Investigator may use any medical treatment that is judged appropriate and beneficial to the subject. All medications that are considered necessary for the subject's welfare may be used at the Investigator's discretion. Documentation of all medications used for ocular indications by the subject during this study will be recorded in the subject's source document and applicable CRFs.

# 5.4 **Protocol Deviations**

The date of and reason for deviations will be documented in all cases. Significant or major protocol deviations impacting the safety of the subject or the integrity of the study must be reported by the Investigator to the EC immediately. Reporting of all other protocol deviations must adhere to the requirements of the governing EC.

Protocol assessments will continue until the end of the study, unless the protocol deviations put the subject at risk or the subject's condition requires that he/she be discontinued from the study.

# 6.0 ADVERSE EVENT REPORTING

Throughout the course of this study, all efforts will be made to remain alert to possible AEs. If an AE occurs, the first concern will be the safety of the subject, and appropriate medical intervention will be made. All ocular AEs and all SAEs (both ocular and non-ocular) will be reported by the Investigator in this study. Non-serious non-ocular AEs will not be documented in the eCRF. The collection of AEs begins at the time the subject completes the informed consent process to participate in the study.

All device-related AEs and SAEs reported in this study will be reviewed by the responsible Medical Monitor and forwarded to STAAR Complaint Handling department. In addition, all other events that meet the definition of a product complaint (i.e., device deficiency) will be evaluated and investigated in accordance with STAAR's complaint handling procedures.

Refer to Section 6.3.1 for instructions on events that require expedited reporting to the Sponsor.

#### 6.1 Definitions

#### 6.1.1 Adverse Event (AE)

According to EN ISO 14155,<sup>8</sup> an **Adverse Event** is any untoward medical occurrence, unintended disease or injury, or untoward clinical sign (including abnormal laboratory findings) in subjects, users or other persons, whether or not related to the investigational medical device.

**NOTE 1:** This definition includes events related to the investigational device or the comparator.

NOTE 2: This definition includes events related to the procedures involved.

NOTE 3: For users or persons, this definition is restricted to events related to investigational medical devices.

Complications during phakic IOL surgery of the study eye must be reported as AEs in the corresponding eCRF section. A worsening of a pre-existing ocular condition during the study should be documented as an AE and evaluated according to the guidelines in Section 6.2.

Experience with intraocular surgery and the implantation of phakic IOLs has shown that some findings can be considered normal or expected events after these procedures. These findings may be considered normal or expected events after phakic IOL surgery, and need only be reported as AEs if the following criteria are met or exceeded:

- iritis/cells/flare if present at postoperative Visit 3 or later
- corneal edema if present at postoperative Visit 3 or later
- moderate or severe subjective visual disturbance (e.g., glare/halos) if present at postoperative Visit 4 or later (i.e., halo and glare in the early postoperative period is not reportable as an AE)
- elevated IOP if measuring  $\geq 30$  mmHg or  $\geq 10$  mmHg above baseline
- postoperative ocular event(s) if requiring a change in the standard postoperative medication regimen
- inadequate or excessive vault if ICL exchange is necessary to prevent permanent impairment, i.e., is sight threatening (if the lens is still performing as intended, variations in vault are not reportable as an AE)
- paracentesis to relieve elevated IOP if performed >1 week after implantation (paracentesis ≤ 1 week postoperative is not reportable as an AE)

#### 6.1.2 Adverse Device Effect (ADE)

According to EN ISO 14155<sup>8</sup> an Adverse Device Effect is an AE related to the use of an investigational medical device.

**NOTE 1:** This definition includes AEs resulting from insufficient or inadequate instructions for use, deployment, implantation, installation, or operation, or any malfunction of the investigational medical device.

**NOTE 2:** This definition includes any event resulting from use error or from intentional misuse of the investigational medical device.

#### 6.1.3 Device Deficiency

According to EN ISO 14155<sup>8</sup>, a **Device Deficiency** is any inadequacy of the medical device with respect to its identity, quality, durability, reliability, safety or performance.

NOTE: Device deficiencies include malfunctions, use errors and inadequate labeling.

#### 6.1.4 Malfunction

According to EN ISO 14155<sup>8</sup>, a malfunction is any failure of a medical device to perform in accordance with its intended purpose when used in accordance with the instructions for use or clinical study protocol or Clinical Investigation Plan (CIP).

#### 6.1.5 Serious Adverse Device Effect (SADE)

According to EN ISO 14155<sup>8</sup>, a Serious Adverse Device Effect is any ADE that has resulted in any of the consequences characteristic of an SAE.

#### 6.1.6 Serious Adverse Event (SAE)

#### According to EN ISO 14155<sup>8</sup>, a Serious Adverse Event is any AE that

- a) led to death,
- b) led to serious deterioration in the health of the subject, that either resulted in
  - 1) a life-threatening illness or injury, or,
  - 2) a permanent impairment of a body structure or body function, or
  - 3) in-patient or prolonged hospitalization, or
  - 4) medical or surgical intervention to prevent life-threatening illness or injury or permanent

impairment to a bod structure or body function,

c) led to foetal distress, foetal death or a congenital abnormality or birth defect.

**NOTE:** Planned hospitalization for a pre-existing condition, or a procedure required by the CIP, without serious deterioration in health, is not considered an SAE.

#### 6.1.7 Unanticipated Serious Adverse Device Effect (USADE)

According to EN ISO 14155<sup>8</sup>, an **Unanticipated Serious Adverse Device Effect** is any Serious Adverse Device Effect (SADE) which by its nature, incidence, severity or outcome has not been identified in the current version of the risk analysis report.

#### 6.1.8 Use error

According to EN ISO 14155<sup>8</sup>, **Use Error** is any act or omission of an act that results in a different medical device response than intended by the manufacturer or expected by the user.

NOTE 1: User error includes slips, lapses, and mistakes.

**NOTE 2:** An unexpected physiological response of the subject does not in itself constitute a use error.

#### 6.2 Evaluation

Adverse events experienced in this study may be associated with the study device (i.e., ADE) or the study procedures described in this protocol.

When evaluating AEs, the Investigator must determine if the event is serious, according to the definitions in 6.1.6, and assess the severity of symptoms and evaluate the relationship of the event to the study device and study protocol, using the following guidelines:

#### Severity

- Mild: Subject awareness of a sign or symptom that is easily tolerated, requires no treatment, and does not interfere with the subject's daily activities
- Moderate: Subject awareness of a sign or symptom which may be a low level of concern to the subject and may interfere with daily activities, but can be relieved by simple therapeutic care
- Severe: A sign or symptom that interrupts the subject's daily activity and requires systemic therapy or other treatment

#### Relationship (Causality) to Study Device or Study Protocol

- Not Related: AEs which are clearly and incontrovertibly due to causes other than the study device or study protocol (e.g., concomitant disease, etc.)
- Related: AEs which are felt with a reasonable degree of certainty to be related to the study device or study protocol
- Unknown: AEs for which a connection with the study device or study protocol cannot be ruled-out with certainty, or not enough information is available to assess the relationship

#### 6.3 Reporting

#### 6.3.1 On-Site Expedited Reporting

The Investigator is obligated to report the following to the Sponsor within 24 hours of becoming aware of the event to ensure the safety of all participants in the study and to meet regulatory reporting requirements:

- all SAEs, regardless of relationship to study device or study protocol
- all **non-serious AEs** determined to be related to the study device (ADE)

- all device deficiencies that do not result in one of the above reportable events
- all secondary surgical interventions (removal, replacement or repositioning) involving the study lens

In addition, the following events are to be reported to the Sponsor as SAEs in this study:

- endophthalmitis
- pupillary block
- retinal detachment
- stromal thinning/corneal melting
- ≥2 lines BCDVA loss not secondary to any underlying condition after 3 months postoperative

All SAEs/ADEs and device deficiencies will be reported via the eCRF. The required information will be sent to the safety department of the CRO and the Sponsor automatically. Telephone, fax and e-mail can be used for initial reporting if there are difficulties accessing the eCRF. The contact details of the safety department of the CRO are:



All SAEs will be reported by the CRO on behalf of STAAR Surgical to the Competent Authorities of the involved countries according to the EU regulations and the national legislations.

The Sponsor is to report a SAE or a new finding to it which indicates an imminent risk of death, serious injury, or serious illness and that requires prompt remedial action for other subjects or a new finding to it to the regulatory authority immediately but not later than 2 calendar days of awareness of the event.

The Sponsor is to report any other SAE or a new finding/update to it immediately, but not later than 7 calendar days following the date of awareness of the event.

In addition, the CRO will report SAEs to the responsible EC without undue delay, if applicable according to national regulations. The CRO is responsible for checking what reporting procedures are applicable for his/her EC regarding SAEs and final report of the outcome of the study and to comply with such reporting procedures during the study period.

#### 6.3.2 Safety Reporting within the European Economic Area

In Germany, reporting will be done according to Act on Medical Devices (MPG) and German Safety Plan for Medical Devices (MPSV, Section 3 sub-section 6) by using the current reporting form available on the BfArM homepage. Investigators have to report all SAEs to the Sponsor immediately. The Sponsor of a clinical trial of a medical device that is conducted in Germany (and other countries) has to report SAEs to BfArM immediately or quarterly, depending on the following conditions:

Condition for reporting to BfArM	Country of occurence	Timeline for reporting to BfArM	Report type, form
A causal relationship between the SAE and the investigational medical device, a comparator device, diagnostic or therapeutic procedures performed as part of the clinical trial or other conditions of the trial conduct <b>cannot be excluded</b>	Germany	Immediately	Single report, SAE report form
	All other countries where the clinical trial is performed	Immediately	Summary table, SAE report table All SAEs shall be documented using the same Excel file, in a cumulative manner, using the same Excel sheet
A causal relationship between the SAE and the investigational medical device, a comparator device, diagnostic or therapeutic procedures performed as part of the clinical trial or other conditions of the trial conduct <b>can be excluded</b>	All	Quarterly	Summary table, SAE report table
All SAEs	All	Quarterly	SAE summary evaluation

Regardless of the criteria mentioned in the table, the Sponsor must report all SAEs occurring in Germany to the competent authorities of other contractual states of the Agreement on the European Economic Area immediately if the clinical trial is also being performed in those countries.

## 6.3.3 Off-Site SAE Reporting

When participating in multicenter clinical trials, Principal Investigators may receive "off-site" reports (e.g., SAE Report). These are Sponsor reports of SAEs which occurred at other sites for the same trial, or in different trials using the same test article, that met the criteria for reporting to a regulatory agency. These should be reported to the reviewing EC per their established reporting procedures. The EC may require a revision to the ICF and reconsenting of patients if the SAE provides new information regarding risk to the study subject.

#### 6.3.4 Reporting of Complaints for STAAR Surgical Products

Refer to Section 6.1.1 and 6.3.1 for instruction on reporting of product complaints that meet the definition of AEs/SAEs and ADEs that occur during the study.

All information collected on a CRF could potentially be identified as a product complaint, as defined in Section 6.1.3. The Sponsor has identified what information collected under this study could potentially be identified as a complaint. During clinical monitoring by the Sponsor/designee, the information collected on the CRFs will be evaluated to determine if any of the information should be forwarded to the Sponsor for consideration as a complaint. The Sponsor has the responsibility for evaluating and investigating potential complaints in accordance with STAAR's internal complaint handling procedures.

Any complaints, malfunctions or similar events related to ancillary STAAR Surgical marketed products used in this study should be reported by the Investigators in accordance with the reference information provided on the commercial packaging.

#### 6.3.5 Adverse Events and SAEs at Subject Exit

Ongoing ocular AEs at study exit will be documented as such in the CRFs and followed per the Investigator's standard of care.

Ongoing SAEs and ADEs will be followed until resolution or no further change in the condition is expected. Non-serious AEs that are ongoing at the study exit visit or upon discontinuation from the study will be followed per the Investigator's standard of care. Documentation in the eCRF of this follow-up is not required although subject care should continue as appropriate.

# 7.0 STATISTICAL METHODS

This section describes the statistical analyses intended at the time of investigation planning. Further details on the statistical and analytical aspects will be presented in the Statistical Analysis Plan (SAP).

Any deviations from planned analyses, the reasons for such deviations, and all alternative or additional statistical analyses that may be performed before database close will be described in amendments to the clinical protocol or the SAP. All deviations and/or alterations will be summarized in the clinical study report.

Continuous variables (values and changes from baseline) will be summarized by N, mean, SD, median, minimum, and maximum. For qualitative variables, absolute and percent frequencies (N, %) and, if applicable, shift tables will be displayed. Confidence limits will be given where appropriate.

# 7.1 Hypothesis

The implant procedure is defined as successful if the responder rate is equal to or greater than 75%. The corresponding statistical hypothesis is therefore as follows:

H <sub>0</sub> (null hypothesis):	$\pi < 0.75$

H<sub>a</sub> (alternative hypothesis):  $\pi \ge 0.75$ 

where  $\pi$  is the true proportion of eyes that achieve the performance endpoint (i.e. UCNVA of Snellen equivalent 20/40 or better at 40 cm) at 6 months after implantation (6-month responder rate).

#### 7.2 Study Endpoints

#### 7.2.1 Performance Endpoints

The primary performance endpoint is defined as achievement of monocular UCNVA of Snellen equivalent 20/40 or better at 40 cm at Visit 5 (6 months after implantation) in equal to or greater than 75% of implanted eyes (responder rate).

Fleming's two-stage design was used, which enables early termination of the study at an interim analysis for futility or performance. Here, an interim analysis will be performed with the results obtained from 27 subjects (54 eyes). If there are 43 or less responses, the trial will be stopped for futility since the likelihood of still obtaining a significant result is too low to continue the study under ethical considerations. If there are 48 or more responses observed at the interim analysis, the trial will be stopped and the null hypothesis rejected as enough statistical evidence has been accrued to determine that, within the certainty of the controlled one-sided type I error probability of 2.5%, the true responder rate is greater or equal to 75%.

Otherwise, 16 additional patients (32 eyes) will be recruited for a total of 43 patients (86 eyes). The null hypothesis will be rejected if 73 or more responses are observed among the 86 eyes. This design yields a one-sided type I error probability of 2.5% and a power of 80% if the true response rate is 87.5%.

Secondary performance endpoints include the following:

- Percentage of implanted eyes achieving monocular UCNVA of Snellen equivalent 20/40 or better at 40 cm at Visit 3 and 4 (1 and 3 months after implantation respectively)
- Change from baseline in monocular uncorrected intermediate visual acuity (UCIVA) at 80 cm at postoperative Visit 3, 4 and 5
- Change from baseline in monocular UCNVA at 40 cm at postoperative Visit 3, 4 and 5
- Change from baseline in monocular distance corrected intermediate visual acuity (DCIVA) at 80 cm at postoperative Visit 3, 4 and 5
- Change from baseline in monocular distance corrected near visual acuity (DCNVA) at 40 cm at postoperative Visit 3, 4 and 5
- Change from baseline in binocular UCNVA at 40 cm at postoperative Visit 3, 4 and 5

There are no prespecified performance targets for secondary performance endpoints. 95% confidence limits will be calculated for all secondary performance endpoints.

#### 7.2.2 Safety Endpoint

Ocular AE rates will be assessed for all implanted eyes. There are no prespecified performance targets for the safety endpoint.

# 7.3 Sample Size

Fleming's two-stage design was used to optimize the sample size while allowing for early termination of the trial for futility or performance. It is expected that 90% of eyes will achieve the performance endpoint and the sample size was therefore conservatively determined based on an 87.5% responder rate.

Based on Fleming's two-stage design, 27 subjects (54 eyes) will be enrolled prior to the interim analysis. In case the study is not terminated due to futility or reaching the performance endpoint, an additional 16 subjects (32 eyes) will be enrolled for a total of 43 patients (86 eyes). To allow for 10% attrition over 6 months, a total of 48 subjects (96 eyes) will be enrolled for assessment of the primary and secondary performance endpoints and the primary safety endpoint in case the study is not terminated after the first stage.

This design yields a one-sided type I error probability of 2.5% and a power of 80% if the true response rate is 87.5%.

# 7.4 Study Populations

Subjects aged 35-60 that meet the eligibility criteria will be included in the study. No subgroup analysis is planned and subjects will not be stratified into different groups. Furthermore, there are no control groups as the achievement of a VA threshold is assessed for each eye and further analysis aims at assessing the improvement of VA from baseline to follow-up visit for each eye

# 7.5 Statistical Analysis

#### Primary analysis:

The analysis of the primary performance endpoint is based on Fleming's two-stage design. Threshold responder rates and observed responder rates will be compared to determine if the study is discontinued for futility or achievement of the performance endpoint. The performance endpoint is met and the null hypothesis will be rejected at least 48 responses were observed among the 54 eyes at the interim analysis or 73 responses of 86 eyes at the study end. Conversely, the study will be terminated prematurely for futility if 43 or less responses were observed among the 54 eyes at the interim analysis will be rejected if less than 73 responses were observed at the study end. This analysis yields a power of 80% and a one-sided type I error probability of 2.5% for the targeted sample size.

#### Secondary analysis:

The analysis of secondary performance endpoints will include summary statistics for continuous variables: Number of non-missing values, mean, SD, median, minimum, maximum and 95% exact binomial confidence limits.

#### Safety analysis:

All AEs will be coded according to the Medical Dictionary for Regulatory Devices (MedDRA) version in effect at the time the database is closed. Incidences will be calculated for ocular and serious ocular and non-ocular AEs on the system organ class (SOC) level and on the preferred term (PT) level by intensity and by relationship to the study lens. Listings and, if applicable, tables displaying incidences of ocular AEs leading to discontinuation, serious AEs, and deaths will be provided.

#### **Exploratory analysis:**

All additional variables will be summarized by summary statistics for continuous variables (including number of non-missing values, mean, SD, median, minimum, maximum) and frequency (N, %) for discrete variables.

#### Analysis sets:

The analyses of the primary and secondary performance endpoints will be based on the Full Analysis Set (FAS) and Per Protocol Set (PPS). Safety analyses will be based on the Safety Evaluation Set (SES) and FAS. Further analyses will be based on the FAS and PPS.

#### Safety Evaluation Set:

The SES contains the data of each eye implanted with the study lens.

#### **Full Analysis Set:**

The FAS contains the data of each eye in the SES for which data has been collected for the primary performance endpoint.

#### Per Protocol Set:

The PPS contains data of each eye in the FAS without major protocol deviations. Protocol deviations are further classified in the SAP.

# 8.0 DATA QUALITY ASSURANCE

#### 8.1 Study Monitoring

STAAR Surgical (or its representatives/agents/designees) must be allowed to visit all study site locations to assess the data, quality, and study integrity in a manner consistent with applicable health authority regulations and internal Standard Operating Procedures (SOPs).

Prior to the start of the study, member(s) of STAAR Clinical and Medical Affairs Department (or designees) will review the protocol, CRF, regulatory obligations, and other material or equipment relevant to the conduct of the study with the Investigator/Sub-Investigator and relevant site personnel.

Monitoring visits and telephone consultations will occur as necessary during the course of the investigation to verify the following:

- the rights and well-being of subjects are protected
- the conduct of the investigation is in compliance with the currently approved protocol/amendment, ICH GCPs and EN ISO 14155<sup>8</sup> (2011) Clinical Investigation of Medical Devices for Human Subjects, EC requirements, and applicable local regulations
- the integrity of the data, including adequate study documentation
- the facilities remain acceptable
- the Investigator and site personnel remain qualified and able to conduct the study
- test article accountability

During the course of the study, if the Sponsor determines that an Investigator is non-compliant with the study plan and/or applicable regulatory requirements, the Sponsor will take action to secure compliance. In addition, the Sponsor may terminate the Investigator's participation in the study if appropriate, or if the Investigator remains non-compliant despite the Sponsor's actions.

# 8.2 Source Documentation

All medical information obtained at each study visit must be recorded in the subject's record (source documentation) in real time as it is collected. Source documentation consists of original subject documents, as well as data and records with information relevant to the subject and his/her participation in the study.

Examples of acceptable source documents include: hospital records, clinical and office charts, notes, or memoranda. The signed ICF, evaluation checklists, recorded data from automated instruments, and subject files. Source data also include information initially recorded in an electronic format (e.g., iTrace images, etc.).

Source documentation worksheets will be provided by the Sponsor to record pertinent information which are not part of the standard of care treatment for the particular study population to ensure that all critical study data are captured. The completed worksheets should then be incorporated into the subject's medical chart.

# 8.3 Case Report Forms and Data Verification

Subject data required by this protocol are to be recorded per standard of care at each clinical site and transcribed onto electronic CRFs. The Investigator and his/her study site personnel will be responsible for completing the CRFs. The Investigator is required to verify that all of the requested information is accurately recorded on the CRFs. All information requested on the CRFs needs to be supplied, including subject identification, date(s), assessment values, etc., and any omission or discrepancy will require explanation. All information on CRFs must be traceable to source documents if not otherwise specified in the Monitoring Plan for the study.

A STAAR Surgical designee will be responsible for reviewing and verifying the data recorded on the CRFs, utilizing the original source documentation and issuing queries as necessary for clarifications or discrepancies. The Investigator and study site personnel will be responsible for answering all queries. The CRFs will be submitted to STAAR Surgical via an electronic data capture system for quality assurance review and statistical analysis.

A copy of the CRFs will be retained by the Investigator at the conclusion of the study, who must ensure that it is stored in a secure place.

#### 8.4 Recording of Data and Retention of Documents

Subject data recorded on CRFs during the study will be documented in a coded fashion. The subject will only be identified by the subject number, and by their initials/year of birth if also required. Confidentiality of subject records must be maintained to ensure adherence to applicable local privacy regulations.

The Investigator must retain essential documents according to the applicable local regulatory requirements after the completion of the study, unless otherwise notified by the Sponsor.

Essential documents include but are not limited to the following:

- study protocol/amendments
- Protocol Signature Page signed and dated by the Principal Investigator
- EC approved blank as well as copies of all signed subject ICFs
- all EC approvals, correspondence and reports (e.g., SAE reports, protocol deviations, and safety updates)
- curriculum vitae and medical licenses for the PI and all sub-investigators (if applicable)
- regulatory documents (e.g., financial disclosure and DOA forms)
- source documents
- archive of CRFs
- Device Investigator Agreement
- investigational device accountability records
- relevant correspondence from and to the Sponsor
- any other documents relevant to the conduct of the study

In the event that the Investigator withdraws from the study (e.g., retirement, relocation), study records will be transferred to a mutually agreed upon designee (e.g., another Investigator, site EC). The Investigator will provide notice of such transfer in writing to STAAR Surgical.

# 8.5 Auditing Procedures

Audits of clinical research activities in accordance with the Sponsor's internal SOPs to evaluate compliance with the principles of GCP may take place. A regulatory authority may also wish to conduct an inspection (during the study or after its completion). If an inspection is requested by a regulatory authority and/or EC, the Investigator must inform the Sponsor immediately that this request has been made.

### 8.6 Ethics Committee Approval

The Investigator should ensure that participation in the study, in addition to the protocol, subject recruitment materials and the ICF to be used in this study are approved by their institution EC, or if not using their institution's EC, approved by the reviewing central EC prior to entering any subjects in the study. Documentation of EC approval of the study protocol and informed consent must be provided to the Sponsor

prior to initiation of the study and maintained during the course of the study. In addition, the Investigator must ensure that the reviewing EC has provided approval for any protocol amendments prior to implementation. If the amendment necessitates a revision to the ICF, the Investigator should ensure the revised form is also submitted to and approved by the Sponsor and the EC prior to reconsenting study subjects.

# 8.7 Publication of Results

All data generated as a result of this study will be regarded as confidential, until appropriate analysis and review by the Sponsor or its designee are completed. The results of the study may be published or presented by the Investigator(s) after the review by, and in consultation and agreement with the Sponsor, and such that confidential or proprietary information is not disclosed.

Prior to publication or presentation, a copy of the final text should be forwarded by the Investigator(s) to the Sponsor or its designee, for comment. Such comments shall aim to ensure the scientific integrity of the proposed publications and/or presentations and ensure that the data and material referring to STAAR Surgical products and activities receive fair, accurate, and reasonable presentation.

#### Study #CP17-01 - Protocol

# **APPENDIX A:** SCHEDULE OF VISITS AND PARAMETERS

All study tasks should be performed by qualified study site personnel as indicated on the delegation of authority log under the supervision of the Principal Investigator.

Shown below are all assessments to be done at the Preoperative, Operative, and each Postoperative Visit for the first surgical eye. A "B" in an assessment block indicates that the assessment is done for both the study eye alone and binocularly as well. All testing for the fellow eye is found in **Table 2**.

#### Table A1: First Surgical Eye Schedule

PROCEDURE/ASSESSMENTS	<b>PreopVisit</b> Day -90 to Day 0 <sup>1</sup>	Operative Visit Day 0	Postop Visit 1 Day 1	Postop Visit 2 Day 5 - 9	Postop Visit 3 Week 3 – 5	Postop Visit 4 Week 10 – 14	Postop Visit 5 Week 21 – 26
Informed Consent	Х						
Demographics/Medical and Ocular History	Х						
Eligibility Criteria	Х	Х					
Eye Dominance	Х						
Pupil Diameter (photopic)	Х						
UCDVA (uncorrected distance visual acuity)	Х, В		Х	Х	Х	Х	Х
UCIVA	X, B			Х	Х	Х	Х
UCNVA	X, B			X	Х	Х	Х
BCDVA	Х, В				Х	Х	Х
DCIVA	X, B				Х	Х	Х
DCNVA	X, B				Х	Х	Х
BCNVA	Х, В				Х	Х	Х
Manifest Refraction	Х				Х	Х	Х
Photopic & Mesopic Contrast Sensitivity (with and without glare)	Х, В					Х	Х
Defocus Curves	X, B					Х	Х
Keratometry	Х						Х
Specular Microscopy (corneal endothelial cell count- CECC)	Х						Х
Axial Length (AL)/ACD/Corneal Thickness (CT)	Х						
Slit Lamp Examination	Х		Х	Х	Х	Х	Х

<sup>1</sup> If surgery for either eye is delayed past 90 days, testing must be repeated.

Study #CP17-01 - Protocol

PROCEDURE/ASSESSMENTS	PreopVisit Day -90 to Day 0 <sup>1</sup>	<b>Operative</b> Visit Day 0	Postop Visit 1 Day 1	Postop Visit 2 Day 5 - 9	Postop Visit 3 Week 3 – 5	Postop Visit 4 Week 10 – 14	Postop Visit 5 Week 21 – 26
IOP <sup>2</sup>	Х	Х	Х	X	Х	Х	Х
Anterior Chamber Angle <sup>3</sup>	Х						Х
Cycloplegic Refraction	Х						
Wavefront Aberrometry <sup>4</sup>	Х			Х	Х	Х	Х
Dilated Fundus Examination	Х						Х
Surgery		Х					
Lens Vault <sup>5</sup>			Х	Х	Х	Х	Х
Subjective Questionnaires	Х						Х
Concomitant Medications	Х	Х	Х	X	Х	Х	Х
AEs <sup>6</sup>	Х	Х	Х	X	Х	Х	Х

<sup>2</sup> IOP measurements will be conducted using surgeon's standard of care. On surgery day, IOP will be measured approximately 1-6 hours postoperatively.

<sup>3</sup> Measured using Investigator's standard of care.

<sup>4</sup> Using iTrace aberrometer.

<sup>5</sup> Distance between posterior ICL and anterior natural lens, measured by OCT and documented in µm.

<sup>6</sup> The period of collection of ocular AEs (and any SAEs) starts from signing the informed consent through study exit.

NOTE: all footnotes also apply to second eye (Table 2)

# Study #CP17-01 - Protocol

Table 2 includes all assessments to be performed for the second surgical eye at each study visit. A "B" in an assessment block indicates that the assessment is done for both the study eye alone and binocularly as well.

# Table A2: Second Surgical Eye Schedule

PROCEDURE/ASSESSMENTS	<b>PreopVisit</b> Day -90 to Day 0 <sup>1</sup>	Operative Visit Day 0	Postop Visit 1 Day 1	Postop Visit 2 Day 5 - 9	Postop Visit 3 Week 3 – 5	Postop Visit 4 Week 10 – 14	Postop Visit 5 Week 21 – 26
Eligibility Criteria	Х	Х					
UCDVA	Х		Х	Х, В	X, B	X, B	Х, В
UCIVA	Х			X, B	X, B	X, B	Х, В
UCNVA	Х			Х, В	X, B	X, B	X, B
BCDVA	Х				X, B	X, B	X, B
DCIVA	Х				X, B	X, B	X, B
DCNVA	Х				X, B	X, B	X, B
BCNVA	Х				X, B	X, B	X, B
Manifest Refraction	Х				Х	Х	Х
Photopic & Mesopic Contrast Sensitivity (with and without glare)	Х					Х	Х, В
Defocus Curves	Х					Х	Х, В
Keratometry	Х						Х
Specular Microscopy	Х						Х
AL/ACD/Corneal Thickness (CT)	Х						
Slit Lamp Examination	Х		Х	Х	Х	Х	Х
IOP <sup>2</sup>	Х	Х	Х	Х	Х	Х	Х
Anterior Chamber Angle <sup>3</sup>	Х						Х
Cycloplegic Refraction	Х						
Wavefront Aberrometry <sup>4</sup>	Х			Х	Х	Х	Х
Dilated Fundus Examination	Х						Х
Surgery		Х					
Lens Vault <sup>5</sup>			Х	Х	Х	Х	Х
Subjective Questionnaires	Х						Х
Concomitant Medications	Х	Х	Х	Х	Х	Х	Х
AEs <sup>6</sup>	Х	Х	Х	Х	Х	Х	Х

# **APPENDIX B:** SURGICAL PROCEDURE

#### **Calculation of Lens Power and Size**

The lens power and size calculation will be performed by the surgeon using the STAAR EVO Visian ICL Calculation Software. Alternatively, the power and size of the lens may be determined utilizing the surgeon's standard of care method.

Postoperative target will be emmetropia with an acceptable variation of  $\pm 0.50$  D spherical equivalent (SE), at the Investigator's discretion.

- 1. Determine the lens power
- 2. Determine the expected postoperative target refraction (SE)

#### **Pre-Surgical Preparation**

- 1. Prepare the subject for surgery utilizing standard of care techniques.
- 2. Check the label of the lens package for correct lens model, dioptric power and overall diameter.
- 3. Inspect the package carefully to ensure it is not damaged and sterility seal intact.

#### Surgical Technique/Directions for Use

- 1. Open the package and verify the correct lens model, dioptric power and overall diameter.
- 2. Inspect the lens vial to ensure it is not damaged. Verify that the level of the liquid fills at least 2/3 of the vial. The thermoform tray and vial should be opened in a sterile field.
- 3. While keeping the vial in a vertical position, remove the aluminum seal and remove the cap.
- 4. Carefully remove the lens from the vial.
- 5. Handle the lens by the haptic portion. Do not grasp the optic with forceps as this could potentially lead to damage to the smooth anterior and posterior optical surfaces.
- 6. The lens should be carefully examined under the microscope for damage or particulate matter prior to implantation.
- 7. The lens should not be exposed to any solutions other than the normally used intraocular irrigating solutions (e.g., BSS, viscoelastic, etc.)
- 8. Do NOT let the lens dry after removal from the glass vial. It is recommended that the ICL be held in sterile BSS solution prior to implantation.
- 9. The ICL should be handled carefully. No attempt should be made to reshape or cut any portion of the lens. Do not apply undue pressure to the ICL optical portion with a sharp object since this could perforate the optic.
- 10. The recommended incision size is 3.5 mm or less.
- 11. Low molecular weight (2% hydroxypropyl methylcellulose) viscoelastic should be used during loading of the injector system, as well as in the anterior chamber to protect the structures of the eye during the procedure.
- 12. Utilize only the MICROSTAAR injector MSI-PF or MSI-TF reusable injector with SFC-45 single-use cartridge and FTP provided to insert the lens in the folded state.
- 13. The lens should be injected within 1-2 minutes after loading.
- 14. Never touch the center of the optic with instruments once the lens is placed inside the eye. Inadvertent pressure through the optic could potentially damage the central crystalline lens resulting in lens opacity.

- 15. The intended location of the lens is behind the iris within the posterior chamber and in front of the anterior capsule of the crystalline lens.
- 16. Complete irrigation and aspiration of the viscoelastic from the eye after completion of the surgical procedure is essential. Inadequate flushing of the viscoelastic from the eye may lead to IOP spikes. Viscoelastic products that may be difficult to aspirate should not be used.
- 17. Double check lens alignment after viscoelastic removal to ensure accurate placement.

#### **Postoperative Care**

For all subjects enrolled in this study, an IOP check will be performed at approximately 1 - 6 hours postoperatively. An IOP  $\ge$  30 mmHg or  $\ge$ 10 mmHg from preoperative shall be treated using the Investigator's standard method for controlling acute increase in IOP and recorded as an AE.

#### **Prophylactic Medication Regimen**

All subjects are to use a consistent regimen of preoperative and postoperative prophylactic topical therapy, per the Investigator's standard of care. In addition, the participating Investigators will use their standard preoperative/intraoperative/ postoperative surgical suite regimen (including anesthesia) for ICL implantation for all subjects enrolled in this clinical study.

# **APPENDIX C:** METHODS OF CLINICAL EVALUATION

Any changes to the procedures described in this appendix will be provided under separate cover.

It is recommended that preoperative and postoperative testing be completed in the *same* examination room by the *same* examiner. This will help to eliminate variability in testing equipment, methodology and environment.

# **Specific Equipment for Study Assessments**

The following equipment will be used for the specified assessments in this study. Unless specified otherwise, all other assessments will be conducted using the Investigator's standard of care methods for ICL surgery.

- M&S Clinical Trial Suite (CTS)\*– Visual Acuities, Contrast Sensitivity, Defocus Curves
- iTrace Aberrometer\* Aberrometry

\*This equipment will be provided by the Sponsor for clinical site use during the study. Manufacturer representatives will install the systems, conduct training of the site personnel and ensure calibration and maintenance during the course of the study.

# **Testing Methodologies**

#### Manifest Refraction

The refraction should be obtained by a qualified ophthalmologist, optometrist, or trained ophthalmic technician, in 0.25 D steps, in a calibrated refraction lane. Refraction should be performed at an optical distance of at least 6 meters. If the subject has a current pair of glasses for distance vision, they can be measured with a lensometer and these measurements used as the beginning approximate refraction. If the subject does not have glasses for distance vision, retinoscopy should be performed by an examiner proficient in this procedure.

AUTOREFRACTION ALONE IS NOT ALLOWED AT ANY POINT IN THIS STUDY. RESULTS MUST BE REFINED USING SUBJECTIVE TECHNIQUES.

The manifest refraction (adjusted for optical infinity as necessary) will be carried out using a standard "push plus" procedure, in 0.25 D increments and utilizing Jackson Cross-cylinder to assess toricity. The end result of the refraction must ensure the manifest refraction outcome reflects the very minimum "minus" power required to read the smallest line possible. If adding -0.25 does not result in an additional letter read, it must not be added. Further, if adding +0.25 does not result in a loss of letters read, it must be added.

# **IMPORTANT:** If VA testing is to be evaluated at a 4 meter test distance, +0.25 DS must be added to the manifest refraction determined above and this MUST then be transferred to a trial frame for VA testing.

#### Visual Acuities

All Distance, Intermediate and Near Vision testing will be conducted using the M&S Technologies CTS system per manufacturer's instructions. ETDRS distance vision will be measured at 4.0 m, near vision at 40 cm, and intermediate vision at 80 cm.

#### **Defocus** Curves

Defocus testing will be conducted on the M&S CTS system per manufacturer's instructions, using a manifest refraction *adjusted* for a 4 M test distance (+0.25 DS). The *adjusted* manifest refraction will be used to designate the zero baseline. A defocus of +2.00 D spherical correction from the *adjusted* manifest refraction will be set and the logMAR acuity will be recorded. Positive spherical power will be decreased in 0.50 D increments, except in the region from +0.50 D through Plano, which should be done in 0.25 D steps. LogMAR acuity will be recorded at each change in correction until only the **adjusted** manifest refraction remains.

Then a defocus of -3.00 D spherical correction from the BCDVA (manifest refraction) will be set; the logMAR acuity at this refraction will be recorded. Negative spherical power will be decreased in 0.50 D increments, except in the region from -0.50 D through Plano, which should be done in 0.25 D steps. LogMAR acuity will be recorded at each change in correction until only the *adjusted* manifest refraction remains.

#### **Ocular Dominance**

Ocular dominance will be determined using the Investigator's standard of care.

#### Pupil Diameter

The pupil diameter will be captured under photopic conditions (approximately 85 cd/m<sup>2</sup>) using a pupilometer.

#### Contrast Sensitivity

Contrast sensitivity will be evaluated with M&S CTS linear sine grating test at a distance of 2.5 meters under best-corrected conditions. Testing will be conducted at spatial frequencies of 1.5, 3, 6, 12, and 18 cpd in photopic and mesopic conditions and with and without glare.

#### Keratometry

The keratometry measurements will be collected using the Investigator's standard of care method for ICL surgery. The site is to ensure a consistent and healthy tear film is present on the corneal surface for these measurements. It is permissible to add a drop of artificial tears to the subject's eye if necessary, allowing them to blink several times to evenly distribute the drop, in order to obtain the highest quality and reproducible measurement possible.

#### Specular Microscopy

Preoperative and postoperative ECD and coefficient of variation (CV) of the endothelial cell area will be measured using a specular microscope in accordance with the manufacturer's instructions for use. The site will retain documentation of the manufacturer and model used in the site Study Binder.

According to EN ISO 11979-10<sup>9</sup> subjects enrolled in Study CP17-01 must have the minimum endothelial cell density for their age at time of enrollment in accordance with the below table.

Age at time of enrollment years	Minimum endothelial cell density cells/mm <sup>2</sup>
21 to 25	2 800
26 to 30	2 650
31 to 35	2 400
36 to 45	2 200
≥ 46	2 000
NOTE With the rate of endothelial ce	I density decrease unknown during the clini

#### Table C1: Recommended Minimum EDC- EN ISO 11979-10<sup>9</sup>

NOTE With the rate of endothelial cell density decrease unknown during the clinical investigation, minimum endothelial cell density values were selected for this table that are based on conservative assumptions in order to protect the subjects in the investigation. The recommended endothelial cell density (ECD) in this table represents the average minimum ECD necessary to leave 1 000 cells/mm<sup>2</sup> at 72 years of age assuming a 10 % surgical decrease and a yearly rate of decrease of 2 %.

## Axial Length (AL) and Corneal Thickness (CT)

AL and CT measurements will be performed using Investigator's standard method for ICL surgery and documented in the CRF in XX.XX mm and XXX µm, respectively.

#### Anterior Chamber Depth (ACD)

Preoperative ACD, defined as the distance from the apex of the **posterior** corneal surface to the apex of the anterior crystalline lens surface, will be measured using Investigator's standard method for ICL surgery and documented in X.XX mm.

#### Slit Lamp Examination

This examination will be performed using a slit lamp biomicroscope. It is recommended to use a slit beam 1 mm wide by 1 mm high. The following information will be captured for this study:

#### **External and Cornea**

Lids	Normal/Abnormal
Conjunctiva	Normal/Abnormal
Cornea Superficial Punctate Keratitis (SPK)	0 - None 1 - Mild 2 - Moderate 3 - Severe 4 - Very Severe
Corneal Wound Edema	0 - None 1 - Mild 2 - Moderate 3 - Severe
Corneal Edema	<ul> <li>0 - No evidence of corneal swelling with normal transparency</li> <li>1 - Mild corneal swelling</li> <li>2 - Moderate corneal swelling</li> <li>3 - Severe and definite widespread cloudiness or haziness giving dull ground glass appearance to cornea, or numerous coalescent bullae</li> </ul>
Anterior Chamb	AP

#### **Anterior Chamber**

For the cell and flare evaluation, use a slit lamp beam 0.3 mm wide and 1 mm high.

Cells	0 - No cells seen

- 1 Mild 1-5 cells seen
  - 2 Moderate 6-15 cells seen
- 3 Severe 16-30 cells seen
- 4 Very severe >30 cells seen

# Flare 0 - No Tyndall effect

- 1 Mild Tyndall effect barely discernible
- 2 Moderate Tyndall beam in anterior chamber is moderately intense
- 3 Severe Tyndall beam in anterior chamber is severely intense
- 4 Very severe Tyndall beam. The aqueous has a white and milky appearance

Iris/Pupil Normal/Abnormal

#### Intraocular Pressure (IOP)

IOP measurements will be obtained using Investigator's standard of care for ICL surgery. On surgery day, IOP will be measured approximately 1-6 hours postoperatively.

#### Aberrometry (iTrace)

Wavefront aberrometry will be measured using the iTrace (Tracey Technologies, Houston, TX) in accordance with the manufacturer's instructions for use for the study.

#### **Dilated Fundus Examination (DFE)**

A DFE will be performed according to Investigator's standard of care for ICL surgery. The retina will be examined for presence or absence of posterior segment pathology or ocular infection. The examiner will classify the fundus as "normal" or "abnormal." Any abnormal findings will be either documented in ocular history at time of enrollment or documented and graded as an AE as appropriate.

#### Lens Vault

The distance between the posterior surface of the phakic IOL and the anterior surface of the natural crystalline lens, measured using OCT and documented in  $\mu$ m.

#### Subjective Questionnaires

#### NATIONAL EYE INSTITUTE

#### 42-ITEM REFRACTIVE ERROR QUALITY OF LIFE INSTRUMENT

Date of Completion:						
-						

1. If you had perfect vision without glasses, contact lenses, or any other type of vision correction, how different would your life be?

(Mark an X in the one box that best describes your answer.	)	
No difference	1	
Small difference for the better	2	
Large difference for the better	3	
I have this already	4	

The following questions are about the effect of your vision on your activities.

When you answer the questions, think about the vision correction you normally use for each activity, including glasses, contact lenses, a magnifier, or nothing at all.

2. How much difficulty do you have doing work or hobbies that require you to see well up close, such as cooking, fixing things around the house, sewing, using hand tools, or working with a computer?

(Mark One)		
No difficulty at all	1	
A little difficulty	2	
Moderate difficulty	3	
A lot of difficulty	4	
Never try to do these activities because of vision	5	
Never do these activities for other reasons	6	

3. How much difficulty do you have seeing because of changes in the clarity of your vision over the course of the day?

(Mark (	One)
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Don't have changes in the clarity of my vision	1	
No difficulty at all	2	
A little difficulty	3	
Moderate difficulty	4	
A lot of difficulty	5	

4. How much difficulty do you have judging distances, like walking downstairs or parking a car?

(Mark One)		
No difficulty at all	1	
A little difficulty	2	
Moderate difficulty	3	
A lot of difficulty	4	

5. How much difficulty do you have seeing things off to the side, like cars coming out of driveways or side streets or people coming out of doorways?

(Mark One)
------------

(Murk One)		
No difficulty at all	1	
A little difficulty	2	
Moderate difficulty	3	
A lot of difficulty	4	

6. How much difficulty do you have getting used to the dark when you move from a lighted area into a dark place, like walking into a dark movie theater?

No difficulty at all	1	
A little difficulty	2	
Moderate difficulty	3	
A lot of difficulty	4	

7. How much difficulty do you have reading ordinary print in newspapers?

(Mark	One)
-------	------

No difficulty at all	1
A little difficulty	2
Moderate difficulty	3
A lot of difficulty	4
Never try to do this because of vision	5

8. How much difficulty do you have reading the small print in a telephone book, on a medicine bottle, or on legal forms?

No difficulty at all	1
A little difficulty	2
Moderate difficulty	3
A lot of difficulty	4
Never try to do this because of vision	5

9. How much difficulty do you have driving at night?

(Mark One)	
No difficulty at all 1	
A little difficulty 2	
Moderate difficulty 3	
A lot of difficulty 4	
Never drive at night because of vision 5	
Never do this for other reasons	

10. How much difficulty do you have driving in difficult conditions, such as in bad weather, during rush hour, on the freeway, or in city traffic?

## (Mark One)

No difficulty at all 1	l	
A little difficulty	2	
Moderate difficulty	3	
A lot of difficulty 4	1	
Never drive in these conditions because of vision	5	
Never do this for other reasons	5	

11. Because of your eyesight, how much difficulty do you have with your daily activities?

(Mark	One)
mun	Unc)

No difficulty at all	1	
A little difficulty	2	
Moderate difficulty	3	
A lot of difficulty	4	

12. Because of your eyesight, how much difficulty do you have taking part in active sports or other outdoor activities that you enjoy (like hiking, swimming, aerobics, team sports, or jogging)?

No difficulty at all	1	
A little difficulty	2	
Moderate difficulty	3	
A lot of difficulty	4	
Never try to do these activities because of vision	5	
Never do these activities for other reasons	6	

## QUESTIONS ABOUT YOUR VISION

13. Do you need to wear glasses or bi-focal lenses or use a magnifier when you are reading something brief, like directions, a menu, or a recipe?

#### (Mark One)

Yes, all of the time	1	
Yes, some of the time	2	
No	3	

14. Do you need to wear glasses or bi-focal lenses or use a magnifier when you are reading something long, like a book, a magazine article, or the newspaper?

#### (Mark One)

Yes, all of the time	1	
Yes, some of the time	2	
No	3	

15. When driving at night, do you need to wear glasses or contacts?

## (Mark One)

Yes, all of the time	1	
Yes, some of the time	2	
No	3	
Don't drive at night because of vision	4	
Don't drive at night for other reasons	5	

16. At dusk, when it is just starting to get dark, do you need to wear glasses or contacts for driving?

Yes, all of the time	1	
Yes, some of the time	2	
No	3	
Don't drive at dusk because of vision	4	
Don't drive at dusk for other reasons	5	

# When you answer these questions, think about the vision correction you normally use, including glasses, contact lenses, a magnifier or nothing at all.

- 17. How often when you are around bright lights at night do you see starbursts or halos that bother you or make it difficult to see?
  - (Mark One)

All of the time	1	
Most of the time	2	
Some of the time	3	
A little of the time	4	
None of the time	5	

- 18. How often do you experience pain or discomfort in and around your eyes (for example, burning, itching, or aching)?
  - (Mark One)

All of the time	1	
Most of the time	2	
Some of the time	3	
A little of the time	4	
None of the time	5	

19. How much does dryness in your eyes bother you?

#### (Mark One)

Don't have dryness	1	
Not at all	2	
Very little	3	
Moderately	4	
Quite a bit		
A lot	6	

20. How often are you bothered by changes in the clarity of your vision over the course of the day?

Never	1	
Rarely	2	
Occasionally	3	
Sometimes	4	
All of the time	5	

21. How often do you worry about your eyesight or vision?

## (Mark One)

Never		
Rarely	2	
Occasionally	3	
Sometimes	4	
All of the time	5	

22. How often do you notice or think about your eyesight or vision?

#### (Mark One)

Never	1
Rarely	2
Occasionally	3
Sometimes	4
All of the time	5

## YOUR VISION CORRECTION

When you answer these questions, think about the vision correction that you normally use, including glasses, contact lenses, a magnifier, surgery, or nothing at all.

23. At this time, how clear is your vision using the correction you normally use, including glasses, contact lenses, a magnifier, surgery, or nothing at all?

(Mark One)		
Perfectly clear	1	
Pretty clear	2	
Somewhat clear	3	
Not clear at all	4	

24. How much pain or discomfort do you have in and around your eyes (for example, burning, itching, or aching)?

None	1	
Mild	2	
Moderate	3	
Severe	4	
Very severe	5	

25. How often do you have headaches that you think are related to your vision or vision correction?

(Mark One)		
Never	1	
Rarely	2	
Occasionally	3	
Sometimes	4	
All of the time	5	

26. How satisfied are you with the glasses, contact lenses, magnifier, or other type of correction (including surgery) you have?

(Mark One)		
Completely satisfied	1	
Very satisfied	2	
Somewhat satisfied	3	
Somewhat dissatisfied	4	
Very dissatisfied	5	
Completely dissatisfied	6	

27. In terms of your appearance, how satisfied are you with the glasses, contact lenses, magnifier, or other type of correction (including surgery) you have?

#### (Mark One)

Completely satisfied	1	
Very satisfied	2	
Somewhat satisfied	3	
Somewhat dissatisfied	4	
Very dissatisfied	5	
Completely dissatisfied	6	

28. If you had perfect vision without glasses, contacts, or any other type of vision correction, how much do you think your life would change?

No change	1	
Small change for the better	2	
Large change for the better	3	
I have this already	4	

29. In terms of your appearance, is the type of vision correction you have now the best you have ever had?

(Mark One)		
Yes	1	
No	2	

30. In terms of your appearance, is there a type of vision correction that is better than what you have now?

(Mark One)		
Yes	1	
No	2	

31. How often did you use a type of correction or treatment that was uncomfortable in the last 4 weeks because it made you look better?

(Mark	One)
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All of the time	1	
Most of the time	2	
Some of the time	3	
A little of the time	4	
None of the time	5	

32. How often did you use a type of correction that did not correct your vision as well as another correction would have in the last 4 weeks because it made you look better?

(Mark One)		
All of the time	. 1	
Most of the time	. 2	
Some of the time	. 3	
A little of the time	. 4	
None of the time	. 5	

33. Because of your vision, do you take part less than you would like in active sports or other outdoor activities (like hiking, swimming, aerobics, team sports, or jogging)?

(		
Yes	. 1	
No	2	

34. Are there any recreational or sports activities that you don't do because of your eyesight or the type of vision correction you have?

(Mark One)		
Yes, many	. 1	
Yes, a few	2	
No	. 3	

35. Are there daily activities that you would like to do, but don't do because of your vision or the type of vision correction you have?

## (Mark One)

Yes, many	1	
Yes, a few	2	
No	3	

Have you experienced any of the following problems in the last 4 weeks? If yes, how bothersome has it been? Please respond for problems in either or both eyes.

		<u>Mark One</u>	If yes, how bothersome has it been? <u>(Mark One)</u>
36.	Tearing?	a. Yes 1	b.         Very
37.	Distorted vision?	a. Yes 1 🗌 No 2 🗍	b.         Very
38.	Glare?	a. Yes 1 🗌 No 2 🗍	b.         Very

Have you experienced any of the following problems in the last 4 weeks? If yes, how bothersome has it been? Please respond for problems in either or both eyes.

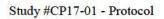
		<u>Mark One</u>	If yes, how bothersome has it been? <u>(Mark One)</u>
39.	Blurry vision with your eyesight or the type of vision correction you use?	a. Yes 1 No 2	b.         Very
40.	Trouble seeing?	<b>a.</b> Yes 1 No 2	b.         Very
41.	Itching in or around your eyes?	<b>a.</b> Yes 1 No 2	b.         Very

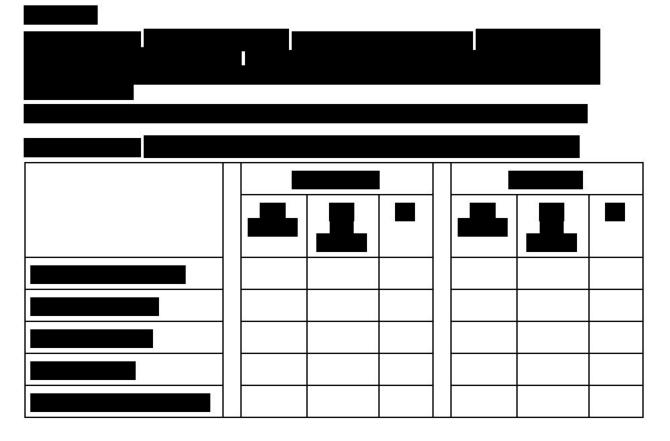
Have you experienced any of the following problems in the last 4 weeks? If yes, how bothersome has it been? Please respond for problems in either or both eyes.

		<u>Mark One</u>	If yes, how bothersome has it been? <u>(Mark One)</u>
42.	Soreness or tiredness in your eyes?	a. Yes 1 No 2	b.         Very

## TASK ASSESSMENT QUESTIONNAIRE

Date:	Subject ID:	Visit:
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Study #CP17-0	1 - Protocol
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## **Overall Satisfaction**

## Over the last month, how satisfied were you with your vision?

Completely satisfied	1 🗆
Very satisfied	2 🗆
Somewhat satisfied	3 🗆
Somewhat dissatisfied	4 🗆
Very dissatisfied	5 🗆
Completely dissatisfied	6 🗆

## **APPENDIX D:** REFERENCES

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<sup>3</sup> McDonnell PJ, Lee P, Spritzer K, Lindblad AS, Hays RD. Associations of presbyopia with vision-targeted health-related quality of life. Arch Ophthalmol. 2003 Nov;121(11):1577-81.

<sup>4</sup> Luo BP, Brown GC, Luo SC, Brown MM. The quality of life associated with presbyopia. Am J Ophthalmol. 2008 Apr;145(4):618-622.

<sup>5</sup> Cochener B; Concerto Study Group. Clinical outcomes of a new extended range of vision intraocular lens: International Multicenter Concerto Study. J Cataract Refract Surg. 2016 Sep;42(9):1268-1275.

<sup>6</sup> Durrie DS. The effect of different monovision contact lens powers on the visual function of emmetropic presbyopic patients (an American Ophthalmological Society thesis). Trans Am Ophthalmol Soc. 2006;104:366-401.

<sup>8</sup> EN ISO Standard 14155 Clinical Investigation of Medical Devices for Human Subjects- Good Clinical Practice.

<sup>9</sup> EN ISO Standard 11979-10 Opthalmic Implants – Intraocular lenses – Part 10: Phakic Intraocular Lenses.