Study Protocol

POST-MARKET EVALUATION OF SURGEON FEEDBACK ON TECNIS® TORIC II INTRAOCULAR LENS (IOL)

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Post-market Evaluation of Surgeon Feedback on
TECNIS® TORIC II Intraocular Lens (IOL)
PROTOCOL NUMBER: NXGT-201-TTL2

SPONSOR: Johnson & Johnson Surgical Vision, Inc. (JJSV)
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Santa Ana, CA 92705
714-247-8200

Investigator Agreement

As an Investigator, I agree to:

- Implement and conduct this study diligently and in strict compliance with this agreement; the protocol; Good Clinical Practices; applicable ISO 14155 and all other regulations; conditions of approval imposed by the reviewing Institutional Review Board (IRB); Ethics Committee (EC) and other regulatory agencies; and all other applicable laws and regulations.
- Supervise all testing of the device where human subjects are involved.
- Ensure that the requirements for obtaining informed consent are met.
- Obtain authorization for use/disclosure of health information (e.g., authorization or equivalent).
- Maintain all information supplied by Johnson and Johnson Surgical Vision in confidence and, when this information is submitted to an independent IRB, EC or any other group, it will be submitted with a designation that the material is confidential.

I have read this protocol in its entirety and I agree to all aspects.

Investigator Printed Name	Signature	Date
Sub-investigator Printed Name	Signature	Date
Sub-investigator Printed Name	Signature	Date

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PERSONNEL AND FACILITIES

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SPONSOR PERSONNEL

Medical Monitor:

Director, Clinical Science:

Clinical Research Scientist:

Study Manager:

Biostatistician:

EMERGENCY TELEPHONE

PROTOCOL CHANGE HISTORY

Version	Section(s)	Page(s)	Description of Change(s)	Rationale for Change(s)
1.0	N/A	N/A	Original	N/A
2.0	1.0, 8.1	7, 14	Inclusion criterion "Minimum 22 years of age"	Per IRB recommendation to confirm only adults will be enrolled in the study.
	10.3	19	Additional preoperative information ~~will~~ may be collected:	Not all of the additional preoperative information listed in the protocol is required to be collected.
	Attachment A	38	On average how many patients do you typically implant ~~have you implanted~~ with your preferred toric IOL on a *monthly* basis?	Wording modified for clarification.
3.0	1.0, 8.1	7, 14	Inclusion Criteria: ~~Preoperative c~~ Corneal astigmatism of one diopter or more in the operative eye;	To allow qualified eyes based on Optiwave scan measurements to be implanted with the study lens.
	1.0, 8.1	8, 15	Exclusion Criteria: Planned monovision correction (eye designated for near vision correction);	To allow qualified eye designated for distance correction to be implanted with the study lens.
	1.0, 10.1, 10.3, 10.7	9, 17, 19, 23	"Addition of types of preferred toric IOLs (monofocal and presbyopia-correcting)".	In order to collect surgeon preference of both monofocal and presbyopia-correcting toric IOLs.
	10.3	19	Addition of note: Surgeon may choose to use 119.3 or personalized A-constant.	To allow surgeons to use their personalized A-constant.
	10.6	21	Addition of note: Use of capsular tension ring can be used per surgeon discretion.	To allow use of capsular tension ring per surgeon discretion.
	10.7	23	SEQ changed from 3-item to 5-item questionnaire	Two additional questions were added to the SEQ.
	11.1	26	Change to note: Corneal edema, and chronic anterior uveitis/iritis will be considered serious if corneal edema resulting in BCDVA of 20/40 or worse at 1 month or later; and Grade 1+ uveitis/iritis persists for greater than 3 months after surgery). Raised IOP requiring treatment (Elevation of IOP greater than or equal to 10 mmHg above baseline to a minimum of 25mmHg) will be considered serious if present at the last study visit.	Provide clarification on definition of serious adverse events.
	Attachment A	38, 39	Surgeon Preference Questionnaire was modified to include 2-items on	Additional data collection.

	Attachment D	42, 43	preferred presbyopia-correcting IOL and the implant volume. 2-items comparing the rotational stability and surgeon confidence level in treating astigmatism in comparison to preferred presbyopia-correcting toric IOLs were included in the Surgeon experience questionnaire.	Additional data collection

1. SYNOPSIS

PROTOCOL: Post-market Evaluation of Surgeon Feedback on TECNIS® TORIC II Intraocular Lens (IOL)

Protocol Number: NXGT-201-TTL2

STUDY LENS: TECNIS® TORIC II - One-Piece Aspheric Acrylic Monofocal Posterior Chamber IOL (Model ZCU)

STUDY OBJECTIVE: The purpose of this post-market clinical study is to obtain surgeon feedback on the clinical outcomes achieved in the eyes implanted with the TECNIS Toric II IOL.

CLINICAL HYPOTHESIS: The overall clinical outcomes of eyes implanted with the TECNIS Toric II IOL will be satisfactory to the surgeons.

STUDY ENDPOINTS:

Primary Endpoint

Overall surgeon satisfaction of the clinical outcomes assessed by a single-item on the Surgeon Satisfaction Questionnaire (SSQ) for each eye implanted with the study lens at the 3-month postoperative visit.

The percentage of eyes with overall surgeon satisfaction being satisfied or very satisfied (defined by a score of 4 or 5) will be calculated.

Other Endpoints

1. Surgeon responses for a single-item in the Surgical Handleability Questionnaire (SHQ)
2. Surgeon responses for additional items in the Surgeon Satisfaction Questionnaire (SSQ)
3. Surgeon responses for items in the Surgeon Overall Experience Questionnaire (SEQ)
4. The manifest refractive cylinder and spherical equivalent as compared to intended
5. Percent reduction in cylinder
6. Uncorrected and best corrected distance visual acuities
7. Medical findings/lens findings/complications/adverse events

OVERALL STUDY DESIGN:

Structure: Prospective, multicenter, single-arm, open-label

Number of sites: Up to 50 sites in the United States

Duration: Three months

Indication:	The TECNIS® Toric II 1-Piece posterior chamber lenses are indicated for the visual correction of aphakia and pre-existing corneal astigmatism of one diopter or greater in adult patients with or without presbyopia in whom a cataractous lens has been removed by phacoemulsification and who desire improved uncorrected distance vision, reduction in residual refractive cylinder, and increased spectacle independence for distance vision. The device is intended to be placed in the capsular bag.
Administration:	Refractive target outcomes will be emmetropia for each eye. Surgeons will perform standardized, small-incision, cataract surgery and implant the study lenses using a JJSV-validated insertion system qualified for use with TECNIS Toric II lenses as specified in the Directions for Use (DFU).
Visit Schedule:	Subjects will be implanted with the TECNIS Toric II IOL in one or both eyes qualified for study inclusion. Each eye will undergo four visits: Preoperative; Operative; 1-week; and 3-months.

STUDY POPULATION CHARACTERISTICS:

Condition:	Unilateral or bilateral cataract with corneal astigmatism of approximately 1.0 to 6.0 D. Models ZCU 1.50, 2.25, 3.00, 3.75, 4.50, 5.25. 6.00
Number of Subjects	Up to 1100 subjects enrolled with 1,000 subjects treated (unilateral or bilateral treatment)

Inclusion Criteria:

1. Minimum 22 years of age;
2. Unilateral or bilateral cataracts for which phacoemulsification extraction and posterior chamber IOL implantation have been planned;
3. Corneal astigmatism of one diopter or more in the operative eye;
4. Potential for postoperative best corrected distance visual acuity (BCDVA) of 20/30 Snellen or better;
5. Clear intraocular media other than cataract in each eye;
6. Ability to understand, read and write English in order to consent to study participation;
7. Availability, willingness, sufficient cognitive awareness to comply with examination procedures;
8. Signed Informed Consent Document (ICD) and Health Insurance Portability and Accountability Act (HIPAA) authorization.

Exclusion Criteria:

1. Recurrent severe anterior or posterior segment inflammation or uveitis;
2. Compromised eye due to previous trauma or developmental defects in which appropriate support of the IOL is not possible;
3. Circumstances that would result in damage to the endothelium during implantation;
4. Suspected ocular microbial infection;
5. Subjects with conditions associated with increased risk of zonular rupture, including capsular or zonular abnormalities that may lead to IOL decentration, including pseudoexfoliation, trauma, or posterior capsule defects;
6. Known ocular disease or pathology that, in the opinion of the investigator, may affect visual acuity or require surgical intervention during the course of the study, [macular degeneration, cystoid macular edema, proliferative diabetic retinopathy (severe), uncontrolled glaucoma, irregular corneal astigmatism, choroidal hemorrhage, concomitant severe eye disease, extremely shallow anterior chamber, microphthalmos, non-age related cataract, severe corneal dystrophy, severe optic nerve atrophy, etc.];
7. Planned monovision correction (eye designated for near vision correction);
8. Concurrent participation or participation within 30 days prior to the preoperative visit in any other clinical study.

NOTE: *Physicians considering enrolling a patient with one or more of the conditions listed under the warning or precaution in the final approved labeling of the device should weigh the potential risk/benefit ratio before enrollment.*

DATA ANALYSIS:

For questionnaire data, the frequency and proportion with each rating for each item will be reported. For the primary endpoint, these results will also be reported by IOL model for lower-cylinder (ZCU150), medium-cylinder (ZCU225 to ZCU375) and extended higher-cylinder (ZCU450, ZCU525 and ZCU600) IOLs.

For visual acuity and refractive data, descriptive statistics will include the mean, standard deviation, median, minimum, maximum and 95% confidence intervals. For visual acuity, the frequency and proportion of eyes achieving each acuity line will also be reported. The frequency and proportion of eyes within 0.5 D and within 1.0 D of intended values will also be determined for postoperative refractive cylinder and spherical equivalent.

In addition, the frequency and proportion of eyes with medical findings, lens findings, complications and adverse events will also be reported.

STUDY VISITS AND PROCEDURES:

Subject qualifications will be assessed at the preoperative visit according to the enrollment criteria. The ICD must be signed by any patients who agree to participate in the study prior to

undergoing any study-specific procedures. This will include designation as to whether one or both eyes are to be included in the study.

Preoperative Procedures: Following informed consent, demographic, and general preoperative information will be collected from routine cataract evaluation examinations.

Operative Procedures: General operative information and responses from the Surgical Handleability Questionnaire (SHQ) will be collected for each implanted eye.

Postoperative Procedures: At the 1-week visit, uncorrected distance visual acuity (UCDVA), medical findings/complications and surgeon satisfaction with rotational lens stability will be collected. At the subject's last study visit (3-month visit), UCDVA, manifest refraction, BCDVA, keratometry, and surgeon feedback from the Surgeon Satisfaction Questionnaire (SSQ) will be collected.

At study start (prior to first subject implantation), each surgeons' preferred toric IOLs (monofocal and presbyopia-correcting) and their average implantation volumes on a monthly basis will be collected using the Surgeon Preference Questionnaire (SPQ). At the last subject's 3-month visit for each surgeon at each study site, overall surgeon experience with the study lens in comparison to their preferred toric IOL (monofocal and presbyopia-correcting) will be collected using the Surgeon Experience Questionnaire (SEQ).

2. BACKGROUND/INTRODUCTION

JJSV has developed a new IOL platform designed to minimize rotation to ≤ 5º within the first week after implantation. The TECNIS Toric II 1-Piece lens is an ultraviolet light-absorbing posterior chamber intraocular lens (IOL) that compensates for corneal spherical aberrations and corneal astigmatism. The benefits of aspheric compensation for corneal spherical aberrations are contingent upon full refractive correction of sphere and cylinder. The IOLs incorporate a proprietary wavefront-designed toric aspheric optic with a squared posterior optic edge designed to provide a 360º barrier. The edge of the optic has a frosted design to reduce potential edge glare effects. In addition, compared to the TECNIS Toric 1-Piece IOL, the haptics of the TECNIS Toric II 1-Piece IOLs have a squared and frosted design. The anteriorly located cylinder axis marks denote the meridian with the lowest power and is to be aligned with the steep corneal meridian.

3. CLINICAL HYPOTHESIS

The overall clinical outcomes of eyes implanted with the TECNIS Toric II IOL will be satisfactory to the surgeons.

4. STUDY DESIGN

This is a multicenter, prospective, single-arm, open-label, clinical study of the commercially available TECNIS Toric II, Model ZCU IOL. The study will be conducted in up to 1100 subjects enrolled with 1,000 subjects needing unilateral or bilateral cataract surgery across up to 50 US study sites.

5. ACRONYMS

The following acronyms are used throughout the document:

- AK: astigmatic keratotomy
- BCDVA: best-corrected distance visual acuity
- CRF: case report form
- CRI: corneal relaxing incisions
- D: diopters
- DFU: directions for use
- EDC: electronic data capture
- GCP: good clinical practice
- HIPPA: health insurance portability and accountability act
- ICD: informed consent document
- IOL: intraocular lens
- IOP: intraocular pressure
- IRB: institutional review board
- LASIK: laser-assisted in-situ keratomileusis
- LASEK: laser epithelial keratomileusis
- LRI: limbal relaxing incisions
- OCCI: opposite clear corneal incisions
- OR: operating room
- PRK: photorefractive keratectomy
- SAE: serious adverse events
- SEQ: surgeon experience questionnaire
- SSQ: surgeon satisfaction questionnaire
- SHQ: surgical handleability questionnaire
- UCDVA: uncorrected distance visual acuity

6. STUDY ENDPOINTS

The purpose of this study is to evaluate the TECNIS Toric II IOL from the perspective of surgical handleability, surgeon satisfaction with clinical outcomes and surgeon experience.

6.1 PRIMARY ENDPOINT

Overall surgeon satisfaction of the clinical outcomes achieved in the implanted eye at the 3-month study visit is assessed based on the question “Please rate your overall level of satisfaction with the clinical outcomes achieved in the implanted eye” in Surgeon Satisfaction Questionnaire (SSQ).

The percentage of eyes with overall surgeon satisfaction being satisfied or very satisfied (defined by a score of 4 or 5) will be calculated.

6.2 OTHER ENDPOINTS

1. Surgeon responses for a single-item in the Surgical Handleability Questionnaire (SHQ)
2. Surgeon responses for additional items in the Surgeon Satisfaction Questionnaire (SSQ)
3. Surgeon responses for items in the Surgeon Overall Experience Questionnaire (SEQ)
4. Mean manifest refractive cylinder and spherical equivalent and frequency and proportion within 0.5D and 1.0D of intended values
5. Mean percent reduction in cylinder
6. Mean uncorrected and best corrected distance visual acuity and frequency and proportion within each acuity line
7. The frequency and proportion of eyes with medical findings/lens findings/complications/adverse events/secondary surgical interventions

7. STUDY PRODUCTS

7.1 INTRAOCULAR LENS

The TECNIS Toric II IOL (study lens), Models ZCU150, ZCU225, ZCU300, ZCU375, ZCU450, ZCU525, and ZCU600 are posterior chamber, 1-piece, aspheric, hydrophobic acrylic foldable IOLs and are to be implanted in the capsular bag following cataract extraction. It is designed to minimize the occurrence of large rotations (greater than 10°) following implantation.

The TECNIS Toric II is a UV light-absorbing posterior chamber lens that compensates for corneal spherical aberrations and corneal astigmatism. The benefits of aspheric compensation for corneal spherical aberrations are contingent upon full correction of spherical (defocus) and cylindrical (astigmatic) refractive error.

The TECNIS Toric II incorporates an aspheric optic with a squared posterior optic edge designed to provide a 360° barrier for reducing the incidence of posterior capsular opacification (PCO). The visual benefits of the proprietary wavefront-designed aspheric optic have been clinically assessed using the TECNIS® Z9000 IOL (under Investigational Device Exemption G960221). As featured in the currently marketed TECNIS Toric (ZCT Series) design, the edge of the optic is frosted to reduce potential for edge glare effects.

The TECNIS Toric II IOLs have two sets of four axis orientation marks 180° apart in the outer periphery of the anterior optic surface to indicate the meridian of the lowest power (flat meridian). These axis orientation marks are for proper alignment of the flat meridian of the IOL with the steep meridian of the corneal curvature.

The ZCU150, ZCU225, ZCU300, ZCU375, ZCU450, ZCU525, and ZCU600 lens models are intended for cataract patients with pre-existing corneal astigmatism that, when taking surgically

induced astigmatism into account, have approximately 0.75 D to 4.75 D of predicted corneal astigmatism to be corrected (**Table 1**).

TABLE 1
TECNIS Toric II Models ZCU, IOL Astigmatism Correction Range

ZCU IOL Model	Cylinder Power (D)		Correction Range based on combined corneal astigmatism (Preoperative Kcyl[a] + SIA[b])
	IOL Plane	Corneal Plane	
ZCU150	1.50 D	1.03 D	0.75 – 1.50 D
ZCU225	2.25 D	1.54 D	1.50 – 2.00 D
ZCU300	3.00 D	2.06 D	2.00 – 2.50 D
ZCU375	3.75 D	2.57 D	2.50 – 3.00 D
ZCU450	4.50 D	3.08 D	3.00 – 3.50 D
ZCU525	5.25 D	3.60 D	3.50 – 4.00 D
ZCU600	6.00 D	4.11 D	4.00 – 4.75 D

[a] Keratometric cylinder, [b] Surgically induced astigmatism

Table 2 lists the general design characteristics of the TECNIS Toric II IOLs.

TABLE 2: Lens Characteristics of the TECNIS Toric® II Model ZCU

CHARACTERISTICS	TECNIS® Toric II IOL (Model ZCU)
Lens Design	1-piece acrylic biconvex monofocal IOL with aspheric toric anterior curvature
Lens Material	Surface-treated SENSAR® soft acrylic (acrylic with covalently bound UV absorber), AMOS3225
Overall Diameter	13.0 mm
Optical Center Thickness	0.722 mm (20.0 D Lens)
Haptic Angle	No angulation, but offset from the optic body
Optic Body Diameter	6.0 mm
Haptic Material	Same as optic

CHARACTERISTICS	TECNIS® Toric II IOL (Model ZCU)
Haptic Width	0.39 mm
Haptic Thickness	0.46 mm
Haptic Style	C-loop
Other features	Axis orientation marks
Optic Shape	Biconvex
Anterior Optic Profile	Aspheric with a maximum and a minimum radii of curvature perpendicular to each other
Posterior Optic Profile	Spherical
Optic Edge Design	PROTEC™ squared edge
Dioptric Power Range	+5.0 to +34.0 D in 0.50 D increments
Cylinder Power Range	1.50 D, 2.25 D, 3.00 D, 3.75 D, 4.50 D, 5.25 D, and 6.00 D (at the IOL plane)
Refractive Index	1.470 (35° C)
Theoretical A-constant[a]	118.8 for ultrasound biometry, 119.3 for optical biometry

[a] For lens power calculations, the investigator's personalized A-Constant for the TECNIS Toric ZCT IOLs are to be used.

INDICATION

The TECNIS® Toric II 1-Piece posterior chamber lenses are indicated for the visual correction of aphakia and pre-existing corneal astigmatism of one diopter or greater in adult patients with or without presbyopia in whom a cataractous lens has been removed by phacoemulsification and who desire improved uncorrected distance vision, reduction in residual refractive cylinder, and increased spectacle independence for distance vision. The device is intended to be placed in the capsular bag.

7.2 IMPLANTATION SYSTEMS

JJSV recommends using The UNFOLDER® Platinum 1 Series Implantation System (the 1MTEC30 Cartridge and the DK7796 inserter). Alternate validated insertion systems that can be used to insert the TECNIS Toric II 1-Piece lens include the UNFOLDER® EMERALD-AR Series Implantation System (with the 1CART30 Cartridge), the ONE SERIES Ultra Insertion System (the 1VPR30 Cartridge and the DK7786 or DK7791 inserters) or any other Johnson & Johnson Surgical Vision, Inc.-qualified insertion system. Only insertion instruments that have been validated and approved for use with this lens should be used. Please refer to the DFU for the insertion instrument or system for additional information.

8. STUDY POPULATION

All study subjects will be enrolled from the normal surgical cataract population at up to 50 sites in the United States. Up to 1100 subjects will be enrolled in the study to achieve 1000 evaluable subjects at 3 months. However, data will be collected only for eyes implanted with the study lens. This study will include only subjects undergoing primary cataract extraction and IOL implantation and who meet all the study enrollment criteria. All subjects who meet the criteria will be offered enrollment in the study. Enrollment criteria may not be waived by the investigator. Any questions regarding patient eligibility are to be discussed with JJSV prior to subject enrollment. Subjects will be enrolled at each site sequentially until the recruitment goals are met. Enrollment will be competitive across sites.

8.1 INCLUSION CRITERIA

1. Minimum 22 years of age;
2. Unilateral or bilateral cataracts for which phacoemulsification extraction and posterior chamber IOL implantation have been planned;
3. Corneal astigmatism of one diopter or more in the operative eye;
4. Potential for postoperative best corrected visual acuity (BCDVA) of 20/30 Snellen or better;
5. Clear intraocular media other than cataract in each eye;
6. Ability to understand, read and write English in order to consent to study participation;
7. Availability, willingness, sufficient cognitive awareness to comply with examination procedures;
8. Signed Informed Consent Document (ICD) and Health Insurance Portability and Accountability Act (HIPAA) authorization.

8.2 EXCLUSION CRITERIA

1. Recurrent severe anterior or posterior segment inflammation or uveitis;
2. Compromised eye due to previous trauma or developmental defects in which appropriate support of the IOL is not possible;
3. Circumstances that would result in damage to the endothelium during implantation;
4. Suspected ocular microbial infection;
5. Subjects with conditions associated with increased risk of zonular rupture, including capsular or zonular abnormalities that may lead to IOL decentration, including pseudoexfoliation, trauma, or posterior capsule defects
6. Known ocular disease or pathology that, in the opinion of the investigator, may affect visual acuity or require surgical intervention during the course of the study, [macular degeneration, cystoid macular edema, proliferative diabetic retinopathy (severe), uncontrolled glaucoma, irregular corneal astigmatism, choroidal hemorrhage,

concomitant severe eye disease, extremely shallow anterior chamber, microphthalmos, non-age related cataract, severe corneal dystrophy, severe optic nerve atrophy, etc.];

7. Planned monovision correction (eye designated for near vision correction);
8. Concurrent participation or participation within 30 days prior to the preoperative visit in any other clinical study.

Note: *Physicians considering enrolling a patient with one or more of the conditions listed under the warning or precaution in the final approved labeling of the device should weigh the potential risk/benefit ratio before enrollment.*

9. INVESTIGATOR SELECTION

9.1 INVESTIGATOR QUALIFICATIONS

JJSV will select ophthalmic surgeons who have completed a residency in ophthalmology (or its documented equivalent) and are licensed to practice medicine and perform surgery at his/her investigative site. Each site will have one designated principal investigator; some sites may have additional sub-investigators performing surgery for study cases.

Investigators will be selected from surgeons who are experienced in small-incision, cataract extraction and toric IOL implantation in cataract patients. Surgeons are defined as professionals with experience in handling the surgical products and are familiar with the English language. All communication between the site and the sponsor will be in English. Additionally, surgeons should have established their personalized A-constant for the TECNIS® 1-Piece lens platform.

All sites will be required to have adequate staff support for reporting and patient follow-up, as well as the instrumentation necessary to conduct study testing.

9.2 INVESTIGATOR OBLIGATIONS

Investigators are required to fulfill the following obligations:

- Conduct the study in accordance with the relevant and current protocol and all legal requirements for clinical trials including ISO 14155 and GCP. Investigator will only make changes to a protocol after notifying and obtaining approval from JJSV and the Institutional Review Board (IRB) except when necessary to protect the safety, rights or welfare of subjects.
- Personally, conduct and supervise the study.
- Maintain a list of appropriately-qualified persons to whom the investigator has delegated significant trial-related duties.
- Be responsible for protecting the rights, safety and welfare of subjects under the investigator's care and be responsible for the control and documentation of the devices under investigation.
- Maintain confidentiality as required by HIPAA or similar laws and regulations.

- Shall not obtain written informed consent from any subject to participate or allow any subject to participate before obtaining IRB approval and regulatory approval.
- Document in each subject's case history that informed consent was obtained prior to participation in the study.
- Report to JJSV any adverse experiences that occur during the study in accordance with applicable laws and regulations.
- Read and understand the information in the DFU for the study.
- Maintain adequate and accurate records in accordance with applicable laws and regulations and make available all study documents and subject medical records for inspection by either JJSV, the U.S. Food and Drug Administration, and/or the IRB.
- Ensure the IRB that is responsible for initial and continuing review of the study complies with applicable laws and regulations.
- Report all changes in research activity and all unanticipated problems involving risks to patients to the IRB and JJSV.
- Submit progress reports on the investigation to JJSV and the reviewing IRB at regular intervals, but no less often than yearly.
- Upon completion of enrollment or termination of the study or the investigator's part of the study, or at JJSV's request, return to JJSV any remaining supply of the study product.
- Provide sufficient accurate financial information to JJSV to allow JJSV to submit complete and accurate certification or disclosure statements. Promptly update this information if any relevant changes occur during the investigation or for up to one year following completion of the study.
- Comply with all other obligations of clinical investigators and requirements according to all United States laws and regulations and all conditions of approval imposed by the reviewing IRB.
- Ensure that all associates, colleagues and employees assisting in the conduct of the study are adequately informed about the protocol, the study device, their study-related duties and functions, and agree to fulfill their obligations in meeting the above commitments.

Investigators shall provide adequate time and resources to conduct and report on the study. The Investigator, or delegate, shall notify JJSV of any change in the conduct of the study including changes in study personnel assigned to the study project, location of the study products(s), or maintenance of study records, etc.

9.3 INVESTIGATOR APPROVAL

It is the responsibility of the investigator to obtain prospective approval of the study protocol, protocol amendments or changes, informed consent forms and other relevant documents (e.g., advertisements) from the IRB. All correspondence with the IRB should be retained at the site. Copies of IRB submissions and approvals should be forwarded to JJSV. Study sites will obtain IRB approvals and fulfill any other site-specific requirements. The investigator is required to

report to JJSV within five working days any withdrawal of approval by the reviewing IRB for his/her participation in the investigation.

Prior to the start of subject enrollment, the following documents must be signed and returned to JJSV:

- Confidentiality Agreement
- Clinical Study Agreement
- Investigator Agreement/Protocol Signature page
- Financial Disclosure form
- Signed and dated copy of investigator's current curriculum vitae
- Copy of the investigator's current medical license/number
- Hospital/Ambulatory Surgery Center Clinical Study Acknowledgement, if required

By signing the study documents, the investigator agrees to conduct this study according to the obligations above and all other applicable regulatory and legal requirements.

9.4 INVESTIGATOR INFORMATION

Information on the principal investigator at each investigative site, the coordinating investigator, the address details for each investigative site and the emergency contact details for the principal investigator of each site are listed in a separate document - Study Investigator Information.

10. EXPERIMENTAL PLAN

10.1 OVERVIEW

This study will be conducted in accordance with U.S. Code of Federal Regulations, the Declaration of Helsinki, GCP, ISO 14155 and all other applicable laws and regulations. The study will not begin until IRB approvals have been obtained.

This study will be a prospective, multi-center, open-label, post-marketing clinical study at up to 50 sites in the United States. Up to 1100 subjects will be enrolled after informed consent is obtained with up to 1000 treated subjects. Subject qualifications will be assessed at the preoperative visit according to the enrollment criteria. A subject can have either one eye or both eyes enrolled for inclusion in the study. Each eye will be tracked through the preoperative and postoperative schedule individually but only counted as a single subject.

At study start (prior to first subject implantation), each surgeons' preferred toric IOL (monofocal and presbyopia-correcting) and their average implantation volumes on a monthly basis will be collected using the SPQ **(Attachment A)**.

All subjects will be examined through 3-months postoperatively according to the visit schedule described in Section 10.2, Visit Schedule.

A chart summary of all examination procedures required at each study visit is provided in **Appendix A**. Key preoperative data include visual acuities, manifest refraction, keratometry, biometry, and other routine cataract evaluation examinations and response from the SPQ

(Attachment A) will be collected prior to the first subject's operative visit for each surgeon. The operative visit will include general operative information and responses from the SHQ **(Attachment B)**, which will be collected for each implanted eye.

Key postoperative data collection at the 1-week visit for each eye will include UCDVA, medical findings/complications and surgeon satisfaction with rotational stability of the study lens. The 3-month visit will include UCDVA, manifest refraction, BCDVA, keratometry, and surgeon feedback from the SSQ **(Attachment C)** for each eye.

After the final study visit (last subject's 3-month visit) for each surgeon at each study site, surgeon feedback from the SEQ **(Attachment D)** will also be collected.

10.2 VISIT SCHEDULE

After each surgery, each eye will be examined at 1 week and at 3 months. The study visit schedule for all study eyes is outlined below in Table 3. Additional visits may be conducted at the discretion of the investigator; however, routine follow-up visits without reports of ocular adverse event(s) are not considered study visits. Unscheduled visits may be conducted as necessary at the discretion of the investigator for medically indicated follow-up.

TABLE 3: Visit Schedule for Each Study Eye

VISIT	EXAM	VISIT WINDOW
1	Preoperative Exam	Prior to 1st eye surgery
2	Operative	After preoperative exam
3	1 week	5-14 days postoperative
4	3 months	60-120 days postoperative [a]

[a] Subjects with a bilateral treatment, if both the 1st and 2nd eyes are within visit window, this visit may be done on the same day.

10.3 PREOPERATIVE PROCEDURES

All subjects enrolled in the study must sign the current IRB-approved ICD and HIPAA authorization and meet the inclusion/exclusion criteria. The informed consent must be signed before any study-specific examinations are performed, and this must be documented in the source documents.

All preoperative testing for the study must be completed prior to the first surgery. Data from routine (non-study-specific) preoperative cataract examinations performed prior to the informed consent process may be included, provided these tests are documented in the preoperative Case Report Form. If a test/exam is required by the protocol but is not part of the routine testing the investigator performs for the cataract evaluation, that test/exam is considered study-specific and is not to be done until after the informed consent has been signed by the subject. Following the informed consent process, completion of the preoperative study exam, and determination

that the subject meets all the required entrance criteria (including lens power determination), the subject may be enrolled and scheduled for surgery.

As the Informed Consent Form is signed at the beginning of the preoperative study exam, some subjects may not qualify after study-specific testing is performed. Subjects will be considered screen-failures if they do not qualify or if they qualify but decide not to proceed with surgery or study participation. These subjects will be exited from the study. If the subject has consented for both eyes to be included, and one eye screen-fails, the subject continues in the study for the other eye. If a subject is being considered for bilateral treatment, only one informed consent should be signed.

Preoperative testing to be performed for each eye includes the following:

UNCORRECTED DISTANCE VISUAL ACUITY

Monocular UCDVA is to be measured using a standard Snellen convention.

BEST CORRECTED DISTANCE VISUAL ACUITY AND MANIFEST REFRACTION

Preoperative manifest refraction is required. Monocular BCDVA is to be measured using a standard Snellen convention.

KERATOMETRY

Preoperative corneal astigmatism is to be measured by keratometry or topography.

IOL POWER AND TARGETED REFRACTION

Keratometry, axial length and anterior chamber depth (ACD) must be measured to determine the appropriate lens power for implantation. Optical biometry methods (i.e., IOLMaster®, LENSTAR®) are preferred; however, surgeons should use the biometry method that they have the most experience with. The lens power should be calculated to achieve emmetropia at distance. The IOL power A-constant used for the TECNIS Toric II is 119.3. The physician should determine preoperatively the spherical equivalent and cylindrical power of the lens to be implanted.

NOTE: *Surgeon may choose to use 119.3 or personalized A-constant.*

SURGICAL PREFERENCE QUESTIONNAIRE (SPQ)

Each surgeon will complete a 4-item questionnaire at study start (prior to first subject implantation). The questionnaire will collect information regarding the surgeons' preferred toric IOL (monofocal and presbyopia-correcting) and their average implantation volumes on a monthly basis.

Additional preoperative information may be collected (for each eye included in the study):

- Informed consent documentation
- Subject demographic information
- Planned surgery date(s)
- Ocular history, including presence of ocular pathology

- Any significant medical findings from a slit-lamp exam, dilated fundus exam, intraocular pressure or other.

10.4 STUDY LENS SUPPLY

The Principal Investigator will implant lenses from their TECNIS Toric II inventory.

10.5 SELECTION OF THE IOL

In order to facilitate IOL selection and axis placement, JJSV provides a web-based proprietary tool, the TECNIS Toric Calculator (www.TecnisToricCalc.com) for the surgeon. Preoperative keratometry and biometry data, incision location, spherical equivalent IOL power, and the surgeon's estimated surgically induced corneal astigmatism are used as inputs for the TECNIS Toric Calculator. These inputs are used to determine the axis of placement in the eye and the predicted residual refractive astigmatism for TECNIS Toric II 1-Piece IOL models.

NOTE: *The TECNIS Toric Calculator also provides an option for including the Posterior Corneal Astigmatism (PCA) (where available). The predetermined value for posterior corneal astigmatism can be included in the calculation by checking the box labeled "Include Posterior Corneal Astigmatism (PCA)".*

10.6 OPERATIVE PROCEDURES

Surgical procedures should be in accordance with your routine practice and in accordance with the labeling. The surgeons should follow the procedures as described in the DFU for appropriate alignment of the IOL axis.

NOTE: *No additional refractive procedures are to be performed during the operative procedure or throughout the postoperative study period (e.g., LRI, OCCI, CRI, AK, PRK, LASIK or LASEK).*

NOTE: *Optiwave Refractive Analysis (ORA) can be used as a part of routine cataract surgery to improve accuracy of the correction. If ORA is used it will be documented in the Operative case report form.*

The Operative case report forms may include the following information:

<u>INCISION TYPE AND SIZE</u>

The incision may be clear corneal, limbal or scleral tunnel at the discretion of the investigator. Lenses should be inserted per the investigator's standard technique when using the JJSV-qualified implantation system.

<u>CAPSULORHEXIS SIZE AND METHOD</u>

The anterior capsulotomy should be made per the investigator's standard technique. The anterior capsulotomy method may be manual or laser-assisted.

<u>LENS REMOVAL</u>

Lens removal may be performed using phacoemulsification/aspiration only, or through laser-assisted fragmentation and phacoemulsification/aspiration.

<u>OPHTHALMIC VISCOSURGICAL DEVICE (OVD)</u>

OVD materials should be used as is customary for each investigator

IMPLANT INSTRUMENTATION USED

Lenses should be folded for implantation and inserted into the capsular bag using the JJSV-qualified implantation system.***NOTE:*** *Capsular tension ring can be used per surgeon discretion.*

SURGICAL COMPLICATIONS

Should a surgical complication occur, implantation of a study lens will be at the investigator's discretion. However, in the event of capsular bag or zonular rupture, the study lens should not be implanted. Additionally, the lens is not to be implanted in the sulcus. In this case, the investigator may implant his/her choice of an alternative backup IOL.

If a subject with one qualifying eye does not receive the study lens due to a surgical complication, the subject may be discontinued from the study after resolution of the complication to ensure safety. Study-specific postoperative data from this subject will not be collected. If the subject has already received a study lens in the first eye, and the second eye does not receive a study lens, the subject's first eye will be followed per the protocol and the second eye will be followed to ensure safety, but data will not be reported for that eye. Thus, in this case, study-specific postoperative data for the first eye will be collected and study-specific postoperative data for the second eye will not be collected.

MEDICATIONS

Preoperative, operative and intraoperative medications should be used as is customary for each investigator and recorded in the source document for each subject, as appropriate. Only medications required for treatment of an SAE will be recorded on the case report forms.

TYPE OF CLOSURE

Wound closure is left to the surgeon's discretion and will be recorded on the case report form.

SURGICAL HANDLEABILITY QUESTIONNAIRE (SHQ)

The surgeon will complete a single-item questionnaire at the operative visit for each implanted eye. The single-item questionnaire will assess surgeon feedback on the handleability of the study lens.

Additional operative information collected may include:

- Date of surgery
- Operative eye
- Lens power and serial number
- Intended spherical equivalent
- Intended cylinder
- Capsular bag polishing
- Lens placement
- Other surgical procedures

- Difficulty of lens implantation
- Serious and/or device-related adverse events
- JJSV product complaints

10.7 POSTOPERATIVE PROCEDURES

Postoperatively, subjects will be examined according to the schedule in Section 10.2, Visit Schedule. One or both implanted eyes will be examined at 1-week and 3-month visits.

The postoperative case report form will include the following information, although not all are required at every visit:

UNCORRECTED DISTANCE VISUAL ACUITY

Monocular UCDVA is to be measured using a standard Snellen convention.

MANIFEST REFRACTION AND BEST CORRECTED DISTANCE VISUAL ACUITY

Manifest refraction is to be performed per the site's usual technique. Monocular BCDVA is to be measured using a standard Snellen convention.

MEDICAL FINDINGS

At each postoperative visit presence or absence of any medical or lens findings, complications, or serious or device-related adverse events will be noted.

ND:YAG CAPSULOTOMY

If an Nd:YAG capsulotomy is necessary, it is recommended that the procedure be performed at least 1 week prior to a study visit.

KERATOMETRY AND REFRACTION

Corneal curvature and refraction are to be measured using the investigator's usual methods. It is recommended that the same methods be used for all study subjects at the site for the duration of the study.

SURGEON SATISFACTION QUESTIONNAIRE (SSQ)

This 3-item questionnaire is self-administered and should be completed by the surgeon. The purpose of this questionnaire is to collect surgeon satisfaction with the clinical outcomes (e.g., rotational stability, uncorrected distance visual acuity) of the eye(s) implanted with the study lens.

Surgeon satisfaction with rotational stability will be collected for each implanted eye using a single-item from the SSQ at the 1-week visit. At the 3-month visit, surgeon feedback from the 3-item SSQ will be collected for each implanted eye.

SURGEON EXPERIENCE QUESTIONNAIRE (SEQ)

The surgeon experience questionnaire is a 5-item questionnaire that evaluates the surgeons' overall experience with the study lens in comparison to their historical experience with their preferred toric IOL (monofocal and presbyopia-correcting). This questionnaire is self-administered and should be completed only once after the last follow-up study visit (last subject's 3-month visit) for the study.

MEDICATIONS

Postoperative ocular medications should be used as is customary for each investigator and recorded in the source document for each subject, as appropriate. Only medications required for treatment of an SAE will be recorded on the case report forms.

ADVERSE EVENTS

Subjects should be assessed at each visit for the occurrence of and/or change in status of any adverse events, particularly serious and/or device-related adverse events. See Section 11, Adverse Events, and Error! Reference source not found. for further information.

10.8 EXIT OF SUBJECTS

An Exit Case Report Form will be completed for all subjects, either when they complete the study or if they exit early.

It is the responsibility of the investigator to provide complete follow-up data to JJSV for each subject, and every attempt should be made to gather that complete follow-up data for all subjects enrolled as missing data can have a negative effect on the study results. Patients who would be traveling, relocating or otherwise unavailable for postoperative follow-up visits should not be chosen for this clinical study.

Subjects will be discontinued from the study if the study lens is removed and the fellow eye does not have a study IOL or if the subject dies. Subjects will be considered "lost-to-follow-up" from the study only if irretrievably lost for unavoidable reasons such as: subject moved/unable to locate, subject uncooperative/refuses further study participation, subject ill/unable to travel.

A subject will be considered a screen failure if he/she does not meet the enrollment criteria. A subject will also be considered a screen failure if he/she does not undergo surgery or receive a study lens for various reasons including: the planned implant being aborted due to surgical complications, the subject withdrawing consent prior to treatment or the subject died prior to

treatment. If a subject receives at least one study lens, he/she is to be followed according to the protocol.

If a subject is exited early from the study, the investigator will submit an Exit Case Report Form to JJSV indicating the reason for study exit. In the event of a lens removal or other serious adverse event, the subject may be exited from the study; however, efforts must be made by the investigator to follow the subject until resolution of the adverse event.

All study subjects are to be instructed to undergo regular eye examinations at least yearly and to return to their doctor if any eye complications are experienced in the interim.

10.9 UNSCHEDULED VISITS

During the study period, if a non-protocol-required visit is done for the purpose of medically-indicated follow-up for either study eye, data from this visit should be submitted using the Unscheduled Visit CRF. The need for unscheduled visits is at the investigator's discretion. Specific examinations to be performed at unscheduled visits are also at the discretion of the investigator (based on the reason for the unscheduled visit), and data are to be recorded in the appropriate section of the case report form.

Data to be collected may include:

- Monocular UCDVA
- Manifest Refraction and monocular BCDVA
- Intraocular pressure
- Medical and/or lens findings, complications
- Serious and/or Device-Related Adverse events
- Ocular Medications

10.10 PROTOCOL DEVIATIONS

Any departure from the protocol procedures represents a protocol deviation. Protocol deviations may be subject-based (e.g., enrollment criteria, informed consent deviation, etc.) or procedural-based (e.g., out-of-interval visits, non-compliance with testing procedures, etc.).

Any deviation made to protect the life or physical well-being of a subject in an emergency, as well as any use of the study device without obtaining informed consent, must be reported to JJSV within 5 working days.

Protocol deviations will be monitored and managed by JJSV, and if the non-compliance is persistent or egregious, JJSV may act, including but not limited to termination of the investigator's participation in the study. The investigator is also responsible for informing the reviewing IRB of instances of protocol non-compliance in accordance with the IRB

11. ADVERSE EVENTS AND PRODUCT COMPLAINTS

11.1 ADVERSE EVENT DEFINITIONS

Adverse Event (AE)

An adverse event is defined (following ISO 14155) as any untoward medical occurrence, unintended disease or injury, or untoward clinical signs (including abnormal laboratory findings) in subjects, users or other persons, whether or not related to the study device.

Serious Adverse Event (SAE)

An adverse event is considered serious (following ISO 14155) if it is an untoward occurrence which may or may not be related to use of the study device that

- Is sight- or life-threatening,
- Results in death,
- Requires inpatient hospitalization or prolongation of hospitalization (a planned hospitalization for a pre-existing condition without a serious deterioration in health is not considered a serious adverse event),
- Results in permanent impairment of a body structure or body function,
- Necessitates medical or surgical intervention to prevent permanent impairment to a body structure or function, or,
- Results in fetal distress, fetal death or a congenital abnormality or birth defect

Device-Related Adverse Event/Adverse Device Effect (ADE)

A device-related adverse event is defined as any adverse event that is believed to be definitely, probably or possibly related to the study device (following the guidelines in Section 11.4, Causal Relationship). A device-related event is also considered an adverse device effect (ADE; following ISO 14155) resulting from the use of the study device that may result from user error, insufficiencies or inadequacies in the instructions for use, deployment, implantation, installation, operation or any malfunction of the device.

Study-Specific Serious Anticipated Adverse Events

The following is a list including, but not limited to, ocular serious adverse events that are anticipated and must be reported to JJSV for this study. Any events that are unlikely but anticipated (i.e., endophthalmitis or toxic anterior segment syndrome) will be reported to FDA and other appropriate regulatory agencies.

- Endophthalmitis/Intraocular infection
- Hypopyon
- Hyphema
- IOL dislocation

- Cystoid macular edema: Macular edema diagnosed by clinical examination and adjunct testing (e.g. OCT, FA) resulting in BCDVA of 20/40 or worse at 1 month or later
- Pupillary block
- Retinal detachment/tear
- Corneal edema
- Chronic iritis or uveitis
- Raised IOP that persists (i.e., is present at the last study visit)
- Toxic anterior segment syndrome (TASS)
- Visual symptoms requiring secondary surgical intervention (e.g., lens removal)
- Tilt, decentration, IOL rotation requiring secondary surgical intervention (e.g., repositioning)
- Residual refractive error resulting in a secondary surgical intervention
- Retained lens material resulting in secondary surgical intervention

NOTE 1: *Wound burps during the first week postoperatively, suture removal, planned blepharoplasty and Nd:YAG capsulotomy (for PCO) are not considered adverse events for this study.*

NOTE 2*: Corneal edema, and chronic anterior uveitis/iritis will be considered serious if corneal edema resulting in BCDVA of 20/40 or worse at 1 month or later; and Grade 1+ uveitis/iritis persists for greater than 3 months after surgery). Raised IOP requiring treatment (*Elevation of IOP ≥10 mmHg above baseline to a minimum of 25 mmHg) *will be considered serious if present at the last study visit.*

Unanticipated Adverse Device Effect (UADE)/Unanticipated Serious Adverse Device Effect (USADE)

Any USADE (ISO 14155) is defined as any serious adverse effect on health or safety or any life-threatening problem or death caused by, or associated with, a device, if that effect, problem, or death was not previously identified in nature, severity, or degree of incidence in the investigational plan (i.e., this protocol), application (including a supplementary plan or application), or risk assessment, or any other unanticipated serious problem associated with a device that relates to the rights, safety, or welfare of subjects.

11.2 PRODUCT COMPLAINT/DEVICE DEFICIENCY DEFINITION

A product complaint/device deficiency is defined (21 CFR 820.3(b) and ISO 14155) as any alleged deficiency related to the identity, quality, durability, reliability, safety, effectiveness, or performance of a device. This may include malfunctions, user error and inadequacies in labeling. Product complaints can pertain to any marketed JJSV device being used in the study as well as the investigational device. The investigator is to assess whether the deficiency could have led to a serious adverse event without suitable action or intervention or under less fortunate circumstances.

11.3 ADVERSE EVENT AND COMPLAINT REPORTING REQUIREMENTS

All adverse events and any complaint encountered using any JJSV product, regardless of severity and whether or not attributed to the study device(s), are to be reported to JJSV and recorded on the case report form corresponding to the visit during which awareness of the event occurred. Adverse events are also to be reported to the reviewing IRB as per their reporting requirements. If required, adverse events will be reported to the appropriate regulatory agencies (e.g., FDA) according to all applicable laws and regulations. Specific instructions on notification procedures to JJSV are included in Error! Reference source not found..

General guidelines are provided below:

Adverse Event Reporting

An adverse event that is not serious or device-related is to be reported to JJSV in a timely manner. Notification of non-serious and non-device-related adverse events will occur by submitting events on the CRF when noted. Such adverse events are also to be reported to the reviewing IRB per their reporting requirements.

Complaints/Device Deficiency Reporting

A general product complaint or device deficiency is to be reported to JJSV in a timely manner. Notification of complaints/device deficiencies will occur by either submitting complaints on the CRF when the complaint occurred (e.g., operative form) or by a phone call to the Sponsor. Any device deficiency that could have led to a serious adverse event without suitable action or intervention, or under less fortunate circumstances, must be reported to the sponsor immediately (no later than 24 hours after detection). Device deficiencies that could have led to a serious adverse event should also be reported to the investigator's IRB per their reporting requirements.

Serious and/or Device-Related Adverse Event Reporting

Serious and/or device-related events (ADEs) are to be documented using the SAE/ADE Detailed Page. In the event of a serious adverse event (SAE), which may or may not be related to use of the study device, JJSV must be notified immediately (no later than 48 hours after detection). Any SAE is to be reported by phone (and/or email) and by submitting a completed SAE/ADE Detailed Page. Any SAE or device-related AE should also be reported to the investigator's IRB per their reporting requirements.

Unanticipated Adverse Device Effect (UADE)/Unanticipated Serious Adverse Device Effect (USADE) Reporting

If during the study, a serious adverse event occurs that may reasonably be regarded as device-related and was not previously expected in nature, severity, or degree of incidence, the investigator is to report the UADE/USADE to JJSV within 48 hours, and to the investigator's IRB as soon as possible (and no later than 10 working days after learning of the event).

11.4 CAUSAL RELATIONSHIP

The investigator and sub-investigator should always be alert to adverse events that may be related to the study device or the use of the study device (i.e., the procedure specific to the

initial application of the device). An attempt should be made by either the investigator or the sub-investigator in every case to determine the causality of the event. The following definitions are to be used as guidelines in determining the relationship between the event and the study device and/or use of the device.

Definitely related:	If the event is associated with the device and/or the use of the device beyond a reasonable doubt, a causal relationship exists between the adverse event and the device and/or the use of the study device.
Probably related:	There is a reasonable possibility of a causal relationship between the adverse event and the device and/or the use of the study device and/or the adverse event cannot be reasonably explained by another cause.
Possibly related:	The adverse event has not been determined to be related to the device or the use of the device, but no other cause has been identified and the device and/or the use of the study device cannot be ruled out as a possible cause.
Unlikely to be related:	The possibility of a potential causal relationship between adverse event and the device and/or the use of the device could exist, but the adverse event can be reasonably explained by another cause.
Not related:	There is no possibility of a causal relationship between the adverse event and the device and/or the use of the study device and/or the adverse event can be attributed to another cause.

If an adverse event is believed to be, probably or possibly related to the study device and/or the use of the device, the event will be considered related to the study device and/or the use of the device.

11.5 ADVERSE EVENT FOLLOW-UP

For every adverse event, appropriate measures should be undertaken to treat and/or monitor the subject until resolution occurs. Obtain and maintain in the subject's files all pertinent medical data relating to the event including the subject's medical records and medical reports and/or judgments from colleagues or outside specialists who assisted in the treatment and follow-up of the subject. The investigator should keep JJSV closely informed as to the outcome of serious and/or device-related adverse events, thereby allowing JJSV to comply with the appropriate regulatory reporting requirements. An Unscheduled Visit form should be completed each time the subject returns to the investigator or other specialist(s) for follow-up of a serious and/or device-related adverse event until resolution of the event and the SAE/ADE form should be updated as necessary (e.g., to document the resolution of the SAE/ADE). Any subject who is exited from the study due to a serious and/or device-related adverse event will be followed until the outcome is determined.

12. PROTOCOL CHANGES/AMENDMENTS

If the investigator desires to modify any procedure and/or the design of the study, he or she must contact and obtain consent from JJSV regarding the proposed changes prior to implementation. Any modifications (including additional data collection) require approval by the

appropriate regulatory agencies as well as approval of the governing IRB(s) prior to implementation.

13. ETHICS REVIEW AND PATIENT WELFARE

13.1 INSTITUTIONAL REVIEW BOARD (IRB)

It is the responsibility of the investigator to obtain prospective approval of the study protocol, protocol amendments or changes, informed consent forms and other relevant documents (e.g., advertisements) from the IRB. All correspondence with the IRB should be retained at the site. Copies of IRB submissions and approvals should be forwarded to JJSV.

The investigator is responsible for notifying the IRB of reportable adverse events as well as any other circumstance in which additional procedures outside the protocol were conducted to eliminate apparent hazards to subjects.

13.2 INFORMED CONSENT

The current version of the IRB-approved study informed consent must be signed by each study subject prior to any study-specific examinations being performed. The IRB-approved informed consent is to be signed and dated by the subject as well as by the person who conducted the informed consent discussion. The signed informed consent will be maintained by the investigator as a permanent part of the subject's medical records. A copy of the signed and dated form is to be provided to the subject. The investigator will provide JJSV written acknowledgement on the preoperative case report form that a signed agreement of informed consent has been obtained and is in the investigator's possession for each subject. The site will document in the source documents that informed consent was obtained prior to participation in the study for each subject enrolled.

***NOTE 1**: The informed consent process also includes obtaining the subject's signature on an Authorization for Use/Disclosure of Health Information for Research Form.*

***NOTE 2**: The sponsor will secure appropriate insurance for study subjects prior to study start.*

14. DOCUMENTATION

14.1 SOURCE DOCUMENTS

Source documents must be kept for all study subjects. Source documents may include a subject's medical records, hospital charts, clinic charts, the investigator's subject study files, as well as results of any diagnostic tests or procedures such as topographies or laboratory tests with photographs or instrument printouts.

Each site is expected to adhere to the clinic's own standard documentation requirements for medical charts/clinic notes. However, for the purposes of this clinical study, the medical charts/clinic notes must also include, at a minimum, the following data that will be considered source data and will be reviewed by JJSV:

- Subject's name and study identification number
- Subject's contact information
- Study protocol number and the Sponsor name (JJSV)
- A statement that informed consent was obtained prior to participation in the study (including the date)
- Dates of all subject visits and surgeries throughout the duration of the study
- Implant serial number identification
- Concomitant medications
- Uncorrected distance visual acuity
- Manifest refraction and best corrected distance visual acuity
- Occurrence and status of any operative complications, postoperative medical or lens findings, and adverse events
- Occurrence and status of any subject complaints, e.g., ocular/visual symptoms
- The date the subject exited the study, and a notation as to whether the subject completed the study or reason for early exit.

14.2 SUBJECT CONFIDENTIALITY

Eyes will be assigned a site/ID number to maintain confidentiality. Subject names may possibly be disclosed to JJSV or regulatory agencies during inspection of medical records related to the study, but reasonable precautions will be taken to maintain confidentiality of personal information to the extent permitted by applicable laws and regulations.

14.3 CASE REPORT FORM COMPLETION

This study will use an electronic data capture system (EDC). All study staff responsible for entering data into the system must complete certification prior to using the system. The investigator is responsible for ensuring that data are properly recorded on each subject's case report form and related documents. Prior to database closure, the investigator will verify completeness and accuracy of all data collected and submitted to JJSV.

14.4 STUDY SUMMARY

A final investigator's summary will be provided to JJSV and the reviewing IRB within 3 months after termination or the completion of the study or the investigator's part of the investigation, as directed by JJSV.

15. MONITORING

JJSV will perform three types of monitoring to ensure compliance with regulations: data monitoring, administrative monitoring, and safety monitoring.

15.1 DATA MONITORING

In order to ensure a well-controlled clinical trial, JJSV will follow specific data monitoring procedures, routinely generate reports and periodically review safety and effectiveness data. To avoid bias, any analyses generated prior to site closures will not be disseminated to any of the investigative sites.

An EDC system will be used to transmit case report forms from the investigative site to JJSV. Requests for data clarification will be handled through this same system.

To minimize data omissions and inconsistencies on clinical reports and to ensure that data are accurately transcribed to computer data files, JJSV will follow internal data processing procedures that include automated and manual quality control checks to identify any data discrepancies. Any such items will be resolved and documented as needed on the case report forms at the investigative site and in the data management system at JJSV.

Prevention of Missing Data

Methods used to safeguard against missing data that can have deleterious effects on the study integrity and reliability of its outcomes will include training study staff with web-based and/or on-site programs. In addition, subjects will be encouraged at the time of informed consent to avoid missing study visits, as missing data may affect the study reliability and diminish the scientific value of their contribution to the study.

15.2 ADMINISTRATIVE MONITORING

Administrative monitoring procedures will ensure that subjects, and forms can be traced and will allow monitoring of investigator progress and compliance. Accountability and traceability of study devices will be monitored by trained JJSV personnel.

Site Monitoring Plan

Prior to performing any study implants, the requirements of the study and reporting mechanisms will be explained to each investigator during the web-based or on-site training. When necessary, a pre-study site qualification visit may be performed to assess the adequacy of the site to perform the study for sites that have not previously worked with JJSV or have undergone significant changes or have not been visited in the past year or have not had a Site Qualification Visit in the last 24 months. A study initiation visit will be conducted (either in-person or via a web-based meeting) for all sites prior to the first implant.

Throughout the duration of the study, site visits to monitor compliance to this protocol will be made at each site. During a routine site monitoring visit, JJSV will review informed consent documents and subject eligibility, and the data on study case report forms will be verified against subject charts and other source documents to ensure complete and accurate reporting. The subject files will also be reviewed to assure that all adverse events and any issues encountered with JJSV products have been reported in a timely fashion.

JJSV will also review source documents to verify that all required items have been documented in the subject medical charts. Refer to Section 14.1, Source Documents, for a list of items that are required for source documentation. Additionally, study logs will be checked to ensure compliance with study procedures.

Training on study-specific procedures may also be conducted during monitoring visits.

Upon study completion, a final close-out site visit to each site will be made to monitor the last of the subject data records and finalize any outstanding study issues.

A separate Study Monitoring Plan will be established prior to study start that will define the type and frequency of monitoring visits and frequency of record monitoring.

15.3 MEDICAL OVERSIGHT

The medical monitor will be available throughout the clinical trial to review study results and to answer any questions from investigators. The medical monitor will review and assess any reports of serious and/or device related adverse events, as well as, device deficiencies that could have led to a serious adverse event and discuss them with the reporting investigator(s) as necessary. The medical monitor, as well as, any other qualified personnel designated by JJSV, shall also review study reports.

16. PUBLICATIONS

Refer to the Clinical Trial Agreement for information regarding JJSV publication policies.

17. RISK ANALYSIS

POTENTIAL RISKS AND RISK MANAGEMENT

RISKS OF THE TECNIS TORIC II INTRAOCULAR LENS

The acrylic 1-piece IOL TECNIS Toric II is designed to have improved rotational stability relative to the currently marketed TECNIS Toric 1-piece IOL (ZCT Series). The lenses are made from the same SENSAR soft acrylic material that is used in marketed TECNIS 1-piece lenses. Its aspheric anterior surface is intended to compensate for corneal spherical aberration.

The risk documentation for the currently marketed TECNIS 1-piece lenses, ZCB00 and ZCT Series, is applicable. For ZCB00 and ZCT lenses, current risk documentation concludes that all risks are identified as low or medium and deemed acceptable.

An additional risk assessment for the TECNIS Toric II was conducted to analyze potential hazardous situations resulting from the design differences compared to the ZCB00 and ZCT designs. With the implementation of a Risk Control Plan under this risk assessment, no additional safety issues have been identified for the study products for their intended use in the proposed clinical investigation.

GENERAL RISKS OF CATARACT SURGERY AND IOL IMPLANTATION

There are risks and complications associated with cataract surgery and IOL implantation in general. These can include worsening of vision, hemorrhage, loss of corneal clarity, inflammation, infections, retinal detachment, pupil changes, glaucoma, etc. Complications can result in poor vision, loss of vision or loss of the eye.

RISK MANAGEMENT

Subjects will be closely monitored throughout the trial duration. The occurrence of adverse events and complaints will be assessed at each study visit and reported to JJSV according to Section 11.0, Adverse Events and Product Complaints. Additionally, JJSV will monitor incoming

data following the procedures outlined in Section 15.0, Monitoring. The Medical Monitor will ensure subjects are not exposed to additional risks by monitoring serious adverse events, device-related adverse events, and device-deficiencies that could have led to serious adverse events (Section 15.3, Safety Monitoring).

POTENTIAL BENEFITS

The general clinical performance of the TECNIS Toric II is expected to be similar to the TECNIS Toric ZCT lens series. The primary benefit from implantation of the TECNIS Toric II is the correction of astigmatism following removal of the natural crystalline lens due to cataract.

CONCLUSION

The hazards/risks associated with the TECNIS Toric II are acceptable and within those of JJSV's currently marketed IOLs. The potential clinical benefits of the TECNIS Toric II IOL outweigh the residual risks when the devices are used as intended.

18. RECORDS RETENTION

All study-related correspondence, subject records, consent forms, Authorization for Use/ Disclosure of Health Information Forms or similar medical treatment privacy law documentation, records of the distribution and use of all study products, and original case report forms should be maintained by the investigator.

The investigator must maintain and have access to the following essential documents until notified by the Sponsor.

***NOTE**: This may be for a minimum of 15 years after completion of the study. JJSV requires notification if the investigator wishes to relinquish ownership of the data so that mutually-agreed-upon arrangements can be made for transfer of ownership to a suitably-qualified, responsible person.*

- All case report forms within the EDC system
- All adverse event information (SAE/ADE detailed pages, follow-up letters, etc.)
- Study supply records/inventory
- IRB and regulatory approval documentation
- Study correspondence
- Study agreements
- Site visit documentation
- Protocol(s) and the reason for any deviations from the protocol
- Subject log(s)
- Completed subject informed consent forms and medical privacy forms (e.g., Authorization for Use/Disclosure of Health information)
- Subject medical chart/clinic notes

19. TERMINATION OF THE INVESTIGATION

JJSV can suspend or terminate the clinical investigation at any time for reasons it determines appropriate. Additionally, the investigator, or JJSV, may stop a subject's participation at any time. However, no suspension of the study would be made to disadvantage the study subjects. Following suspension of the study for any reason, all study subjects who have already received treatment would continue to be followed through completion of the study visit schedule.

20. STATISTICAL METHODS

This section highlights the analyses to be performed for key study endpoints. The 3-month postoperative visit is the critical analysis time point for the primary endpoint and for other data from the SSQ questionnaire, the SEQ questionnaire and for refraction and visual acuity endpoints. The operative visit is the key timepoint for evaluation of data from the SHQ questionnaire. The one-week visit is the key timepoint for the SSQ question on rotational stability.

Descriptive statistics will typically include mean, standard deviation, median, minimum, maximum for continuous data with frequency and proportion reported for categorical data.

20.1 ANALYSIS POPULATION

For the primary endpoint, the primary analysis population will be all eyes implanted with a toric IOL (model ZCU150 through ZCU600) and with available data at the 3-month visit. For other endpoints, all eyes implanted with a toric IOL model ZCU150 to ZCU600 and with available data at the key timepoint for that endpoint will be used. In addition, data for the primary endpoint will also be evaluated by IOL model for lower-cylinder IOLs (ZCU150), medium-cylinder IOLs (ZCU225 to ZCU375) and for extended higher-cylinder IOLs (ZCU450, ZCU525 and ZCU600). For the surgeon preference questionnaire (SPQ) and the surgeon experience questionnaire (SEQ), the analysis population will be surgeons responding to these questionnaires.

20.2 PRIMARY ENDPOINT

The primary endpoint for this study is the response to a single-item evaluating the surgeon's rating of overall level of satisfaction with the clinical outcome for each eye from the SSQ. Surgeon satisfaction is defined as having a score of 4 (satisfied) or 5 (very satisfied). The frequency and proportion of eyes with a rating of 4 or 5 and the 95% confidence interval for this proportion will be reported. In addition, the frequency and proportion with each response will be tabulated for this item.

20.3 OTHER ENDPOINTS

For other items on the SSQ, the frequency and proportion of eyes with each response will be reported for the individual items on the questionnaire. The frequency and proportion of eyes will be reported for the single-item on the SHQ. For the SEQ and the SPQ, the frequency and proportion of surgeons with each response will be reported.

Descriptive statistics for all eyes will be reported for mean refractive cylinder, cylinder vs intended cylinder, spherical equivalent and spherical equivalent vs intended and for percent reduction in cylinder. In addition, the frequency and proportion of eyes within 0.50 D and within 1.00 D of intended values will be reported for refractive cylinder and spherical equivalent.

For visual acuity, the values will be converted to logMAR prior to analysis. Descriptive statistics for all eyes will be reported for mean logMAR monocular uncorrected and best corrected distance visual acuity. The frequency and proportion of eyes achieving each acuity line will also be reported for uncorrected and best corrected distance visual acuity.

Enrollment data, demographic data, accountability data and operative complications/ procedures will be reported using descriptive statistics.

The frequency and proportion of eyes with medical/lens findings or adverse events will also be reported.

20.4 SAMPLE SIZE CALCULATIONS

With a minimum of 1000 eyes, the two-sided 95% confidence interval for the proportion of eyes rated as having acceptable performance will extend within 1.4% from the observed proportion assuming an expected overall satisfactory proportion of 95%.

20.5 INTERIM REPORTS

Interim study progress reports may be conducted during the study.

APPENDIX A: SUMMARY OF PROCEDURES REQUIRED AT EACH VISIT

Examination	Preop (Visit 1)	Op (Visit 2)	1-week (Visit 3)	3-month (Visit 4)
Informed consent, ocular history, enrollment criteria, IOL power calculations	+			
Biometry	+			
Keratometry	+			+
Lens power/serial number		+		
Surgeon Preference Questionnaire (SPQ)	+[a]			
Surgical Handleability Questionnaire (SHQ)		+[b]		
UCDVA	+		+	+
Manifest refraction	+			+
BCDVA	+			+
Medical findings/lens findings/complications/adverse events	+		+	+
Surgeon satisfaction with rotational lens stability (Single-item from SSQ)			+	
Surgeon Satisfaction Questionnaire (SSQ)				+
Surgeon Experience Questionnaire (SEQ)				+[c]

[a] At study start (prior to first subject implantation)
[b] At the operative visit for each implanted eye
[c] At the last subject's 3-month visit for each surgeon at each study site

APPENDIX B: ADVERSE EVENT AND COMPLAINT REPORTING INSTRUCTIONS

All adverse events and complaints related to using JJSV products must be reported to JJSV.

ALL ADVERSE EVENTS AND COMPLAINTS:

For events that are not considered serious or related to the study device:

1. Record the event and/or complaint on the case report form that corresponds to the visit during which awareness of the event occurred. Additionally, a complaint may be reported via a telephone call to JJSV.
2. Send the completed case report form to JJSV in a timely manner

SERIOUS ADVERSE EVENTS OR DEVICE DEFICIENCIES THAT MAY HAVE LED TO A SERIOUS EVENT

In the event of a serious event (i.e., life- or sight-threatening incident) whether or not related to the device, or a device deficiency that may have led to a serious event, the investigator shall:

1. Notify JJSV immediately (no more than 48 hours after learning of the event) as follows:
   a. Contact the following JJSV personnel by phone and/or email:

   b. Complete a Detailed Adverse Event Form and submit to JJSV

NON-SERIOUS, DEVICE-RELATED EVENTS:

For events that are not considered serious but are believed related to the study device (ADEs):

1. Complete a Detailed Adverse Event Form
2. Ensure the data are submitted to JJSV within a timely manner.

ATTACHMENT A- SURGEON PREFERENCE QUESTIONNAIRE (SPQ)

Instructions

- This questionnaire is self-administered and should be completed by the surgeon prior to the first subject being implanted in the study.
- The purpose of this questionnaire is to collect your preferred toric IOL and its implantation volume.

1) Please specify your choice for preferred monofocal toric IOL (choose one).

TECNIS® Monofocal Toric	☐
AcrySof® IQ Toric	☐
enVista Toric	☐
Other, Specify _____	☐

2) Please specify your choice for preferred presbyopia-correcting toric IOL (choose one).

TECNIS Symfony® Toric	☐
AcrySof® IQ ReSTOR®	☐
AcrySof® IQ PanOptix®	☐
Trulign Toric	☐
Other, Specify _____	☐

3) On average how many patients do you typically implant with your preferred monofocal toric IOL on a ***monthly*** basis?

Less than 5	☐
5 to 10	☐
11 to 15	☐
More than 15	☐
Other, Specify _____	☐

4) On average how many patients do you typically implant with your preferred presbyopia-correcting toric IOL on a ***monthly*** basis?

Less than 5	☐
5 to 10	☐
11 to 15	☐
More than 15	☐
Other, Specify _____	☐

ATTACHMENT B- SURGICAL HANDLEABILITY QUESTIONNAIRE (SHQ)

Instructions

- This questionnaire is self-administered and should be completed by the surgeon following the completion of the surgery for each eye.
- The purpose of this questionnaire is to collect surgeon feedback on the handleability of the TECNIS® Toric II IOL (study lens).

Rate your level of confidence in controlling the position of the study lens in the implanted eye?

5- Extremely confident	☐
4- Quite a bit confident	☐
3- Somewhat confident	☐
2- A little confident	☐
1- Not at all confident	☐

If you answered “1-Not at all confident” or “2- A little confident”, please specify reason.

_____

ATTACHMENT C- SURGEON SATISFACTION QUESTIONNARE (SSQ)

Instructions

- This questionnaire is self-administered and should be completed following the completion of the last study visit **(3-month visit)** for each eye separately**.**
- The purpose of this questionnaire is to collect your feedback on the clinical outcomes achieved in each eye implanted with the TECNIS® Toric II IOL (study lens).

1) Please rate your overall level of satisfaction with the clinical outcomes achieved in the implanted eye.

5- Very satisfied	☐
4- Satisfied	☐
3- Undecided	☐
2- Dissatisfied	☐
1- Very dissatisfied	☐

If you marked “1- Very dissatisfied” or “2- Dissatisfied”, please specify reason.

_____

2) Please rate your level of satisfaction with the rotational stability of the study lens in the implanted eye.

5- Very satisfied	☐
4- Satisfied	☐
3- Undecided	☐
2- Dissatisfied	☐
1- Very dissatisfied	☐

If you marked “1- Very dissatisfied” or “2- Dissatisfied”, please specify reason.

_____

3) Please rate your level of satisfaction with the achieved uncorrected distance visual acuity in the implanted eye.

5- Very satisfied	☐
4- Satisfied	☐
3- Undecided	☐
2- Dissatisfied	☐
1- Very dissatisfied	☐

If you marked “1- Very dissatisfied” or “2- Dissatisfied”, please specify reason.

_____

ATTACHMENT D- SURGEON OVERALL EXPERIENCE QUESTIONNARE (SEQ)

Instructions

- This questionnaire is self-administered and should be completed after the last subject's 3-month visit for each surgeon at your site.
- Please answer the questions based on your overall experience with your preferred toric IOL prior to the study vs. TECNIS® Toric II IOL (study lens).

1. How is the rotational stability of the study lens in comparison to your preferred monofocal toric IOL used prior to the study?

   5- Much better ☐
   4- Somewhat better ☐
   3- Same ☐
   2- Somewhat worse ☐
   1- Much worse ☐

   If you answered "1- Much worse" or "2- Somewhat worse", please specify reason.

   _____

2. How is the rotational stability of the study lens in comparison to your preferred presbyopia-correcting toric IOL used prior to the study?

   5- Much better ☐
   4- Somewhat better ☐
   3- Same ☐
   2- Somewhat worse ☐
   1- Much worse ☐

   If you answered "1- Much worse" or "2- Somewhat worse", please specify reason.

   _____

3. Rate your level of confidence in treating astigmatism with the study lens in comparison to your preferred monofocal toric IOL used prior to the study?

   5- Much more confident ☐
   4- Somewhat more confident ☐
   3- Same ☐
   2- Somewhat less confident ☐
   1- Much less confident ☐

   If you answered "1-Much less confident" or "2- Somewhat less confident", please specify reason

   _____

4. Rate your level of confidence in treating astigmatism with the study lens in comparison to your preferred presbyopia-correcting toric IOL used prior to the study?

5- Much more confident	☐
4- Somewhat more confident	☐
3- Same	☐
2- Somewhat less confident	☐
1- Much less confident	☐

If you answered “1-Much less confident” or “2- Somewhat less confident”, please specify reason

_____

5. Would you recommend the study lens to your fellow surgeons?

3- Yes	☐
2- Maybe	☐
1- No	☐

If you answered “1- No” or “2- Maybe”, please specify reason.

_____