

# **Clinical Study Protocol**

## **Johnson & Johnson Vision Care, Inc.**

Visual performance of senofilcon A with and without a new UV/HEV-filter

Protocol CR-6463

Version: 3.0

Date: 30 August 2021

Investigational Products: senofilcon A soft contact lens with new UV/HEV-filter

Keywords: Sphere platform, senofilcon A with a new UV/HEV-filter, senofilcon A without a new UV/HEV-filter (ACUVUE OASYS 1-Day), daily wear, daily disposable, non-dispensing, Cambridge Research Systems Metropsis software, photopic and mesopic contrast sensitivity under broadband light conditions, photopic resolution acuity under broadband light conditions.

### **Statement of Compliance to protocol, GCP and applicable regulatory guidelines:**

This trial will be conducted in compliance with the protocol, ISO 14155:2020,<sup>1</sup> the International Council for Harmonization Good Clinical Practice E6(R2) (ICH GCP),<sup>2</sup> Declaration of Helsinki,<sup>3</sup> and all applicable regulatory requirements.

### **Confidentiality Statement:**

This document contains confidential information, which should not be copied, referred to, released or published without written approval from Johnson & Johnson Vision Care, Inc. The information may not be disclosed to others except to the extent necessary to obtain Institutional Review Board/Independent Ethics Committee approval and informed consent, or as required by International, Federal and State Laws, as applicable. Persons to whom this information is disclosed must be informed that this information is privileged and confidential and that it should not be further disclosed without the written permission of Johnson & Johnson Vision Care, Inc. Any supplemental information that may be added to this document is also confidential and proprietary to Johnson & Johnson Vision Care, Inc. and must be kept in confidence in the same manner as the contents of this document.

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### **PROTOCOL TITLE, NUMBER, VERSION AND DATE**

Title: Visual performance of senofilcon A with and without a new UV/HEV-filter

Protocol Number: CR-6463

Version: 3.0

Date: 30 August 2021

### **SPONSOR NAME AND ADDRESS**

Johnson & Johnson Vision Care, Inc. (JJVC)

7500 Centurion Parkway

Jacksonville, FL 32256

### **MEDICAL MONITOR**

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]

The Medical Monitor must be notified by the clinical institution/site by e-mail or telephone within 24 hours of learning of a Serious Adverse Event. The Medical Monitor may be contacted during business hours for adverse event questions. General study related questions should be directed towards your assigned clinical research associate.

The Medical Monitoring Plan is maintained as a separate document and included in the Trial Master File.

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### AUTHORIZED SIGNATURES

The signatures below constitutes the approval of this protocol and the attachments and provide the necessary assurances that this trial will be conducted according to all stipulations of the protocol, including all statements regarding confidentiality, and according to local legal and regulatory requirements and applicable U.S. federal regulations,<sup>4</sup> ISO 14155:2020,<sup>1</sup> ICH guidelines,<sup>2</sup> and the Declaration of Helsinki.<sup>3</sup>

Author / Clinical  
Responsible  
Clinician

*See Electronic Signature Report*

DATE

Co-author

DATE

Co-author

DATE

Clinical Operations  
Manager

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DATE

Biostatistician

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Biostatistical Review

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Data Management

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Medical Safety  
Officer

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Reviewer

*See Electronic Signature Report*

[REDACTED]

[REDACTED]

DATE

Approver

*See Electronic Signature Report*

[REDACTED]

[REDACTED]

DATE

# Clinical Study Protocol

## Johnson & Johnson Vision Care, Inc.

### CHANGE HISTORY

Version	Originator	Description of Change(s) and Section Number(s) Affected	Justification for Change	Date
1.0	██████	Original Protocol	N/A	15 Jul 2021
2.0	██████	<ul style="list-style-type: none"> <li>Study design change to create two (2) phases of the study               <ul style="list-style-type: none"> <li>Phase 1 added: verification of glare source intensity.</li> </ul> </li> <li>Phase 2: is the same as protocol version 1.0 except 10 minute rest replaced with 5 minute rest.</li> <li>Section 1: added additional background information regarding glare source</li> <li>Section 1.1, 1.2, 1.4: Added Phase 1 details</li> <li>Section 1.5: added clarity to describe “broadband light source”, updated statements of results from previous studies</li> <li>Section 2.1, 2.2, 2.3: Added Phase 1 details</li> <li>Added Section 3.2.1 and 3.2.2 to specify Inclusion Criteria for Phase 1 and Phase 2</li> <li>Added Section 3.3.1 and 3.3.2 to specify Exclusion Criteria for Phase 1 and Phase 2</li> <li>Section 4.1, 4.2, 4.3: Added Phase 1 details</li> <li>Table 1 updated to include Phase 1 and update rest timings</li> <li>Section 5.1, 5.2: Added Phase 1 details</li> <li>Section 6: Added clarity that test article is for Phase 2 only</li> </ul>	<ul style="list-style-type: none"> <li>Help ensure glare source emission meets ANSI Z80.12-2007</li> <li>Addition of Phase 1 study information throughout</li> <li>Additional specification for study information pertaining to Phase 1 or Phase 2</li> </ul>	4 Aug 2021

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Version	Originator	Description of Change(s) and Section Number(s) Affected	Justification for Change	Date
		<ul style="list-style-type: none"> <li>Section 6.4: update sample label</li> <li>Section 7.1: Added Phase 1 to Time and Events Schedule</li> <li>Section 7.2: Added Phase 1 Procedures, updated rest times in Phase 2 to match Table 1, updated step F.3 to remove “spectacle”</li> <li>Section 14.2: Added Phase 1 details</li> <li>Table 8: updated endpoint used</li> <li>Table 9: updated power analysis</li> <li>Section 14.5: Added Phase 1 details</li> <li>Section 14.6: clarification for Phase 2</li> <li>General formatting updates</li> </ul>		
3.0	██████ ██████	<ul style="list-style-type: none"> <li>Section 1: added Figure 5 and the two sentences immediate before it. Updated subsequent figure numbers and text cross-references.</li> <li>Section 1.5: added comment that ██████ and ██████ used different control lenses.</li> <li>Section 2.3: reduced redundant language about going to phase 2 only after a successful phase 1.</li> <li>Section 7.2, Phase 1 step 1.12 and Phase 2 step 1.34 added ND filter for glare source in mesopic testing</li> <li>Section 7.2 Step 1.12: corrected exclusion language to be contrast sensitivity, not contrast sensitivity threshold.</li> </ul>	<ul style="list-style-type: none"> <li>Additional information available regarding the glare source</li> <li>Updated to ██████ Template v13.0</li> </ul>	30 Aug 2021

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Version	Originator	Description of Change(s) and Section Number(s) Affected	Justification for Change	Date
		<ul style="list-style-type: none"><li>• Corrected appendix numbering error (Appendix H was missing).</li><li>• Appendix I: Updated the Work Aid with glare source information and refined procedural steps.</li><li>• Appendix I added that includes Metropsis and glare specifics.</li><li>• Section 14.5 and 14.8: updated interim analysis language</li><li>• Updated to [REDACTED] Template v13.0</li><li>• Removed “Fellow Review” from Authorized Signatures section</li></ul>		

# Clinical Study Protocol

## Johnson & Johnson Vision Care, Inc.

### SYNOPSIS

Protocol Title	Visual performance of senofilcon A with and without a new UV/HEV-filter
Sponsor	JJVC, 7500 Centurion Parkway, Jacksonville, FL 32256
Clinical Phase	Clinical trial phase: feasibility Design control phase: confirmatory phase
Trial Registration	This study will be registered on ClinicalTrials.gov by the Sponsor
Test Article(s)	Investigational Products: Test lens: senofilcon A with a new ultraviolet (UV) and High Energy Visible (HEV) light filter. Approved Products: Control lens: ACUVUE OASYS 1-Day (AO1D) (senofilcon A without a new UV/HEV-filter)
Wear and Replacement Schedules	Wear Schedule: daily wear Replacement Schedule: daily (non-dispensing study)
Objectives	The intent of this study is to demonstrate that the Test lens provides visual benefits under conditions for which it was designed.  Primary Objectives: The primary objective is to evaluate the visual performance characteristics of a new HEV-filter under conditions of an HEV-rich ecologically-valid light source.
Study Endpoints	Phase 1: <ul style="list-style-type: none"> <li>Primary endpoint(s): photopic and mesopic contrast sensitivity with and without glare.</li> </ul> Phase 2: <ul style="list-style-type: none"> <li>Primary endpoint(s): Photopic resolution acuity</li> <li>Secondary endpoint(s): Mesopic contrast sensitivity, photopic contrast sensitivity</li> <li>All primary and secondary endpoints will be assessed in the presence of an ecologically-valid broadband light source that emulates natural sunlight in spectral content across the visible spectrum.</li> </ul>

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Study Design	<p>This study will occur in two non-dispensing phases:</p> <p>Phase 1:</p> <ul style="list-style-type: none"> <li>○ Approximately 20 subjects will be used to help ensure that the intensity of the glare source reduces the mean contrast sensitivity about 0.1 log units at 6 cpd (ANSI Z80.12 – 2007) under both photopic and mesopic conditions. This phase is a non-dispensing, non-randomized, controlled evaluation where subjects will wear their habitual contact lenses during testing. Subjects will be enrolled for approximately 1 hour.</li> </ul> <p>Phase 2:</p> <ul style="list-style-type: none"> <li>○ Approximately 60 different subjects will be used to evaluate the primary and secondary hypotheses of the study. This phase is a contralateral, non-dispensing, randomized, controlled, double-masked, study. Each subject will be contralaterally fitted with the two study articles during the single wearing period. Subjects will be enrolled for approximately 3 hours.</li> </ul> <p>See the flow chart at the end of the synopsis table for the schematic of the study visits and procedures of main observations (Figure 1).</p>
Sample Size	<p>Phase 1:</p> <ul style="list-style-type: none"> <li>○ Up to 24 subjects will be enrolled to help ensure that 20 subjects complete phase 1 as cohort.</li> </ul> <p>Phase 2:</p> <ul style="list-style-type: none"> <li>○ Up to 66 subjects will be enrolled to help ensure that 60 subjects complete phase 2 as cohort.</li> </ul>
Study Duration	<p>Phase 1:</p> <ul style="list-style-type: none"> <li>○ The enrollment period will last approximately 1 week.</li> </ul> <p>Phase 2:</p> <ul style="list-style-type: none"> <li>○ The enrollment period will last approximately 8 weeks.</li> </ul> <p>There will be an approximately one week pause between phase 1 and phase 2 for an interim analyses. Since this is a single-visit, non-dispensing study, the entire study duration (phase 1 + interim analysis + phase 2) will last approximately 10 weeks.</p>

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Anticipated Study Population	<p>Subjects must be habitual wearers of silicone hydrogel contact lenses worn on a daily wear basis. Subjects can be of any gender, race, and ethnicity that meet the eligibility criteria. Subjects enrolling in phase 1 or phase 2 will largely have the same eligibility criteria except where noted.</p> <p>Subjects who participate in phase 1 of the study will not participate in phase 2 of the study.</p>
Eligibility Criteria – Inclusion – PHASE 1	<p><b>Phase 1 Inclusion Criteria</b></p> <p>Potential subjects must satisfy all of the following criteria to be enrolled in the study:</p> <p>Inclusion Criteria following Screening</p> <p>The subject must:</p> <ol style="list-style-type: none"> <li>1. Read, understand, and sign the STATEMENT OF INFORMED CONSENT and receive a fully executed copy of the form.</li> <li>2. Appear able and willing to adhere to the instructions set forth in this clinical protocol.</li> <li>3. Be between 18-39 (inclusive) years of age at the time of screening.</li> <li>4. By self-report, habitually wear spherical silicone hydrogel soft contact lenses in both eyes in a daily reusable or daily disposable wear modality (i.e. not extended wear modality). Habitual wear is defined as a minimum of 6 hours of wear per day, for a minimum of 5 days per week during the past 30 days.</li> <li>5. Possess a wearable pair of spectacles that provide correction for distance vision.</li> <li>6. Habitual spherical contact lens powers must be between -1.00 D and -6.00 D (inclusive) in each eye.</li> </ol> <p>Inclusion Criteria following Baseline Evaluation</p> <ol style="list-style-type: none"> <li>7. Habitual contact lenses must provide at least 20/20 acuity OD and OS</li> </ol>

# Clinical Study Protocol

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<p>Eligibility Criteria – Inclusion – PHASE 2</p>	<p><b>Phase 2 Inclusion Criteria</b> Potential subjects must satisfy all of the following criteria to be enrolled in the study:</p> <p>Inclusion Criteria following Screening The subject must:</p> <ol style="list-style-type: none"> <li>1. Read, understand, and sign the STATEMENT OF INFORMED CONSENT and receive a fully executed copy of the form.</li> <li>2. Appear able and willing to adhere to the instructions set forth in this clinical protocol.</li> <li>3. Be between 18 and 70 (inclusive) years of age at the time of screening.</li> <li>4. By self-report, habitually wear spherical silicone hydrogel soft contact lenses in both eyes in a daily reusable or daily disposable wear modality (i.e. not extended wear modality). Habitual wear is defined as a minimum of 6 hours of wear per day, for a minimum of 5 days per week during the past 30 days.</li> <li>5. Possess a wearable pair of spectacles that provide correction for distance vision.</li> </ol> <p>Inclusion Criteria following Baseline Evaluation</p> <ol style="list-style-type: none"> <li>6. The spherical equivalent of the subject's vertex-corrected distance refraction must be between -1.00 D and -6.00 D (inclusive) in each eye.</li> <li>7. The magnitude of the cylindrical component of the subject's vertex-corrected distance refraction must be between 0.00 D and 1.00 D (inclusive) in each eye.</li> <li>8. The best corrected, monocular, distance visual acuity must be 20/25 or better in each eye.</li> </ol>
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<p>Eligibility Criteria – Exclusion – PHASE 1</p>	<p><b>Phase 1 Exclusion Criteria</b></p> <p>Potential subjects who meet any of the following criteria will be excluded from participating in the study:</p> <p>Exclusion Criteria following Screening</p> <p>The subject must not:</p> <ol style="list-style-type: none"> <li>1. Be currently pregnant or lactating.</li> <li>2. Be currently using any ocular medications or have any ocular infection of any type.</li> <li>3. By self-report, have any ocular or systemic disease, allergies, infection, or use of medication that might contraindicate or interfere with contact lens wear, or otherwise compromise study endpoints, including infectious disease (e.g., hepatitis, tuberculosis), contagious immunosuppressive disease (e.g., Human Immunodeficiency Virus [HIV]), autoimmune disease (e.g. rheumatoid arthritis, Sjögren’s syndrome), or history of serious mental illness or seizures. See section 9.1 for additional details regarding excluded systemic medications.</li> <li>4. Have habitually worn rigid gas permeable (RGP) lenses, orthokeratology lenses, or hybrid lenses (e.g. SynergEyes, SoftPerm) within the past 6 months.</li> <li>5. Be currently wearing monovision or multifocal contact lenses.</li> <li>6. Be currently wearing lenses in an extended wear modality.</li> <li>7. Have participated in a contact lens or lens care product clinical trial within 30 days prior to study enrollment.</li> <li>8. Be an employee (e.g., Investigator, Coordinator, Technician) or immediate family member of an employee (including partner, child, parent, grandparent, grandchild or sibling of the employee or their spouse) of the clinical site.</li> </ol> <p>Exclusion Criteria following Baseline Evaluation</p> <p>The subject must not:</p> <ol style="list-style-type: none"> <li>9. Have clinically significant (grade 3 or higher on the FDA grading scale) slit lamp findings (e.g., corneal edema, neovascularization or staining, tarsal abnormalities or bulbar injection) or other corneal or ocular disease or abnormalities that contraindicate contact lens wear or may otherwise compromise study endpoints (including entropion, ectropion, chalazia, recurrent stytes, glaucoma, history of recurrent corneal</li> </ol>
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	<p>erosions, aphakia, moderate or above corneal distortion, herpetic keratitis).</p> <p>10. Have a history of strabismus or amblyopia.</p> <p>11. Have fluctuations in vision due to clinically significant dry eye or other ocular conditions.</p> <p>12. Have had any ocular or intraocular surgery (e.g., radial keratotomy, PRK, LASIK, iridotomy, retinal laser photocoagulation, etc.).</p> <p>13. Have signs of a contact lens-related corneal inflammatory event (e.g., past peripheral ulcer or round peripheral scar).</p> <p>14. Have a history of eyelid injury, surgery or procedure that resulted in abnormal eyelid position or movement.</p>
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<p>Eligibility Criteria – Exclusion – PHASE 2</p>	<p><b>Phase 2 Exclusion Criteria</b> Potential subjects who meet any of the following criteria will be excluded from participating in the study:</p> <p>Exclusion Criteria following Screening The subject must not:</p> <ol style="list-style-type: none"> <li>1. Be currently pregnant or lactating.</li> <li>2. Be currently using any ocular medications or have any ocular infection of any type.</li> <li>3. By self-report, have any ocular or systemic disease, allergies, infection, or use of medication that might contraindicate or interfere with contact lens wear, or otherwise compromise study endpoints, including infectious disease (e.g., hepatitis, tuberculosis), contagious immunosuppressive disease (e.g., Human Immunodeficiency Virus [HIV]), autoimmune disease (e.g. rheumatoid arthritis, Sjögren’s syndrome), or history of serious mental illness or seizures. See section 9.1 for additional details regarding excluded systemic medications.</li> <li>4. Have habitually worn rigid gas permeable (RGP) lenses, orthokeratology lenses, or hybrid lenses (e.g. SynergEyes, SoftPerm) within the past 6 months.</li> <li>5. Be currently wearing monovision or multifocal contact lenses.</li> <li>6. Be currently wearing lenses in an extended wear modality.</li> <li>7. Have participated in a contact lens or lens care product clinical trial within 30 days prior to study enrollment.</li> <li>8. Be an employee (e.g., Investigator, Coordinator, Technician) or immediate family member of an employee (including partner, child, parent, grandparent, grandchild or sibling of the employee or their spouse) of the clinical site.</li> </ol> <p>Exclusion Criteria following Baseline Evaluation The subject must not:</p> <ol style="list-style-type: none"> <li>9. Have clinically significant (grade 3 or higher on the FDA grading scale) slit lamp findings (e.g., corneal edema, neovascularization or staining, tarsal abnormalities or bulbar injection) or other corneal or ocular disease or abnormalities that contraindicate contact lens wear or may otherwise compromise study endpoints (including entropion, ectropion, chalazia, recurrent styes, glaucoma, history of recurrent corneal</li> </ol>
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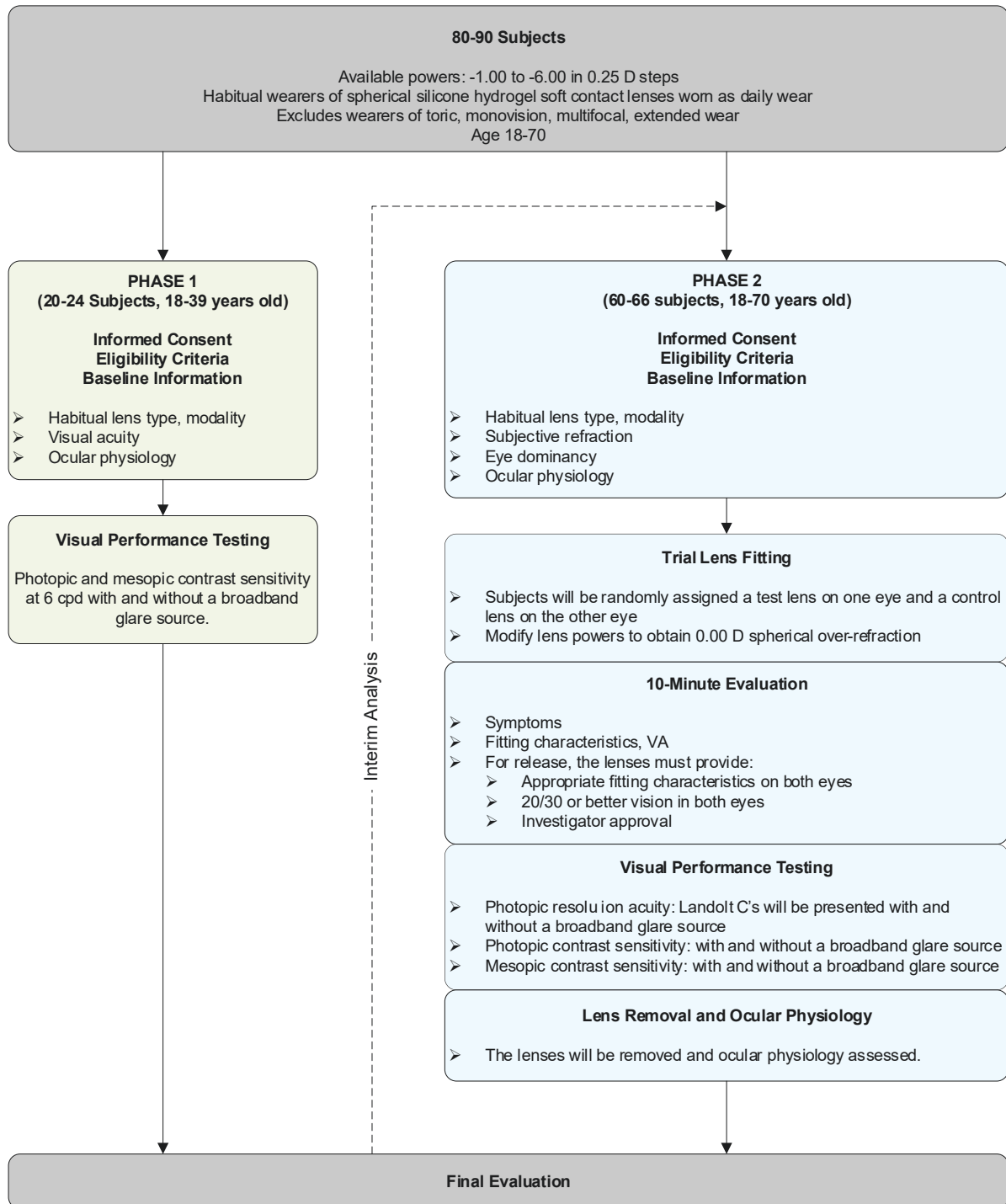
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	<p>erosions, aphakia, moderate or above corneal distortion, herpetic keratitis).</p> <p>10. Have a history of strabismus or amblyopia.</p> <p>11. Have fluctuations in vision due to clinically significant dry eye or other ocular conditions.</p> <p>12. Have had any ocular or intraocular surgery (e.g., radial keratotomy, PRK, LASIK, iridotomy, retinal laser photocoagulation, etc.).</p> <p>13. Have signs of a contact lens-related corneal inflammatory event (e.g., past peripheral ulcer or round peripheral scar).</p> <p>14. Have a history of eyelid injury, surgery or procedure that resulted in abnormal eyelid position or movement.</p>
Disallowed Medications/Interventions	<p>Subjects taking any ocular medication will not be allowed to participate.</p> <p>See section 9.1 for details regarding disallowed systemic medications.</p>
Measurements and Procedures	<p>All measurements will be taken with and without an ecologically-valid glare source. The measurements for phase 1 will include photopic and mesopic contrast sensitivity. The measurements for phase 2 will include photopic and mesopic contrast sensitivity and photopic resolution acuity.</p>
Microbiology or Other Laboratory Testing	<p>None</p>
Study Termination	<p>The occurrence of an Unanticipated Adverse Device Effect (UADE) or Serious Adverse Event (SAE) for which a causal relationship to a test article cannot be ruled out, will result in stopping further dispensing investigational product. In the event of a UADE or SAE, the Sponsor Medical Monitor may unmask the treatment regimen of subject(s) and may discuss this with the Principal Investigator before any further subjects are enrolled.</p>
Ancillary Supplies/ Study-Specific Materials	<p>Cambridge Research System Metropsis software will be used for clinical measurements. In addition, an ecologically-valid broadband glare source that emulates natural sunlight in spectral content across the visible spectrum will be used. RevitaLens will be used to return any problematic lenses to the Sponsor.</p>
Principal Investigator(s) and Study Institution(s)/Site(s)	<p>A full list of Principal Investigators, clinical sites, and institutions is kept separately from the Study Protocol and is included in the study Trial Master File.</p>

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Figure 1: Study Flowchart



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### **COMMONLY USED ABBREVIATIONS, ACRONYMS AND DEFINITIONS OF TERMS**

ADE	Adverse Device Effect
ADHD	Attention Deficit Hyperactivity Disorder
AE	Adverse Event/Adverse Experience
AO1D	ACUVUE OASYS 1-Day
BSCVA	Best Spectacle Corrected Visual Acuity
CFR	Code of Federal Regulations
CLUE	Contact Lens User Experience
COM	Clinical Operations Manager
CRA	Clinical Research Associate
CRF	Case Report Form
CRO	Contract Research Organization
CSF	Contrast Sensitivity Function
	
D	Diopter
DMC	Data Monitoring Committee
eCRF	Electronic Case Report Form
EDC	Electronic Data Capture
FDA	Food and Drug Administration
GCP	Good Clinical Practice
HEV	High Energy Visible light
HIPAA	Health Insurance Portability and Accountability Act
HIV	Human Immunodeficiency Virus
IB	Investigator's Brochure
ICH	The International Council for Harmonization
IEC	Independent Ethics Committee
IRB	Institutional Review Board
ISO	International Organization for Standardization
ITT	Intent-to-Treat
JJVC	Johnson & Johnson Vision Care, Inc.
LASIK	Laser-Assisted in Situ Keratomileusis
LED	Light-Emitting Diode
OD	Right Eye
OS	Left Eye
OU	Both Eyes
PIG	Patient Instruction Guide
PQC	Product Quality Complaint
PRK	Photorefractive Keratectomy
PRO	Patient Reported Outcome
QA	Quality Assurance
SAE	Serious Adverse Event/Serious Adverse Experience
SAP	Statistical Analysis Plan
SAS	Statistical Analysis System
SD	Standard Deviation

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UADE	Unanticipated Adverse Device Effect
USADE	Unanticipated Serious Adverse Device Effect
UV	Ultraviolet radiation
VA	Visual Acuity

### 1. INTRODUCTION AND BACKGROUND

Energy from the sun supports almost all of life on planet earth. Earth exists in a “Goldilocks’ zone.” If we were any closer to the sun, we would overheat like Venus and if we were any farther from the sun, we would freeze like Mars. Discussions about global warming that could cause ecological collapse revolve around overall atmospheric temperatures that vary by just a few degrees. The biological response to light from the sun is similar. Light is both essential to our biology but in excess drives many deleterious effects especially to our most light responsive system. The visual system evolved to respond to light from about 380-780 nm but also evolved to carefully manage how those wavebands are processed by the visual system. One reason is that these wavelengths are not all equally capable of biological damage.

A wide body of diverse empirical data has shown that light from about 400-500 nm is the most damaging to retinal tissue because (1) it reaches the retina and is not significantly absorbed by anterior structures (2) it still retains enough energy to initiate photochemical damage (e.g., convert inert oxygen into reactive forms) and (3) fits the action spectrum of retinal photosensitizers (like lipofuscin).<sup>5-9</sup> Lipofuscin is thought to contribute to retinal maculopathies due to generation of singlet oxygen which is abundantly generated by exposure to light below 500 nm.<sup>10</sup> Collectively, this is shown in Figure 2 as the blue-light hazard function (ISO 8980-3). The terms blue-light hazard function and HEV largely involve the same wavelengths.<sup>11</sup>

Short-wave light is dominant in the atmosphere (e.g., blue skylight ) following Rayleigh’s simplified equation ( $Scatter \propto \frac{1}{\lambda^4}$ ). The danger, however, posed by HEV light to ocular tissue

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specifically is the foundation of many safety standards (e.g., ANSI Z80.3-2015, Z87.1-2015 or ISO-8980-3). Hence, the problem: how does a given species both take advantage of a plentiful source of light (e.g., to enhance color vision) while simultaneously obviating the damage from such an energetic source of radiation? A parallel problem exists. Short-wave light enhances visual performance, by for instance, expanding the range of color vision. HEV, however, simultaneously degrades visual performance because lenticular scatter is inversely proportional to wavelength (Figure 3)<sup>13,14</sup>

So how did visual systems adapt to both use HEV light but not have such light excessively degrade the visual signal or damage the system? The adaptive strategy, adopted across an extreme variety of species (particularly those that share a similar niche) appears to have been a strategic use of filtering. Such a strategy is not surprising. Plants have used screening pigments to moderate and adapt the effects of light for most of the history of the planet (starting with blue-green algae).<sup>15,16</sup> The amount of melanin in the human skin varies by distance from the equator and the resultant regular exposure to the sun (balancing protecting folic acid stores with the need to synthesize Vitamin D).<sup>17</sup> A number of species evolved yellow corneas (e.g., Prairie dogs, Perch) or yellow oil droplets (many species of bird) to modulate HEV light incident on their photoreceptors.<sup>18</sup>

One central feature of natural selection is, of course, fecundity. A trait is selected because it increases the probability of reproductive success. Protection is useful but often is incidental. Human yellow macular pigments, for example, likely did not evolve in the human eye to protect against developing macular degeneration which occurs late in life. Often evolutionary pressures manifest early. Of course, a very important driver would likely be the ability to see when young and fertile. Consequently, many evolutionary biologists have studied the immediate functional significance of intraocular filtering.<sup>19</sup> Walls and Judd (1933) first

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observed that there is a ubiquity of HEV filters throughout nature and they appear to serve several major functions that manifest throughout life: they improve image quality (e.g., reducing chromatic aberration); reduce glare disability and discomfort (“dazzle” often referred to as positive dysphotopsia); increase visual range (reduction of blue haze); and chromatic contrast.<sup>20</sup> Hundreds of studies have now confirmed (using a variety of experimental designs) that ocular filters (ranging from natural macular pigments to tinted contact lenses and cataract implants) serve these functions in human vision.<sup>21,22</sup>

Although there is wide agreement that strategic filtering improves visual performance under a wide variety of circumstances, why do some studies produce null results?

The key is that human biology evolved over millennia under real world (not artificial) conditions. In a field with few agreements, nutritional scientists widely agree that processed food is unhealthy and that eating a largely whole food plant-based diet is essential (i.e., the dietary conditions under which we evolved). Visual performance is often tested under largely contrived and artificial achromatic conditions. If, as the evidence overwhelmingly suggests, HEV filtering helps reduce glare issues or reduce the deleterious effects of blue haze, it certainly cannot do that if the stimulus (unlike the real world) contains very little short-wave light (Figure 4).



Note that most of the “artificial sources” shown have very little short-wave energy. Normal daylight (Figure 4, top left) has a correlated color temperature (CCT) of about 6000-6500K. The north sky, however, has a CCT of 10,000K (which means the HEV component dramatically increases). Often glare devices use fluorescents, halogens or tungsten light,

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however, which contains very little or no HEV light. For example, the CSV 1000 uses halogen side-mounted bulbs to test contrast sensitivity under glare conditions. Wall charts like the Pelli-Robson, Regan or Bailey-Lovie use ambient illumination most often from fluorescents, etc.

This is the primary reason why classic measures of visual function in the clinic are poor predictors of visual performance under real world conditions.<sup>24</sup> For example, Owsley et al 1987 argued that traditional measures of acuity and CSF only explain about a third of the variance in real world vision (and that much only when age, a significant covariate, was added).<sup>25</sup>

So, how can we do better?


The key is to measure variables such as CSF and acuity is to measure them under conditions that more closely resemble the conditions that we are trying to predict. Our plan would be to measure CSF and acuity with glare (at photopic and low-light, mesopic, levels) under lighting conditions designed to closely match the spectrum of everyday life, e.g., real daylight. Natural HEV light is also consistently experienced indoors throughout the day since most residential windows transmit 56-90% visible light while most commercial windows transmit 13-58%.<sup>26</sup> Based on our past studies using a variety of dependent measures, we predict that an HEV-absorbing contact lens will show a benefit compared to a standard transparent contact lens.

We will achieve this objective through two aims:


1. Use an ecologically-valid light (glare) source with the Metropsis visual function assessment system (Cambridge Research Systems, Rochester ME2 4BH, United Kingdom). The standard glare source of the Metropsis system emits wavelengths similar to a white LED (Figure 4 top right), and thus is not appropriate for testing the HEV-filtering properties of the Test lens. The light source for this study will be an annular ring placed between the subject and the Metropsis screen (Figure 5, Figure 6).<sup>27</sup> The glare source and its approximate intensity at the plane of the eye are calculated safe for use based on ANSI Z136.1 – 2014 ( ).<sup>28</sup> Specifically, the glare source can be used up to 350 minutes of photopic contrast testing and up to 150 minutes of photopic resolution acuity testing during a single experimental day.

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The light itself will be generated by a xenon source with a neutral density wedge to control intensity and chromatic filters to create the spectrum. The emitted wavelengths will mimic mid-day sunlight, while the intensity of the light source will achieve both an approximate 0.1 average log unit reduction in achromatic contrast sensitivity at 6 cpd and be safe for the subject during testing. The Metropsis system is well-accepted in the ophthalmic community (Figure 7, Appendix E). Further information about the Metropsis system and its intended use in this study can be found in the Work Aid.



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1. Within-subject evaluation of the impact of an HEV-absorbing contact lens compared to a standard transparent contact lens as assessed through CSF and acuity with and without a broadband glare source (n = 60).

Finally, the statement that “There is no accepted standardized method for glare testing” is largely true.<sup>29</sup> There are several ISO standards that mention glare (e.g., 9358:1194, 14490-6:2014, 12646:2008), several CIE documents (e.g., 17-22-098, 17-22-103, 146:2002), several IES documents (<https://www.ies.org/?s=Glare>), and multiple ANSI standards that mention glare (<https://webstore.ansi.org/Search/Find?in=1&st=glare>) and none of them mention how a glare source should be consistently incorporated into visual performance testing. How close should the glare source be to the target? How close should the glare source be to the eye? How many glare sources should there be? How bright should the glare sources be? What should the spectral emission of the glare sources be? These uncertainties inevitably lead to inconsistencies from instruments to instruments, and subsequently, from studies to studies. ANSI Z80.12-2007 helps to clarify by stating that a small pilot investigation of young adult subjects with normal corneas and normal vision may be necessary to determine the appropriate glare level to reduce the mean contrast sensitivity by about 0.1 log units at 6 cpd.

The number of subjects that constitute “a small pilot” is debatable. The acceptable standard deviation that defines “about” 0.1 log units also unclear. Regardless, companies that manufacture glare testing instruments (e.g., M&S Technologies (Niles, IL, US), and Metropsis by Cambridge Research Systems (Rochester, UK)) have adopted this standard for all glare testing and this will be implemented in the study.<sup>30-33</sup>

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### **1.1. Name and Descriptions of Investigational Products**

Phase 1: Not applicable. Subjects will wear their habitual contact lenses.

Phase 2: This study will test one (1) Test senofilcon A design prototype containing a new UV/HEV-filter against one (1) Control commercially available marketed product (ACUVUE OASYS® 1-Day) which is also made from senofilcon A material but does not contain the new UV/HEV-filter.

### **1.2. Intended Use of Investigational Products**

Phase 1: Not applicable. Subjects will wear their habitual contact lenses.

Phase 2: The intended use of the investigative product is for correcting myopia and improving visual performance characteristics under applicable conditions. During phase 2 of the investigation, the study articles will be worn contralaterally in a daily wear, daily disposable modality for 2-3 hours.

### **1.3. Summary of Findings from Nonclinical Studies**

All previous pre-clinical findings were deemed satisfactory prior to proceeding with clinical trials on humans. For the most comprehensive nonclinical information regarding senofilcon A with new UV/HEV-filter, refer to the latest version of the Investigator's Brochure.<sup>34</sup>

### **1.4. Summary of Known Risks and Benefits to Human Subjects**

Phase 1:

- The risk / benefits of the subjects' habitual lenses are described in their corresponding patient instruction guide and package insert.

Phase 2:

- Benefits to the subjects include the correction of their refractive error with the potential of improved visual performance in HEV environments. The risks of wearing soft contact lenses are well known and are described in the Investigator's Brochure and Informed Consent. The material safety testing/lens release criteria was determined based on the Risk Assessment.

For the most comprehensive risk and benefit information regarding senofilcon A with new UV/HEV-filter, refer to the latest version of the Investigator's Brochure.<sup>34</sup>

### **1.5. Relevant Literature References and Prior Clinical Data Relevant to Proposed Clinical Study**

The new HEV-filter in the Test lens has been evaluated in two previous objective-based studies: [REDACTED] and [REDACTED]. In both studies, psychophysical evaluations were carried out on an optical breadboard system using a broadband light source that emulated sunlight in spectral content. These studies demonstrate that benefits of a HEV-filter can be seen when tested in an HEV-rich environment such as natural sunlight:

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1. [REDACTED] (n=60 cohort): when compared to a similar contact lens without the new UV/HEV filter, the Test lens demonstrated statistical superiority in the following metrics:
  - 2-point light threshold
  - Halo diameter
  - Starburst diameter
  - Disability glare
  - Discomfort glare
  - Chromatic contrast
2. [REDACTED] (n=58 cohort): when compared to a similar contact lens without the new UV/HEV filter (different control lens than [REDACTED]), the Test lens demonstrated statistical superiority in the following metrics:
  - 2-point light threshold
  - Halo diameter
  - Discomfort glare
  - Chromatic contrast
  - Photostress recovery

To further, many of the metrics noted above provide a reason to believe that the specific hypotheses of this study are obtainable. Mainly:

1. Improved contrast
  - In [REDACTED] and [REDACTED], disability glare (Figure 8, top) was measured by noting the intensity of a broadband light source needed to obscure a central grating target. The results from this study demonstrate that subjects can see a high contrast central grating target under HEV-rich conditions such as sunlight better with an HEV-filter.
  - In [REDACTED] and [REDACTED], heterochromatic contrast (Figure 8, bottom) was measured by noting the intensity of a 460 nm light source needed to obscure a 580 nm central grating target. The results demonstrate an improved ability to detect edges while wearing an HEV-filter.

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### 2. Improved acuity

- In [REDACTED] and [REDACTED], two-point light thresholds were measured by overlapping two points of broadband light and then slowly pulling them apart until the subject reports them as being distinctly separate (Figure 9).
- This is akin to the separation of Airy discs and thus a resolution task.<sup>35</sup> The results demonstrate that subjects can resolve an image under HEV-rich conditions better with an HEV-filter.

### 3. Improved low light vision

In [REDACTED] and [REDACTED], broadband light that emulated sunlight in spectral content was used to generate a point source of light. The halo and starburst diameters of that light were measured using precision calipers (Figure 10). The results demonstrate that positive dysphotopsia, which is most prevalent in dim illumination, can be improved with an HEV-filter.<sup>36-38</sup>

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Refer to the Investigator Brochure for additional information.<sup>34</sup>

## **2. STUDY OBJECTIVES, ENDPOINTS AND HYPOTHESES**

### **2.1. Objectives**

The intent of this study is to demonstrate that the Test lens provides visual benefits under conditions for which it was designed. All mentions of broadband glare, or just glare, are referring to an ecologically-valid light source that emulates sunlight in spectral content.

Phase 1:

1. Primary Objective(s):

- The primary objective is to help ensure that the glare source intensity will reduce mean contrast sensitivity by about 0.1 log units at 6 cpd (ANSI Z80.12-2007).

Phase 2:

1. Primary Objective(s):

- The primary objective is to evaluate the visual performance characteristics of a new HEV-filter under conditions where an ecologically-valid light source is present.

### **2.2. Endpoints**

Phase 1:

1. Primary Endpoint(s):

- Photopic (~120 cd/m<sup>2</sup>) contrast sensitivity at 6 cpd with and without a broadband glare source. Testing will include 8 reversals with the last 4 being averaged to provide the contrast threshold.
- Mesopic (~3 cd/m<sup>2</sup>) contrast sensitivity at 6 cpd with and without a broadband glare source. Testing will include 8 reversals with the last 4 being averaged to provide the contrast threshold.

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### Phase 2:

#### 1. Primary Endpoint(s):

- Resolution acuity using Landolt C's under bright light conditions (~120 cd/m<sup>2</sup>) with a broadband glare source. The photopic resolution acuity on arcminute scale will be converted to logMAR scale for the analysis purpose using  $\log\text{MAR} = \log_{10}(\text{arcminute})$ , see Statistical Analysis Section for more information (Section 14).

#### 2. Secondary Endpoint(s):

- Photopic contrast sensitivity under bright light conditions (~120 cd/m<sup>2</sup>) with a broadband glare source. Testing will include 8 reversals with the last 4 being averaged to provide the contrast threshold.
- Mesopic contrast sensitivity under dim light conditions ( $\leq 3$  cd/m<sup>2</sup>) with a broadband glare source. Testing will include 8 reversals with the last 4 being averaged to provide the contrast threshold.

### 2.3. Hypotheses

#### Phase 1:

The least-square means (LSM, i.e., adjusted means) of photopic contrast sensitivity and mesopic contrast sensitivity at 6 cpd will be estimated with 95% confidence interval separately under conditions with glare source and without glare source. The primary endpoints in phase 1 will not be statistically tested, and consequentially statistical interferences will not be made. Instead, the reduction in the estimated mean for photopic and mesopic contrast sensitivity due to the glare source will be compared against the criteria of 0.1 log (per ANSI Z80.12-2007). If the reduction in the estimated mean due to the glare source is about 0.1 log units, then it can be concluded that the glare light source is effective and the study can move to Phase 2.

#### Phase 2:

##### 1. Primary Hypothesis:

- The Test lens will provide improved photopic resolution acuity than the Control lens under conditions of a broadband glare source.

##### 2. Secondary Hypotheses

- The Test lens will provide improved photopic contrast sensitivity than the Control lens under conditions of a broadband glare source.
- The Test lens will provide improved mesopic contrast sensitivity under conditions of a broadband glare source.

Phase 2: The primary hypothesis must be met to satisfy the objective of the study. The secondary hypotheses will be evaluated only when the primary hypothesis is met. For both primary and secondary endpoints, in addition to the statistical testing, the model-based point estimate of mean difference will be evaluated against a predetermined clinically meaningful margin (0.05 logMAR for visual acuity and 0.06 log for both photopic and mesopic contrast sensitivity).

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### **3. TARGETED STUDY POPULATION**

#### **3.1. General Characteristics**

Subjects must be habitual wearers of silicone hydrogel contact lenses worn on a daily wear basis. Subjects can be of any gender, race, and ethnicity that meet the eligibility criteria. Subjects enrolling in phase 1 or phase 2 will largely have the same eligibility criteria except where noted.

Subject who participate in phase 1 of the study will not participate in phase 2 of the study.

#### **3.2. Inclusion Criteria**

##### **3.2.1. Phase 1 Inclusion Criteria**

Potential subjects must satisfy all of the following criteria to be enrolled in the study:

Inclusion Criteria following Screening

The subject must:

1. Read, understand, and sign the STATEMENT OF INFORMED CONSENT and receive a fully executed copy of the form.
2. Appear able and willing to adhere to the instructions set forth in this clinical protocol.
3. Be between 18-39 (inclusive) years of age at the time of screening.
4. By self-report, habitually wear spherical silicone hydrogel soft contact lenses in both eyes in a daily reusable or daily disposable wear modality (i.e. not extended wear modality). Habitual wear is defined as a minimum of 6 hours of wear per day, for a minimum of 5 days per week during the past 30 days.
5. Possess a wearable pair of spectacles that provide correction for distance vision.
6. Habitual spherical contact lens powers must be between -1.00 D and -6.00 D (inclusive) in each eye.

Inclusion Criteria following Baseline Evaluation

7. Habitual contact lenses must provide at least 20/20 acuity OD and OS

##### **3.2.2. Phase 2 Inclusion Criteria**

Potential subjects must satisfy all of the following criteria to be enrolled in the study:

Inclusion Criteria following Screening

The subject must:

1. Read, understand, and sign the STATEMENT OF INFORMED CONSENT and receive a fully executed copy of the form.
2. Appear able and willing to adhere to the instructions set forth in this clinical protocol.
3. Be between 18 and 70 (inclusive) years of age at the time of screening.
4. By self-report, habitually wear spherical silicone hydrogel soft contact lenses in both eyes in a daily reusable or daily disposable wear modality (i.e. not extended wear

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modality). Habitual wear is defined as a minimum of 6 hours of wear per day, for a minimum of 5 days per week during the past 30 days.

5. Possess a wearable pair of spectacles that provide correction for distance vision.

### **Inclusion Criteria following Baseline Evaluation**

6. The spherical equivalent of the subject's vertex-corrected distance refraction must be between -1.00 D and -6.00 D (inclusive) in each eye.
7. The magnitude of the cylindrical component of the subject's vertex-corrected distance refraction must be between 0.00 D and 1.00 D (inclusive) in each eye.
8. The best corrected, monocular, distance visual acuity must be 20/25 or better in each eye.

### **3.3. Exclusion Criteria**

#### **3.3.1. Phase 1 Exclusion Criteria**

Potential subjects who meet any of the following criteria will be excluded from participating in the study:

#### **Exclusion Criteria following Screening**

The subject must not:

1. Be currently pregnant or lactating.
2. Be currently using any ocular medications or have any ocular infection of any type.
3. By self-report, have any ocular or systemic disease, allergies, infection, or use of medication that might contraindicate or interfere with contact lens wear, or otherwise compromise study endpoints, including infectious disease (e.g., hepatitis, tuberculosis), contagious immunosuppressive disease (e.g., Human Immunodeficiency Virus [HIV]), autoimmune disease (e.g. rheumatoid arthritis, Sjögren's syndrome), or history of serious mental illness or seizures. See section 9.1 for additional details regarding excluded systemic medications.
4. Have habitually worn rigid gas permeable (RGP) lenses, orthokeratology lenses, or hybrid lenses (e.g. SynergEyes, SoftPerm) within the past 6 months.
5. Be currently wearing monovision or multifocal contact lenses.
6. Be currently wearing lenses in an extended wear modality.
7. Have participated in a contact lens or lens care product clinical trial within 30 days prior to study enrollment.
8. Be an employee (e.g., Investigator, Coordinator, Technician) or immediate family member of an employee (including partner, child, parent, grandparent, grandchild or sibling of the employee or their spouse) of the clinical site.

#### **Exclusion Criteria following Baseline Evaluation**

The subject must not:

9. Have clinically significant (grade 3 or higher on the FDA grading scale) slit lamp findings (e.g., corneal edema, neovascularization or staining, tarsal abnormalities or bulbar injection) or other corneal or ocular disease or abnormalities that contraindicate contact lens wear or may otherwise compromise study endpoints (including entropion,

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ectropion, chalazia, recurrent styes, glaucoma, history of recurrent corneal erosions, aphakia, moderate or above corneal distortion, herpetic keratitis).

10. Have a history of strabismus or amblyopia.
11. Have fluctuations in vision due to clinically significant dry eye or other ocular conditions.
12. Have had any ocular or intraocular surgery (e.g., radial keratotomy, PRK, LASIK, iridotomy, retinal laser photocoagulation, etc.).
13. Have signs of a contact lens-related corneal inflammatory event (e.g., past peripheral ulcer or round peripheral scar).
14. Have a history of eyelid injury, surgery or procedure that resulted in abnormal eyelid position or movement.

### 3.3.2. Phase 2 Exclusion Criteria

Potential subjects who meet any of the following criteria will be excluded from participating in the study:

Exclusion Criteria following Screening

The subject must not:

1. Be currently pregnant or lactating.
2. Be currently using any ocular medications or have any ocular infection of any type.
3. By self-report, have any ocular or systemic disease, allergies, infection, or use of medication that might contraindicate or interfere with contact lens wear, or otherwise compromise study endpoints, including infectious disease (e.g., hepatitis, tuberculosis), contagious immunosuppressive disease (e.g., Human Immunodeficiency Virus [HIV]), autoimmune disease (e.g. rheumatoid arthritis, Sjögren's syndrome), or history of serious mental illness or seizures. See section 9.1 for additional details regarding excluded systemic medications.
4. Have habitually worn rigid gas permeable (RGP) lenses, orthokeratology lenses, or hybrid lenses (e.g. SynergEyes, SoftPerm) within the past 6 months.
5. Be currently wearing monovision or multifocal contact lenses.
6. Be currently wearing lenses in an extended wear modality.
7. Have participated in a contact lens or lens care product clinical trial within 30 days prior to study enrollment.
8. Be an employee (e.g., Investigator, Coordinator, Technician) or immediate family member of an employee (including partner, child, parent, grandparent, grandchild or sibling of the employee or their spouse) of the clinical site.

Exclusion Criteria following Baseline Evaluation

The subject must not:

9. Have clinically significant (grade 3 or higher on the FDA grading scale) slit lamp findings (e.g., corneal edema, neovascularization or staining, tarsal abnormalities or bulbar injection) or other corneal or ocular disease or abnormalities that contraindicate contact lens wear or may otherwise compromise study endpoints (including entropion, ectropion, chalazia, recurrent styes, glaucoma, history of recurrent corneal erosions, aphakia, moderate or above corneal distortion, herpetic keratitis).

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10. Have a history of strabismus or amblyopia.
11. Have fluctuations in vision due to clinically significant dry eye or other ocular conditions.
12. Have had any ocular or intraocular surgery (e.g., radial keratotomy, PRK, LASIK, iridotomy, retinal laser photocoagulation, etc.).
13. Have signs of a contact lens-related corneal inflammatory event (e.g., past peripheral ulcer or round peripheral scar).
14. Have a history of eyelid injury, surgery or procedure that resulted in abnormal eyelid position or movement.

### **3.4. Enrollment Strategy**

Study subjects will be recruited from the Institution/clinical site's subject database and/or utilizing Independent Ethics Committee (IEC) or Institutional Review Board (IRB) approved materials.

## **4. STUDY DESIGN AND RATIONALE**

### **4.1. Description of Study Design**

Phase 1: This is a non-randomized, non-masked, non-dispensing study where subjects will wear their own contact lenses for approximately 1 hour.

Phase 2: This is a controlled, randomized, double-masked, contralateral (Test/Control or Control/Test), non-dispensing study where the study lenses will be worn in a daily wear modality for approximately 3 hours. Subjects will not have access to the study lenses at the conclusion of their visit.

### **4.2. Study Design Rationale**

Phase 1: This study phase is to help ensure that the intensity of the glare source is efficacious and satisfies ANSI Z80.12-2007. Subjects will wear their own contact lenses and be tested unilaterally.

Phase 2: This study phase will be executed using a contralateral design. There are several benefits to this choice of design. First, a contralateral design will allow us to compare performance within the same individual, ostensibly with the same baseline light sensitivity by eye. Second, other subject factors that can influence visual performance, such as iris color and absorption of test lights via macular pigment, are better controlled using this design. Third, in psychophysical testing, which is the gold standard for many of the visual functions being tested, participants make judgments about some event threshold, such as when an image disappears. Participants may have different criteria for threshold events that are internally consistent *within* subjects but can vary *between* subjects. A contralateral design allows the investigational lens to be compared within subjects, with consistent criteria for threshold events. Sufficient time will be taken between measures to reduce any potential bias, as follows:

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### **4.3. Enrollment Target and Study Duration**

Phase 1: This phase of the study will enroll up to 24 subjects with the intent of completing 20. This will be conducted at 1 clinical site. A subject will be considered enrolled upon signing of the informed consent form. All subjects will be in the age range 18-39 in accordance with ANSI Z80.12-2007. There will be 1 visit in total per subject lasting approximately one hour. Enrollment period is approximately one week.

Phase 2: This phase of the study will have an enrollment target of 66 subjects, with a goal of at least 60 to complete. The subjects in phase 2 will not include the subjects from phase 1. The study will be conducted at 1 clinical site (same site as phase 1). A subject will be considered enrolled upon signing of the informed consent form. Approximately 30 subjects (+/- 5) will be in the age range 18-39, with the remainder comprising the 40-70 year old group. There will be 1 visit in total per subject. Total duration of phase 2 is expected to be approximately 8 weeks.

Total study duration (phase 1 + interim analysis + phase 2) is expected to last about 10 weeks. Subjects who are discontinued prior to the final evaluation may be replaced at the discretion of the study sponsor. The investigation will end at the time that the study data is hard locked.

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### **5. TEST ARTICLE ALLOCATION AND MASKING**

#### **5.1. Test Article Allocation**

Phase 1: Not Applicable. Subjects are wearing their habitual contact lenses.

Phase 2: Use of the test articles will be randomized using a lens fitting schedule supplied by the study biostatistician. The clinical site will follow the lens fitting schedule provided and will complete enrollment according to the randomization list and will not pre-select or pre-assign subjects.

Randomly-permuted block randomization will be used to avoid bias in the assignment of subjects to treatment and to enhance the validity of statistical comparisons across treatment groups. Subjects, in blocks of two, will be randomized to either wear the Test lens in the left eye and the Control lens in the right eye or the Control lens in the left eye and the Test lens in the right eye. The order of the light sources is predetermined: visual performance will be assessed under the no broadband light source (without glare) condition first and then assessed under the broadband light source (with glare) condition. The same randomization scheme will be used for these two light sources. Under each light source condition, the right eye will always be tested first. Subjects will be stratified into one of two age groups (18-39 years old and 40-70 years old) using a 1:1 allocation ratio. The randomization scheme will be generated using the PROC PLAN procedure from Statistical Analysis System (SAS) Software Version 9.4 or higher (SAS Institute, Cary, NC).<sup>39</sup>

Randomization will be performed at phase 2 visit 1. The following must have occurred prior to randomization:

- Informed consent must have been obtained.
- The subject must have met all eligibility criteria.
- The subject's screening and baseline information must have been collected.

When releasing test articles for vision testing, the following steps should be followed to maintain randomization codes:

1. Investigator or designee (documented on the Delegation Log) will consult the lens fitting schedule to obtain the test article assignment for that subject prior to dispensing.
2. Investigator or designee will record the subject's number on the appropriate line of the lens fitting schedule.
3. Investigator or designee will pull the appropriate test articles from the study supply. All test articles that are opened, whether dispensed (placed/fit on eye or dispensed outside the clinical site) or not, must be recorded on the Test Article Accountability Log in the "Dispensed" section.

# Clinical Study Protocol

## Johnson & Johnson Vision Care, Inc.

### 5.2. Masking

Phase 1: Not Applicable. Subjects are wearing their habitual contact lenses.

Phase 2: This is a double-masked trial. Masking will be used to reduce potential bias. Subjects will be unaware of the identity of the investigational product. Investigators involved in the data collection of the endpoints will be masked as to the identity of the investigational product.

### 5.3. Procedures for Maintaining and Breaking the Masking

Every attempt will be made to keep the clinical trial personnel involved in the study (e.g. data management, biostatistician and clinical operations) unaware of the identity of the assigned study lenses. The identity of the study lenses will be masked by having the blister packs labeled with the study number, lot number, sphere power, expiration date and the randomization codes. Only the unmasked biostatistician generating the lens fitting schedule will have access to the decode information that allows matching of the randomization codes to the test articles. The medical monitor will also have access to the decode information in case breaking the mask is necessary for the urgent medical treatment of a subject.

Under normal circumstances, the mask should not be broken until all subjects have completed the study and the database is finalized. Otherwise, the mask should be broken only if specific emergency treatment/course of action would be dictated by knowing the treatment status of the subject. In such cases, the investigator may, in an emergency, contact the medical monitor. In the event the mask is broken, the sponsor must be informed as soon as possible. The date, time, and reason for the unmasking must be documented in the subject record. The investigator is also advised not to reveal the study treatment assignment to the clinical site or sponsor personnel.

Subjects who are discontinued will be replaced.

## 6. STUDY INTERVENTION

The following contact lenses will be used in Phase 2 of this study:

Table 2: Test Articles for Phase 2

	Test	Control
Name	TRP-200	AV OASYS 1-Day
Manufacturer	JJVC	JJVC
Lens Material	senofilcon A (C3)	senofilcon A (C3)
Nominal Base Curve @ 22°C	8.5	8.5
Nominal Diameter @ 22°C	14.3	14.3
Nominal Distance Powers (D)	-1.00 through -6.00	-1.00 through -6.00
Water Content ( <i>Optional</i> )	38	38
Center Thickness	0.085	0.085

# Clinical Study Protocol

## Johnson & Johnson Vision Care, Inc.

	Test	Control
Oxygen Permeability (Dk)	103	103
Wear Schedule in Current Study	Daily	Daily
Replacement Frequency	Daily	Daily
Packaging Form (vial, blister, etc.)	Blister	Blister
New UV/HEV-blocker	Yes	No

Approximately 40 lenses per stock keeping unit (SKU) will be provided based on 66 subjects, 1-period, contralateral, non-dispensing design, US population normalized for peak SKUs.

### 6.1. Ancillary Supplies/Products

The following solutions will be used in this study. RevitaLens may be used to temporarily store contact lenses prior to biomicroscopy or to return any lenses that are found or thought to have a defect.

Table 3: Ancillary Supplies for Phase 2

	Solutions			
Solution Name/Description	Acuvue™ RevitaLens Multipurpose Solution	Single use Eye-Cept® Rewetting Drops	LacriPure Saline Solution	ScleralFil Preservative Free Saline Solution
Manufacturer	Johnson & Johnson Vision	Optics Laboratory	Menicon	Bausch & Lomb
Preservative	alexidine dihydrochloride 0.00016% and polyquaternium-1 0.0003%	None	None	None

Lens cases and fluorescein strips (either 0.6 mg or 1.0 mg) will be supplied for use as needed.

### 6.2. Administration of Test Articles

Phase 2: Test articles will be dispensed to subjects meeting all eligibility requirements, including any dispensing requirements set forth in this clinical protocol. Subjects will be dispensed an adequate supply of test articles to complete the study. Lost or damaged test articles may be replaced at the discretion of the investigator and/or the sponsor.

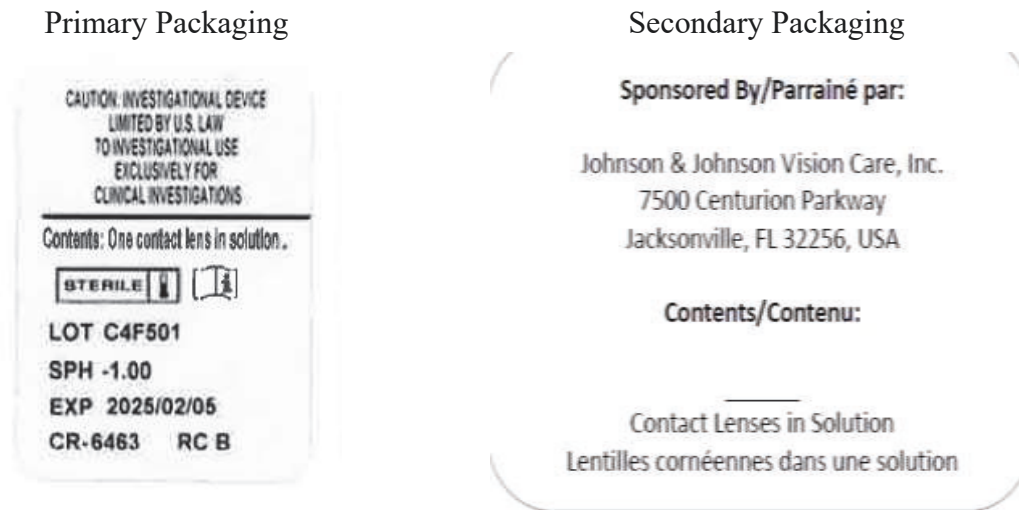
### 6.3. Packaging and Labeling

Phase 2: The study articles will be packaged in blisters as the primary packaging. The study article will be over-labeled to mask the subject and investigators to the identity of the lens. The study articles will be in plastic bags as the secondary packaging form. The sample study label is shown below (Figure 11).

# Clinical Study Protocol

## Johnson & Johnson Vision Care, Inc.

Figure 11: Representative image of the primary and secondary packaging for Phase 2.



### 6.4. Storage Conditions

Phase 2: Test articles will be maintained at ambient temperatures at the clinical site. Test articles must be kept under secure conditions.

### 6.5. Collection and Storage of Samples

No samples will be collected as part of the study procedures.

When possible for Phase 2, any lens or test article associated with an Adverse Event and/or a Product Quality Complaint must be retained and stored in a glass vial with moderate solution pending directions from the sponsor for potential return to JJVC.

### 6.6. Accountability of Test Articles

Phase 2: JJVC will provide the Investigator with sufficient quantities of study articles and supplies to complete the investigation. The Investigator is asked to retain all lens shipment documentation for the test article accountability records.

Test articles must be kept in a locked storage cabinet, accessible only to those assigned by the Investigator for dispensing. The Investigator may delegate this activity to authorized study site personnel listed on the Site Delegation Log. All test articles must be accounted. This includes:

1. What was dispensed for the subject for trial fitting, to wear out of the office, or issued for the subject to replace appropriately between visits.
2. What was returned to the Investigator unused, including expired or malfunctioning product.
3. The number and reason for unplanned replacements.

# Clinical Study Protocol

## Johnson & Johnson Vision Care, Inc.

The Investigator will collect all unused test articles from the subjects at the end of the subject's participation. Subject returned unused test articles must be separated from the clinical study inventory of un-dispensed test articles and must be labeled with the subject number and date of return. Following final reconciliation of test articles by the monitor, the Investigator or monitor will return all unused test articles to JJVC.

If there is a discrepancy between the shipment documents and the contents, contact the study monitor immediately.



## 7. STUDY EVALUATIONS

### 7.1. Time and Event Schedule

Table 4: Time and Events

Visit Information	PHASE 1 Visit 1 Screening, Baseline, Assessment Final Evaluation	PHASE 2 Visit 1 Screening, Baseline, Fitting / Assessment Final Evaluation
Time Point	Day 0	Day 0
Estimated Visit Duration	1.0 hours	3.0 hours
Statement of Informed Consent	X	X
Demographics	X	X
Medical History/Concomitant Medications	X	X
Habitual Contact Lens Information	X	X
Eligibility Following Screening	X	X
Entrance Visual Acuity	X	X
Subjective Sphero-Cylindrical Refraction and best-corrected VA		X
Eye Dominancy		X
Slit Lamp Biomicroscopy	X	X
Eligibility Following Baseline Evaluation	X	X
Lens Selection		X
Lens Insertion & Settling		X
Visual Acuity and Over Refraction		X
Lens Power Modification (if applicable)		X
Subject Reported Ocular Symptoms		X
Visual Acuity		X
General Fit Assessment		X

# Clinical Study Protocol

## Johnson & Johnson Vision Care, Inc.

Visit Information	PHASE 1 Visit 1 Screening, Baseline, Assessment Final Evaluation	PHASE 2 Visit 1 Screening, Baseline, Fitting / Assessment Final Evaluation
Time Point	Day 0	Day 0
Estimated Visit Duration	1.0 hours	3.0 hours
Vision Assessments: photopic and mesopic contrast sensitivity	X	
Vision Assessments: photopic and mesopic contrast sensitivity, photopic resolution acuity		X
Exit Snellen Distance Visual Acuity	X	X
Study Completion	X	X

### 7.2. Detailed Study Procedures

#### PHASE 1: VISIT 1

Subjects must enter the study wearing their habitual contact lenses.

Phase 1: Visit 1: Screening			
Step	Procedure	Details	
1.1	Statement of Informed Consent	Each subject must read, understand, and sign the Statement of Informed Consent before being enrolled into the study. The Principal Investigator or his/her designee conducting the informed consent discussion must also sign the consent form.  <b>Note:</b> The subject must be provided a signed copy of this document.	
1.2	Demographics	Record the subject's year of birth, age, gender, race and ethnicity.	
1.3	Medical History and Concomitant Medications	Record the subject's medical history and concomitant medications.	
1.4	Habitual Lenses	Record the subject's habitual lens type, parameters, lens care solution, wear modality, duration of lens wear, and approximate prescription date. The subject's spherical contact lens powers must be between -1.00 D and -6.00 D inclusive.	

# Clinical Study Protocol

## Johnson & Johnson Vision Care, Inc.

Phase 1: Visit 1: Screening			
Step	Procedure	Details	
1.5	Eligibility after Screening	<p>All responses to Screening Inclusion Criteria questions must be answered “yes” and all responses to Exclusion Criteria must be answered “no” for the subject to be considered eligible.</p> <p><i>If subject is deemed to be ineligible after screening, proceed to Final Evaluation and complete Subject Disposition. Refraction and Biomicroscopy forms do not need to be completed as part of Final Evaluation.</i></p>	

Phase 1: Visit 1: Baseline			
Step	Procedure	Details	
1.6	Entrance Visual Acuity	Record the distance Snellen visual acuity (OD, OS, and OU) to the nearest letter with their habitual contact lenses. Subjects must read the smallest line until at least 50% of the letters are read incorrectly. Subjects must demonstrate a minimum of 20/20 visual acuity OD and OS to continue.	
1.7	Temporary Lens Removal	The subjects habitual contact lenses will be removed and temporarily stored in a contact lens case with RevitaLens or saline.	
1.8	Slit Lamp Biomicroscopy	<p>FDA Slit Lamp Classification Scale will be used to grade the findings.</p> <p>If any of these slit lamp findings are grade 3 or higher, the subject may not continue at this time, but may return up to one additional time to determine eligibility. If discontinued a final examination must be completed.</p> <p>If the clearance of the fluorescein needs to be expedited, preservative-free rewetting drops or saline may be instilled.</p>	
1.9	Lens Reinsertion	The subject’s habitual contact lenses removed in step 1.7 will be reinserted.	

# Clinical Study Protocol

## Johnson & Johnson Vision Care, Inc.

Phase 1: Visit 1: Baseline			
Step	Procedure	Details	
1.10	Eligibility after Baseline	<p>All responses to Inclusion Criteria questions must be answered “yes” and all responses to Exclusion Criteria questions must be answered “no” for the subject to be considered eligible.</p> <p><i>If subject is deemed to be ineligible after baseline, proceed to Final Evaluation and complete Subject Disposition. Refraction and Biomicroscopy forms do not need to be completed as part of Final Evaluation.</i></p>	

# Clinical Study Protocol

## Johnson & Johnson Vision Care, Inc.

Phase 1: Visit 1: Assessments			
Step	Procedure	Details	
1.11	Visual Performance Testing Without Glare	<p>Visual performance testing will be performed using the Metropsis system OD in the following order. The left eye will be patched.</p> <p><u>Without glare OD:</u></p> <ol style="list-style-type: none"> <li>1. Photopic contrast sensitivity <ol style="list-style-type: none"> <li>A. Test distance: 1.5 m</li> <li>B. Screen luminance approximately 120 cd/m<sup>2</sup></li> <li>C. Ambient luminance must be dark with no lights or reflective surfaces within the general field of view of the target</li> <li>D. Spatial frequency: 6 cpd using a 2 degree Gabor stimulus. EDC to record: contrast threshold mean +/- SD for each spatial frequency. Range 0.0000 – 100.0000.</li> <li>E. Rest a minimum of 5 minutes before next test</li> </ol> </li> <li>2. Mesopic contrast sensitivity <ol style="list-style-type: none"> <li>A. Test distance: 1.5 m</li> <li>B. Screen luminance approximately 3 cd/m<sup>2</sup>. This will be achieved by placing neutral density films over the Metropsis monitor.</li> <li>C. Ambient luminance must be dark with no lights or reflective surfaces within the general field of view of the target</li> <li>D. Spatial frequency: 6 cpd using a 2 degree Gabor stimulus. EDC to record: contrast threshold mean +/- SD for each spatial frequency. Range 0.0000 – 100.0000.</li> <li>E. Rest a minimum of 2 minutes before next test</li> </ol> </li> </ol>	

# Clinical Study Protocol

## Johnson & Johnson Vision Care, Inc.

Phase 1: Visit 1: Assessments			
Step	Procedure	Details	
1.12	Visual Performance Testing With Glare	<p>Visual performance testing will be performed using the Metropsis system OD in the following order. The left eye will be patched. The spectral output and intensity of the broadband light source will be verified before each test. <b>Subjects recording an increase in contrast sensitivity with the glare source will be discontinued per ANSI Z80.12-2007.</b></p> <p><u>With glare OD:</u></p> <ol style="list-style-type: none"> <li>1. Photopic contrast sensitivity <ol style="list-style-type: none"> <li>A. Test distance: 1.5 m</li> <li>B. Screen luminance approximately 120 cd/m<sup>2</sup></li> <li>C. Ambient luminance must be dark with no lights or reflective surfaces within the general field of view of the target.</li> <li>D. Spatial frequency: 6 cpd using a 2 degree Gabor stimulus. EDC to record: contrast threshold mean +/- SD for each spatial frequency. Range 0.0000 – 100.0000.</li> <li>E. Rest a minimum of 5 minutes before next test</li> </ol> </li> <li>2. Mesopic contrast sensitivity <ol style="list-style-type: none"> <li>A. Test distance: 1.5 m</li> <li>B. Screen luminance approximately 3 cd/m<sup>2</sup></li> <li>C. Add a 0.52 log unit ND filter to glare source</li> <li>D. Ambient luminance must be dark with no lights or reflective surfaces within the general field of view of the target</li> <li>E. Spatial frequency: 6 cpd using a 2 degree Gabor stimulus. EDC to record: contrast threshold mean +/- SD for each spatial frequency. Range 0.0000 – 100.0000.</li> </ol> </li> </ol>	

# Clinical Study Protocol

## Johnson & Johnson Vision Care, Inc.

### PHASE 1: VISIT 1: Final Evaluation

The subject will complete the same Final Evaluation form as those subjects completing phase 2 of the study. Phase 1 subjects will need to temporarily remove their habitual contact lenses during the Final Evaluation slit lamp exam.

### PHASE 2: VISIT 1

The subjects must present to Phase 2: Visit 1 wearing spectacles, not having worn contact lenses on the day of the visit.

Phase 2: Visit 1: Screening			
Step	Procedure	Details	
1.13	Statement of Informed Consent	Each subject must read, understand, and sign the Statement of Informed Consent before being enrolled into the study. The Principal Investigator or his/her designee conducting the informed consent discussion must also sign the consent form.  <b>Note:</b> The subject must be provided a signed copy of this document.	
1.14	Demographics	Record the subject's year of birth, age, gender, race and ethnicity.	
1.15	Medical History and Concomitant Medications	Record the subject's medical history and concomitant medications.	
1.16	Habitual Lenses	Record the subject's habitual lens type, parameters, lens care solution, wear modality, duration of lens wear, and approximate prescription date.	
1.17	Eligibility after Screening	All responses to Screening Inclusion Criteria questions must be answered "yes" and all responses to Exclusion Criteria must be answered "no" for the subject to be considered eligible.  <i>If subject is deemed to be ineligible after screening, proceed to Final Evaluation and complete Subject Disposition. Refraction and Biomicroscopy forms do not need to be completed as part of Final Evaluation.</i>	

# Clinical Study Protocol

## Johnson & Johnson Vision Care, Inc.

Phase 2: Visit 1: Baseline			
Step	Procedure	Details	
1.18	Entrance Visual Acuity	Record the distance Snellen visual acuity (OD, OS, and OU) to the nearest letter with their habitual spectacle. Subjects must read the smallest line until at least 50% of the letters are read incorrectly.	
1.19	Subjective Sphero-cylindrical Refraction	Complete subjective spherocylindrical refraction and record the resultant distance visual acuity (OD, OS, and OU) to the nearest letter.	
1.20	Eye Dominancy	The investigator will determine eye dominancy of the subject by first using the +1.00 blur test. If this fails to determine dominancy, then the sighting test will be used.	
1.21	Slit Lamp Biomicroscopy	<p>FDA Slit Lamp Classification Scale will be used to grade the findings.</p> <p>If any of these slit lamp findings are grade 3 or higher, the subject may not continue at this time, but may return up to one additional time to determine eligibility. If discontinued a final examination must be completed.</p> <p>If the clearance of the fluorescein needs to be expedited, preservative-free rewetting drops or saline may be instilled.</p>	
1.22	Eligibility after Baseline	<p>All responses to Inclusion Criteria questions must be answered “yes” and all responses to Exclusion Criteria questions must be answered “no” for the subject to be considered eligible.</p> <p><i>If subject is deemed to be ineligible after baseline, proceed to Final Evaluation and complete Subject Disposition. Refraction and Biomicroscopy forms do not need to be completed as part of Final Evaluation.</i></p>	

# Clinical Study Protocol

## Johnson & Johnson Vision Care, Inc.

Phase 2: Visit 1: Treatment 1 Lens Fitting			
Step	Procedure	Details	
1.23	Lens Selection	Assign the study lens based on the randomization scheme provided by the biostatistician. Select the contact lens power [REDACTED] based on vertexed spherical equivalent from the refraction.	[REDACTED] [REDACTED] [REDACTED]
1.24	Lens Insertion	The Investigator or the subject inserts the study lenses. Record the time of lens insertion. Check for lens damage under the slit lamp before proceeding with lens settling. Replace damaged lenses if applicable. Ensure the subject is given a Patient Instruction Guide.	
1.25	Lens Settling	Allow the study lenses to settle for a minimum of 5 minutes.	
1.26	Subjective Best Sphere Over Refraction	Perform subjective best sphere refraction over the study lenses (adopt the maximum plus to maximum visual acuity (MPMVA) approach.	[REDACTED] [REDACTED]
1.27	Lens Power Modification (if applicable)	Adjust the lens power if the subject's best sphere over-refraction is not plano. For each power modification, select the adjusted fitting lens power as appropriate and repeat steps 1.12 through 1.14.  Up to two power modifications are allowed per eye.	
1.28	Subject Reported Ocular Symptoms	Subjects will respond to a verbal open-ended symptoms questionnaire.	[REDACTED]
1.29	Visual Acuity	Record the best corrected Snellen distance visual acuity to the nearest letter (OD and OS). Subjects must read the smallest line until at least 50% of the letters are read incorrectly. Visual acuity with the study contact lenses must be 20/30 or better OD and OS.	[REDACTED]

# Clinical Study Protocol

## Johnson & Johnson Vision Care, Inc.

Phase 2: Visit 1: Treatment 1 Lens Fitting			
Step	Procedure	Details	
1.30	General Lens Fit Assessment	<p>Evaluate lens centration, movement on blink, and push-up test for each eye.</p> <p>An unacceptable fit is deemed by one of the following criteria:</p> <ul style="list-style-type: none"> <li>• limbal exposure at primary gaze or with extreme eye movement.</li> <li>• edge lift.</li> <li>• excessive movement in primary and up gaze.</li> <li>• insufficient movement in all three of the following conditions: primary gaze, up gaze, and push-up test.</li> </ul> <p><b>Note:</b> if lens fit is unacceptable for either eye, the subject will be discontinued from the study.</p>	
1.31	Continuance	<p>For the subject to continue in the study, they must meet all three of the following criteria:</p> <ol style="list-style-type: none"> <li>1. Visual acuity is 20/30 or better OD and OS.</li> <li>2. The lens fit is acceptable OD and OS.</li> <li>3. Investigator approval.</li> </ol> <p>If the Investigator does not approve the study lens, then the study is terminated for that subject.</p>	
1.32	Lenses Worn in Clinic	<p>The lenses will be released for approximately two hours.</p> <ol style="list-style-type: none"> <li>1. The subjects must wear both study lenses the entire time.</li> <li>2. The lenses will be worn as daily wear only.</li> <li>3. Rewetting drops are permitted if needed.</li> </ol> <p><b>Note:</b> In the event a lens is lost or damaged, it will be replaced immediately.</p> <p><b>Note:</b> A clinic-only-wear Patient Instruction Guide will be provided.</p>	

# Clinical Study Protocol

## Johnson & Johnson Vision Care, Inc.

1.33	Visual Performance Testing Without Glare	<p>Visual performance testing will be performed using the Metropsis system OD and OS in the following order. The eye not being tested will be patched.</p> <p><u>Without glare OD:</u></p> <ol style="list-style-type: none"> <li>1. Photopic resolution acuity <ol style="list-style-type: none"> <li>A. Test distance: 4.0 m</li> <li>B. Screen luminance approximately 120 cd/m<sup>2</sup></li> <li>C. Ambient luminance must be dark with no lights or reflective surfaces within the general field of view of the target. EDC to record: Arcminute +/- SD. Range 0.2 - 60.0 arc minutes.</li> <li>D. Rest a minimum of 2 minutes before next test</li> </ol> </li> <li>2. Photopic contrast sensitivity <ol style="list-style-type: none"> <li>A. Test distance: 1.5 m</li> <li>B. Screen luminance approximately 120 cd/m<sup>2</sup></li> <li>C. Ambient luminance must be dark with no lights or reflective surfaces within the general field of view of the target</li> <li>D. Spatial frequencies 3, 6, 9, 12, 18 using a 2 degree Gabor stimulus. EDC to record: contrast threshold mean +/- SD for each spatial frequency. Range 0.0000 – 100.0000.</li> <li>E. Rest a minimum of 5 minutes before next test</li> </ol> </li> <li>3. Mesopic contrast sensitivity <ol style="list-style-type: none"> <li>A. Test distance: 1.5 m</li> <li>B. Screen luminance approximately 3 cd/m<sup>2</sup>. This will be achieved by placing neutral density films over the Metropsis monitor.</li> <li>C. Ambient luminance must be dark with no lights or reflective surfaces within the general field of view of the target</li> <li>D. Spatial frequencies 1.5, 3, 6, 9, 12 using a 2 degree Gabor stimulus. EDC to record: contrast threshold mean +/- SD for each spatial frequency. Range 0.0000 – 100.0000.</li> </ol> </li> </ol>	
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**Clinical Study Protocol**  
**Johnson & Johnson Vision Care, Inc.**

Phase 2: Visit 1: Treatment 1 Lens Fitting			
Step	Procedure	Details	
		E. Rest a minimum of 2 minutes before next test	
		<u>Without glare OS:</u> Steps 1-3 listed above will be repeated for the alternate eye.	

# Clinical Study Protocol

## Johnson & Johnson Vision Care, Inc.

1.34	Visual Performance Testing With Glare	<p>Visual performance testing will be performed using the Metropsis system OD and OS in the following order. The eye not being tested will be patched. The spectral output and intensity of the broadband light source will be verified before each test.</p> <p><u>With glare OD:</u></p> <ol style="list-style-type: none"> <li>1. Photopic resolution acuity <ol style="list-style-type: none"> <li>A. Test distance: 4.0 m</li> <li>B. Screen luminance approximately 120 cd/m<sup>2</sup></li> <li>C. Ambient luminance must be dark with no lights or reflective surfaces within the general field of view of the target. EDC to record: Arcminute +/- SD. Range 0.2 - 60.0 arc minutes.</li> <li>D. Rest a minimum of 2 minutes before next test</li> </ol> </li> <li>2. Photopic contrast sensitivity <ol style="list-style-type: none"> <li>A. Test distance: 1.5 m</li> <li>B. Screen luminance approximately 120 cd/m<sup>2</sup></li> <li>C. Ambient luminance must be dark with no lights or reflective surfaces within the general field of view of the target.</li> <li>D. Spatial frequencies 3, 6, 9, 12, 18 using a 2 degree Gabor stimulus. EDC to record: contrast threshold mean +/- SD for each spatial frequency. Range 0.0000 – 100.0000.</li> <li>E. Rest a minimum of 5 minutes before next test</li> </ol> </li> <li>3. Mesopic contrast sensitivity <ol style="list-style-type: none"> <li>A. Test distance: 1.5 m</li> <li>B. Screen luminance approximately 3 cd/m<sup>2</sup></li> <li>C. Add a 0.52 log unit ND filter to glare source</li> <li>D. Ambient luminance must be dark with no lights or reflective surfaces within the general field of view of the target</li> <li>E. Spatial frequencies 1.5, 3, 6, 9, 12 using a 2 degree Gabor stimulus. EDC to record: contrast threshold</li> </ol> </li> </ol>	
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# Clinical Study Protocol

## Johnson & Johnson Vision Care, Inc.

Phase 2: Visit 1: Treatment 1 Lens Fitting			
Step	Procedure	Details	
		<p>mean +/- SD for each spatial frequency. Range 0.0000 – 100.0000.</p> <p>F. Rest a minimum of 2 minutes before next test</p> <p><u>With glare OS:</u> Steps 1-3 listed above will be repeated for the alternate eye.</p>	
1.35	Lens Removal	The worn study lenses will be removed and discarded.	

### FINAL EVALUATION

The final evaluation will ordinarily take place immediately following the last scheduled procedure per the study protocol. It may also take place at any point the subject discontinues the study or is terminated from the study.

Final Evaluation			
Step	Procedure	Details	
F.1	Final Exam Form	Indicate if the subject completed the study successfully. If subject discontinued from the study, indicate the reason.	
F.2	Exit Slit Lamp Biomicroscopy	<p>FDA Slit Lamp Classification Scale will be used to grade the findings.</p> <p>If the clearance of the fluorescein needs to be expedited, preservative-free rewetting drops or saline may be instilled. This step is not necessary if the subject was exited due to screen failure.</p>	
F.3	Exit Visual Acuity	Record the distance Snellen visual acuity (OD, OS, and OU) to the nearest letter with their habitual correction in place. Subjects must read the smallest line until at least 50% of the letters are read incorrectly.	

### 7.3. Unscheduled Visits

If, during the investigation, a subject requires an unscheduled visit to the clinical site, the following information will be collected, as appropriate:

# Clinical Study Protocol

## Johnson & Johnson Vision Care, Inc.

- Chief complaint prompting the visit. If the reason is an adverse event, the applicable eCRF for the adverse event must be completed and subject record completed as appropriate.
- Date and time of the visit and all procedures completed at the unscheduled visit.
- Review of adverse event and concomitant medications.
- Documentation of any test article dispensed or collected from the subject, if applicable.
- Slit lamp findings (using the Slit Lamp Classification Scale).

If the Investigator withdraws a subject from the study, the final study visit case report forms must be completed indicating the reason(s) why the subject was withdrawn. The subject record must be completed documenting the date and primary reason for withdrawal and the study CRA notified.

Any ocular and non-ocular Adverse Events that are ongoing at the time of the study visit will be followed by the Investigator, within licensure, until they have resolved, returned to pre-treatment status, stabilized, or been satisfactorily explained. If further treatment i.e., beyond licensure is required, the subject will be referred to the appropriate health care provider.

The following information will be collected during an unscheduled visit.

Unscheduled Visit			
Step	Procedure	Details	
U.1	Reason for unscheduled visit	Indicate if the <u>only</u> reason for the visit is that the subject requires additional test articles. If the reason is other than resupply of previously dispensed lenses, specify the reason for the visit.	
U.2	Chief Complaints (if applicable)	Record the subject's chief complaints for reasons for the unscheduled visit.	
U.3	Adverse Events and Concomitant Medications Review (if applicable)	Review any changes to the subject's medical history or concomitant medications from the previous study visit. Record any changes, and any adverse events.	
U.4	Entrance VA (if applicable)	Record the entrance distance visual acuity (OD, OS, and OU) to the nearest letter.	
U.5	Subjective Sphero-cylindrical Refraction (if applicable)	Perform bare-eye subjective spherocylindrical refraction with a phoropter (adopt the maximum plus to maximum visual acuity (MPMVA) approach and use the duo-chrome test for binocular balancing) and record the best corrected <u>distance</u> visual acuity to the nearest letter (OD, OS, and OU).	

# Clinical Study Protocol

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Unscheduled Visit			
Step	Procedure	Details	
U.6	Slit Lamp Biomicroscopy (if applicable)	FDA Slit Lamp Classification Scale will be used to grade the findings. If the clearance of the fluorescein needs to be expedited, preservative-free rewetting drops may be instilled.	
U.7	Dispensing (if applicable)	If the subject requires additional lenses to complete the wear period and is eligible to do so, provide additional lenses per the dispensing instructions given in the detailed study procedures.	
U.8	Exit Visual Acuity (if applicable)	Record the subject's exit distance visual acuity (OD, OS, and OU) to the nearest letter.	

**NOTE: If the only reason for the unscheduled visit is that the subject requires additional test articles, only the dispensing information needs to be recorded.**

### 7.4. Laboratory Procedures

None.

## 8. SUBJECTS COMPLETION/WITHDRAWAL

### 8.1. Completion Criteria

Subjects are considered to have completed the study if they:

- provided informed consent.
- they are eligible.
- Completed all scheduled tests

### 8.2. Withdrawal/Discontinuation from the Study

A subject will be withdrawn from the study for any of the following reasons:

- Subject withdrawal of consent.
- Subject not compliant to protocol (e.g., subject does not complete all scheduled tests).
- Subject develops significant or serious adverse events necessitating discontinuation of study lens wear.
- Subjects who have experienced a Corneal Infiltrative Event (CIE).
- Investigator's clinical judgment regarding the subject safety reasons (that it is in the best interest of the subject to stop treatment).
- Subject not successfully released with lenses due to lack of efficacy and safety including poor vision, poor comfort or unacceptable fit.

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For discontinued subjects, the Investigator will:

- Complete the current visit (scheduled or unscheduled).
- Complete the Final Evaluation, indicating the reason that the subject was discontinued from the study.
- Record the spherocylindrical refraction with best corrected distance visual acuity.
- Collect used test article(s) from the subject and discard them, unless otherwise stated in section 7.2.
- Collect all unused test article(s) from the subject.
- Make arrangements for subject care, if needed, due to their study participation

Additional subjects will be enrolled if a subject discontinues from the study prematurely.

In cases where a subject is lost to follow-up, every possible effort must be made to contact the subject and determine the reason for discontinuation/withdrawal. The measures taken to follow up must be documented including two written attempts and a certified letter (or equivalent) as the final attempt.

### **9. PRE-STUDY AND CONCOMITANT INTERVENTION/MEDICATION**

Concomitant medications will be documented during screening and updated during the study. Disallowed medications for this study include: any ocular medications. Concomitant therapies that are disallowed include: see section 9.1.

#### **9.1. Systemic Medications**

Certain systemic medications are known to have a higher likelihood to interfere with contact lens wear, chiefly by disrupting the tear film.

A summary of disallowed systemic medications is shown in Table 5: Disallowed systemic medications. Subjects with a history of taking these medications will be allowed to enroll only if:

- The medications have been taken on a continual, routine basis for at least 6 months, and
- The subject has demonstrated successful contact lens wear during this time.

Or:

- The subject was taking the medication on a temporary basis and ceased taking that medication at least 2 weeks prior to signing the informed consent (this is considered sufficient time for the medication to have left the body prior to enrollment).

Subjects with a history of taking medications listed in Table 5: Disallowed systemic medications on a long-term, routine basis for less than 6 months will not be allowed to participate in the study.

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Table 5: Disallowed systemic medications

Class of Drug	Common Indication(s)	Common Examples
Estrogens (not including contraceptive medication)	Menopause, osteoporosis, vaginitis	Vagifem, Estrace, Climara, Vivelle-Dot, Premarin, Minivelle, etc.
Anticholinergics	Irritable bowel syndrome, Parkinson's disease, peptic ulcer, cystitis, nasal congestion, cold symptoms, overactive bladder, COPD	Bentyl, Spiriva, Atrovent, Hyosyne, Levsin, Symax Fastab, Symax SL, Homax SL, Cogentin, Transderm Scop, etc.
Beta-blockers	Hypertension, angina, heart attack, migraine, atrial fibrillation, adrenal cancer, essential tumor, glaucoma	Toprol XL, Lopressor, Tenormin, Propranolol, Timoptic, Trandate, Inderal LA, etc.
Psychotropics	Antipsychotic (schizophrenia, mania), antidepressant, antiobsessive, antianxiety, mood stabilizer, stimulants (ADHD)	Zoloft, Celexa, Prozac, Lexapro, Effexor, Cymbalta, Ativan, Xanax, Desyrel, Wellbutrin, etc.
Vitamin A analogs	Cystic acne	Isotretinoin

Examples of disallowed systemic antihistamines are given in Table 6. Subjects with a history of taking systemic antihistamines will be allowed to enroll only if:

- They have taken antihistamines continuously for at least 2 weeks, and
- They have demonstrated successful wear while taking the medication

Or:

- They stopped taking the medication for at least 2 weeks prior to enrollment.

Table 6: Disallowed systemic antihistamines

Class of Drug	Common Indication(s)	Common Examples
Antihistamines	Allergic rhinitis, sedation, hives, allergic conjunctivitis, skin allergy, itching, motion sickness	Hydroxyzine, Promethagan, Phenadoz, Vistaril, Claritin, Zyrtec, Astepro, Astelin, Optivar, Allegra, Benadryl, etc.

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### 10. DEVIATIONS FROM THE PROTOCOL

Investigator will notify study sponsor upon identification of a protocol deviation. Protocol deviations must be reported to the sponsor within 24 hours after discovery of the protocol deviation. The Investigator will report deviations per IRB/IEC requirements. All deviations will be tracked, and corrective actions implemented as appropriate.

If it becomes necessary for the Investigator to implement a deviation in order to eliminate an immediate hazard to the trial subject, the Investigator may implement the deviation immediately without notification to the sponsor. Within 24 hours after the implemented deviation, the Investigator must notify and provide the rationale to the Sponsor and, as required, the IEC/IRB.

If the deviation potentially impacts the safety of patient or changes the technical integrity of the study, then it must be reported to IEC/IRB. This is a "Major Deviation". Deviations that contradict the information contained in the Informed Consent/Assent forms will be considered Major Deviations.

Minor deviations have no substantive effect on patient safety or technical integrity of the study. They are often logistical in nature.

Protocol waivers are prohibited.

Table 7 lists examples of deviations that will constitute major and minor protocol deviations for this study.

Table 7: Examples of major and minor protocol deviations

Deviation category	Major deviation	Minor deviation
Incomplete tests	Subject does not complete all scheduled psychophysical tests.	NA

In the case of a major protocol deviation, the decision of whether or not the subject will be excluded from the Per-Protocol analysis population will be made at the time of cohort review.

### 11. STUDY TERMINATION

The occurrence of one or more Unanticipated Serious Adverse Device Effect (USADE), or any SAE where the relationship to study agent cannot be ruled out, may result in stopping further dispensing of test article. In the event of a USADE or SAE, the Sponsor may unmask the treatment regimen for the subject(s) and will discuss this with the Investigator before any further subjects are enrolled.

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The Sponsor will determine when a study will be stopped. The Principal Investigator always has the discretion to initiate stopping the study based on patient safety or if information indicates the study's results are compromised.

JJVC reserves the right to terminate the study at any time for any reason. Additionally, the IEC/IRB reserves the right to terminate the study if an unreasonable risk is determined. The study can be terminated by the Principal Investigator at the individual clinical site due to specific clinical observations, if in their opinion, after a discussion with JJVC, it is determined that it would be unwise to continue at the clinical site.

JJVC (and the IEC/IRB and DMC, if applicable) will evaluate all adverse events. If it is determined that an adverse event presents an unreasonable risk, the investigation, or that part of the investigation presenting the risk, will be terminated as soon as possible.

Should the study be terminated (either prematurely or as scheduled), the Investigator will notify the IEC/IRB and Regulatory Authority as required by local regulatory requirements.

### **12. PROCEDURE FOR HANDLING PRODUCT QUALITY COMPLAINTS**

A Product Quality Complaint (PQC) refers to any written, electronic, or oral communication that alleges deficiencies related to the identity, quality, durability, reliability, safety, effectiveness or performance of test articles after they have been released for clinical trial use.

Potential complaints may come from a variety of sources including but not limited to subjects, clinical research associates (CRA), clinical operations managers (COM), medical monitors, and site personnel, etc. The following are not considered product quality complaints:

- Subject satisfaction inquiries reported via "Subjective Questionnaires" and "Patient Reported Outcomes (PRO)."
- Clinical test articles that are stored improperly or damaged after receipt at the investigational site.
- Lens replacements that occur due to drops/fall-outs.
- Damage deemed by clinicians or clinical staff to be caused by handling by the user, and not indicative of a quality deficiency (i.e. tears, rips, etc.), only in situations where there is no deficiency alleged by the subject.

Within 24 hours of site personnel becoming aware that a PQC has occurred, the PQC must be recorded in the EDC system, which will trigger an automatic email notification to the appropriate COM/CRA and Clinical QA representative. In cases where the EDC system in use is not configured to send automatic notifications or when an EDC system is not used, the COM/CRA is responsible for notifying Clinical QA upon discovery that a PQC has occurred.

Upon receipt of the EDC notification, the COM/CRA will contact the study site to collect additional information which will include:

- Date the complaint was received/recorded in the EDC System (Date of Sponsor Awareness).

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- Who received the complaint.
- Study number.
- Clinical site information (contact name, site ID, telephone number).
- Lot number(s).
- Unique Subject Identifier(s).
- Indication of who first observed complaint (site personnel or subject).
- OD/OS indication, along with whether the lens was inserted.
- Any related AE number if applicable.
- Detailed complaint description (scheduled/unscheduled visit, wear time, symptoms, resolution of symptoms, etc.).
- Eye Care Provider objective (slit lamp) findings if applicable.
- Confirmation of product availability for return (and tracking information, if available), or rationale if product is not available for return [REDACTED]

Once a complaint is received, it will be assessed by the COM, CRA, or trained site personnel to determine if it is an Adverse Event/Serious Adverse Event (AE/SAE). If the complaint results in an AE/SAE, the COM/CRA, or trained site personnel will follow section 13 of this protocol. If the AE/SAE was potentially the result of a product quality related deficiency, these procedures also apply and will be executed in parallel.

In some cases, a PQC form may be generated in EDC by the site in error. In this event, the PQC forms will be marked “Intentionally Left Blank” or “ILB”. Justification for ILB must be documented.

### 13. ADVERSE EVENTS

#### 13.1. Definitions and Classifications

**Adverse Event (AE)** – An AE is “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 investigational medical device.”

**Note:** This definition includes events related to the investigational medical device or the comparator, and to the procedures involved. For users or other persons, this definition is restricted to events related to investigational medical devices.<sup>1</sup>

An AE includes any condition (including a pre-existing condition) that:

1. Was not present prior to the study, but appeared or reappeared following initiation of the study.
2. Was present prior to the study but worsened during the study. This would include any condition resulting from concomitant illnesses, reactions to concomitant medications, or progression of disease states.

**Note:** Pregnancy must be documented as an adverse event and must be reported to the clinical monitor and to the Sponsor immediately upon learning of the event.

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**Serious Adverse Event (SAE)** – An SAE is any adverse event that led to any of the following:

- Death
- Serious deterioration in the health of the subject that resulted in any of the following:
- Life-threatening illness or injury
- Permanent or persistent impairment of a body structure or a body function
- Hospitalization or prolongation of patient hospitalization
- Medical or surgical intervention to prevent life-threatening illness or injury or permanent impairment to a body structure or a body function.
- Chronic disease
- Foetal distress, foetal death or a congenital physical or mental impairment of birth defect.

Diagnoses and conditions that are considered Ocular Serious Adverse Events include, but not limited to:

- Microbial Keratitis (MK)
- Iritis (including cells in the anterior chamber)
- Permanent decrease in best spectacle corrected visual acuity equivalent to 2 acuity lines or greater
- Central Corneal Opacity
- Central Corneal Neovascularization
- Uveitis
- Endophthalmitis
- Hypopyon
- Hyphema
- Penetration of Bowman's Membrane
- Persistent Epithelial Defect
- Limbal cell Damage leading to Conjunctivalization

**Significant Adverse Events** – are defined as events that are symptomatic and warrant discontinuation (temporary or permanent) of the contact lens wear

Diagnoses and conditions that are considered Ocular Significant Adverse Events include, but not limited to the following:

- Contact Lens Induced Peripheral Ulcer (CLPU)
- Significant Infiltrative Events (SIE)
- Superior Epithelial Arcuate Lesions (SEALs)
- Any Temporary Loss of > 2 Lines of BSCVA
- Other grade 3 or higher corneal findings, such as abrasions or edema
- Non-contact lens related corneal events - e.g. Epidemic Keratoconjunctivitis (EKC)
- Asymptomatic Corneal Scar
- Any corneal event which necessitates temporary lens discontinuation > 2 weeks

**Non-Significant Adverse Events** – are defined as those events that are usually asymptomatic and usually do not warrant discontinuation of contact lens wear but may cause a reduction in

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wear time. However, the Investigator may choose to prescribe treatment as a precautionary measure.

Diagnoses and conditions that are considered Ocular Non-Significant Adverse Events include, but not limited to the following:

- Non-significant Infiltrative Event (NSIE)
- Contact Lens Papillary Conjunctivitis (CLPC)
- Superficial Punctate Keratitis (SPK)
- Conjunctivitis: Bacterial, Viral, Allergic
- Blepharitis
- Meibomianitis
- Contact Dermatitis
- Localized Allergic Reactions
- Any corneal event not explicitly defined as serious or significant adverse event, which necessitates temporary lens discontinuation < 2 weeks

**Adverse Device Effect (ADE)** – An ADE is an “adverse event related to the use of an investigational medical device.”

**NOTE 1: This definition includes adverse events 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.<sup>1</sup>**

**Unanticipated Adverse Device Effect (UADE)** – A UADE is any serious adverse effect on health or safety or any life-threatening problem or death caused by, or associated with, the test article, if that effect, problem, or death was not previously identified in nature, severity, or degree of incidence in the investigational plan, Investigator’s Brochure or protocol, or any other unanticipated serious problem associated with the test article that relates to the rights, safety and welfare of subjects.

### 13.2. Assessing Adverse Events

In conjunction with the medical monitor, the Investigator will evaluate adverse events to ensure the events are categorized correctly. Elements of categorization will include:

- Seriousness/Classifications (see definition in section 13.1).
- Causality or Relatedness – i.e. the relationship between the test article, study treatment or study procedures and the adverse event (not related, unlikely related, possibly related, or related - see definition in section 13.2.1).
- Adverse Event Severity – Adverse event severity is used to assess the degree of intensity of the adverse event (mild, moderate, or severe - see definition in section 0).
- Outcome – not recovered or not resolved, recovering or resolving, recovered or resolved with sequelae, recovered or resolved, death related to adverse event, or unknown.
- Actions Taken – none, temporarily discontinued, permanently discontinued, or other.

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### **13.2.1. Causality Assessment**

**Causality Assessment** – A determination of the relationship between an adverse event and the test article. The test article relationship for each adverse event should be determined by the investigator using these explanations:

- Not Related- An adverse event that is not related to the use of the test article, study treatment or study procedures.
- Unlikely Related – An adverse event for which an alternative explanation is more likely, e.g. concomitant treatment, concomitant disease(s), or the relationship of time suggests that a causal relationship is not likely.
- Possibly Related – An adverse event that might be due to the use of the test article, or to the study treatment or study procedures. An alternative explanation, e.g. concomitant treatment, concomitant disease(s), is inconclusive. The relationship in time is reasonable. Therefore, the causal relationship cannot be excluded.
- Related – An adverse event that is listed as a possible adverse effect (device) or adverse reaction (drug) and cannot be reasonably explained by an alternative explanation, e.g. concomitant treatment of concomitant disease(s). The relationship in time is very suggestive, e.g. it is confirmed by de-challenge and re-challenge.

### **13.2.2. Severity Assessment**

**Severity Assessment** – A qualitative assessment of the degree of intensity of an adverse event as determined by the Investigator or reported to him/her by the subject. The assessment of severity is made irrespective of test article, study treatment or study procedure relationship or seriousness of the event and should be evaluated according to the following scale:

- Mild – Event is noticeable to the subject but is easily tolerated and does not interfere with the subject's daily activities.
- Moderate – Event is bothersome, possibly requiring additional therapy, and may interfere with the subject's daily activities.
- Severe – Event is intolerable, necessitates additional therapy or alteration of therapy and interferes with the subject's daily activities.

### **13.3. Documentation and Follow-Up of Adverse Events**

The recording and documenting of adverse events (ocular and non-ocular) begin when the subjects are exposed to the test article, study treatment or study procedure. Adverse events reported before the use of test article, start of study treatment, or study procedures will be recorded as medical history. However, if the condition deteriorates at any time during the study it will be recorded and reported as an AE. Untoward medical events reported after the subject's exit from the study will be recorded as adverse events at the discretion of the Investigator.

Upon finding an adverse event, the Principal Investigator will document the condition in the subject record and in the eCRFs and complete the Adverse Event eCRF.

Complete descriptions of all adverse events must be available in the subject record. All Adverse Events including local and systemic reactions not meeting the criteria for "serious adverse events" shall be captured on the appropriate case report form or electronic data system.

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All adverse events occurring while the subject is enrolled in the study must be documented appropriately regardless of relationship.

It is the Investigator's responsibility to maintain documentation of each reported adverse event. All adverse events will be followed in accordance with applicable licensing requirements. Such documentation will include the following:

- Adverse event (diagnosis not symptom).
- Drawings or photographs (where appropriate) that detail the finding (e.g., size, location, and depth, etc.).
- Date the clinical site was notified.
- Date and time of onset.
- Date and time of resolution.
- Adverse event classification, severity, and relationship to test articles, as applicable.
- Treatment regimen instituted (where appropriate), including concomitant medications prescribed, in accordance with applicable licensing requirements.
- Any referral to another health care provider if needed.
- Outcome, ocular damage (if any).
- Likely etiology.
- Best corrected visual acuity at the discovery of the event and upon conclusion of the event, if the AE is related to the visual system.

Upon discovery of an AE that is deemed 'possibly related' or 'related' to the test article or study procedures (whether related to the visual system or not), an AE review form [REDACTED] must be completed. Additional dated and initialed entries should be made at follow-up evaluations. Separate forms must be completed for each eye if the AE is bilateral.

In addition, if an infiltrate(s) is present, he/she will complete the Corneal Infiltrate Assessment eCRF. Where necessary, a culture of the corneal lesion will be collected to determine if the infection is microbial in nature. If cultures are collected, the date of culture collection and laboratory utilized will be recorded.

Changes in the severity of an AE shall be documented to allow an assessment of the duration of the event at each level of intensity to be performed. Adverse events characterized as intermittent require documentation of the onset and duration of each episode. Changes in the assessment of relationship to the Test Article shall also be clearly documented.

Subjects who present with an adverse event shall be followed by the Investigator, within licensure, until all signs and symptoms have returned to pre-treatment status, stabilized, or been satisfactorily resolved. If further treatment beyond licensure is required, the patient will be referred to the appropriate health care provider. The Investigator will use his/her clinical judgment as to whether a subject reporting with an adverse event will continue in the study. If a subject is discontinued from the study, it will be the responsibility of the Investigator to record the reason for discontinuation. The Investigator will also document the adverse event appropriately and complete the Adverse Event eCRF. Any subjects with ongoing adverse events related to the test article, study treatment or study procedures, as of the final study visit

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date, should be followed to resolution of the adverse event or until referral to an appropriate health care provider, as recommended by the Investigator. Non-ocular adverse events that are not related to the test article, study treatment, or study procedures may be recorded as “ongoing” without further follow-up.

### **13.4. Reporting Adverse Events**

The Investigator will notify the Sponsor of an adverse event by e-mail, facsimile, or telephone as soon as possible and no later than 24 hours from discovery for any serious /significant adverse events, and 2 days from discovery for any non-significant adverse event. In addition, a written report will be submitted by the Principal Investigator to the IEC/IRB according to their requirements (section 13.4.2). The report will comment whether the adverse event was considered to be related to the test article, study treatment or study procedures.

#### **13.4.1. Reporting Adverse Events to Sponsor**

##### **Serious/Significant Adverse Events**

The Investigator will inform the sponsor of all serious/significant adverse events occurring during the study period as soon as possible by e-mail or telephone, but no later than 24 hours following discovery of the event. The Investigator is obligated to pursue and obtain information requested by the Sponsor in addition to that information reported on the eCRF. All subjects experiencing a serious/significant adverse event must be followed up and all outcomes must be reported.

When medically necessary, the Investigator may break the randomization code to determine the identity of the treatment that the subject received. The Sponsor and study monitor should be notified prior to unmasking the test articles.

In the event of a serious/significant adverse event, the Investigator must:

- Notify the Sponsor immediately.
- Obtain and maintain in the subject’s records all pertinent medical information and medical judgment for colleagues who assisted in the treatment and follow-up of the subject.
- Provide the Sponsor with a complete case history which includes a statement as to whether the event was or was not related to the use of the test article.
- Notify the IEC/IRB as required by the IEC/IRB reporting procedure according to national regulations.

##### **Unanticipated (Serious) Adverse Device Effect (UADE)**

In the event of an Unanticipated (Serious) Adverse Device Effect (UADE), the Investigator will submit a report of the UADE to the Sponsor and IEC/IRB as soon as possible, but no later than 24 hours after the Investigator first learns of the effect. This report is in addition to the immediate notification mentioned above.

The Sponsor must conduct an evaluation of the UADE and must report the results of the evaluation to FDA, the IEC/IRB and participating Investigators within 10 working days after the Sponsor first receives notification of the effect.

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### **Non-Serious Adverse Events**

All non-serious adverse events, including non-serious adverse device effects, will be reported to the sponsor by the Investigator no later than 2 days from discovery.

### **13.4.2. Reporting Adverse Events to the Responsible IEC/IRB and Health Authorities**

Adverse events that meet the IEC/IRB requirements for reporting must be reported within the IEC/IRB's written guidelines. Each clinical site will refer to and follow any guidelines set forth by their Approving IEC/IRB. Each clinical site will refer to and follow any guidelines set forth by their local governing Health Authorities.

The Sponsor will report applicable Adverse Events to the local health authorities according to the written guidelines, including reporting timelines.

### **13.5. Event of Special Interest**

None.

### **13.6. Reporting of Pregnancy**

Subjects reporting pregnancy (by self-report) during the study will be discontinued after the event is recorded as an Adverse Event. Once discontinued, pregnant participants and their fetuses will not be monitored for study related purposes. Pregnant participants are not discontinued from contact lens or solution related studies for safety concerns, but due to general concerns relating to pregnancy and contact lens use. Specifically, pregnant women are discontinued due to fluctuations in refractive error and/or visual acuity that occur secondary to systemic hormonal changes, and not due to unforeseen health risks to the mother or fetus.

## **14. STATISTICAL METHODS**

### **14.1. General Considerations**

Statistical Analysis will be undertaken by the sponsor or under the authority of the sponsor. A general description of the statistical methods to be implemented in this clinical trial is outlined below.

All data summaries and statistical analyses will be performed using the SAS software Version 9.4 or higher (SAS Institute, Cary, NC).<sup>39</sup> Throughout the analysis of data, the results for each subject/eye will be used when available for summarization and statistical analysis. Unscheduled visits will be summarized separately and will be excluded from the statistical analysis.

Summary tables (descriptive statistics and/or frequency tables) will be provided for all baseline variables, efficacy variables and safety variables as appropriate. Continuous variables will be summarized with descriptive statistics (n, mean, standard deviation (SD), median, minimum and maximum). Frequency count and percentage of subjects or eyes within each category will be provided for categorical data.

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### 14.2. Sample Size Justification

For phase 1, the plan is to enroll approximately 24 eligible subjects with 20 subjects targeted to complete this phase. The sample size was not based on any empirical sample size calculation. The sample size was chosen based on resources in conjunction, subject matter experts, and any available literature. To help ensure the glare source intensity, a small pilot investigation per the ANSI Z80.12-2007 standard was interpreted to be about 20 subjects to complete phase 1, which should be sufficient to evaluate the mean photopic and mesopic contrast sensitivity with and without the glare source.

For phase 2, the plan is to enroll approximately 66 eligible subjects with 60 subjects targeted to complete the study. Given no historical data is available for the primary and secondary endpoints with the study lenses under the specific light source condition, the sample size was not determined based on any empirical sample size calculation. A power analysis for the primary and secondary endpoints was conducted to estimate statistical power based on historical data for similar endpoints (i.e., CSF and logMAR visual acuity using different instruments) with different assumptions and sample sizes.

Historical monocular logMAR visual acuity (VA) data from [REDACTED] and binocular AULCSF data for qCSF testing from [REDACTED] were summarized in *Table 8* below. The assessments were conducted under conditions without a broadband light source in both studies. [REDACTED] was a 5×5 crossover design and two of the five study lenses were senofilcon A with new UV/HEV blocker and 1-Day ACUVUE OASYS. Data for these two lenses were used as a basis to make assumptions for the Test and Control lenses in the current study. [REDACTED] was a 2×3 crossover design with ACUVUE OASYS and senofilcon A with new UV-blocker lenses. The AULCSF using the qCSF method in the first two periods from [REDACTED] were summarized and used as a bases for making assumptions for testing the AULCSF with the Metropsis system between the Test and Control lenses in the current study.<sup>40,41</sup>

Table 8: Descriptive Summary of LogMAR Visual Acuity and AULCSF from qCSF testing based on Historical Data – Completed Per Protocol Subjects

Study ID	Endpoint	Condition	Lens	Mean	Standard Deviation
[REDACTED]	LogMAR VA at Fitting	Low Luminance High Contrast	Theia	0.020	0.092
			Acuvue Oasys 1-Day	0.022	0.079
[REDACTED]	AULCSF for qCSF at 2-week Follow-up	NA	Senofilcon A with new UV-blocker	1.31	0.110
		NA	Acuvue Oasys	1.29	0.111

Considering different number of subjects to complete the study (i.e., 50, 60, and 70), a power analysis was conducted for the primary and secondary hypotheses based on the assumptions for correlation between measures from left and right eyes within subjects, standard deviation,

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and effect size (i.e., mean difference). Power was estimated using a paired sample *t*-test (exact method) with a 2-sided type I error rate of  $\alpha = 0.05$  for the primary endpoint and a Bonferroni adjusted 2-sided type I error rate ( $\alpha = 0.025$ ) for each secondary endpoint. The calculation was performed using the POWER procedure in SAS Version 9.4. *Table 9* below shows the estimated statistical power under different scenarios. Given time and resource constraints, sixty subjects have been considered as the optimal number which demonstrated an acceptable level of statistical power under most assessed scenarios. Therefore, the plan is to enroll approximately 66 eligible subjects with 60 subjects targeted to complete the study.

Table 9: Power Analysis for the Primary and Secondary Hypotheses (Superiority Testing)

Endpoints	Mean Difference (Test - Control)	Standard Deviation (Test)	Standard Deviation (Control)	Correlation	Completed Subjects	Power
Primary Endpoint: Photopic Resolution Acuity with a Glare Source (converted to logMAR)	-0.05	0.08	0.09	0.3	50	93.0%
					60	96.5%
					70	98.3%
				0.5	50	98.2%
					60	99.4%
					70	99.8%
		0.10	0.11	0.3	50	79.5%
					60	86.4%
					70	91.2%
				0.5	50	90.8%
					60	95.1%
					70	97.5%
Secondary Endpoint: AULCSF for Mesopic Contrast Sensitivity with a Glare Source	0.06	0.13	0.13	0.3	50	67.2%
					60	76.3%
					70	83.2%
				0.5	50	82.6%
					60	89.6%
					70	93.9%
		0.15	0.15	0.3	50	53.5%
					60	62.6%
					70	70.4%
				0.5	50	69.6%
					60	78.5%
					70	85.2%
Secondary Endpoint: AULCSF for Photopic Contrast Sensitivity	0.06	0.11	0.11	0.3	50	82.5%
					60	89.5%
					70	93.9%
				0.5	50	93.5%
					60	97.1%
					70	98.7%

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Endpoints	Mean Difference (Test - Control)	Standard Deviation (Test)	Standard Deviation (Control)	Correlation	Completed Subjects	Power
with a Glare Source		0.13	0.13	0.3	50	67.2%
					60	76.3%
					70	83.2%
				0.5	50	82.6%
					60	89.6%
					70	93.9%

### 14.3. Analysis Populations

The following analysis populations will be defined and used in the analysis and presentation of the data.

#### **All Enrolled:**

All Enrolled Population includes all subjects with recorded data in the electronic Case Report Form (eCRF) database.

#### **Safety Population:**

All subjects who are administered any test article excluding subjects who drop out prior to administering any test article. At least one observation should be recorded. Subjects will be analyzed as per treatment received.

#### **Per-Protocol Population:**

All subjects who successfully complete all visits and do not substantially deviate from the protocol as determined by the trial cohort review committee prior to database hard lock. Justification for the exclusion of subjects with protocol deviations from the per-protocol population set will be documented in a memo to file.

#### **Intent-to-Treat (ITT) Population:**

All randomized subjects regardless of actual treatment and subsequent withdrawal from the study or deviation from the protocol. At least one observation should be recorded. Subjects will be analyzed as per randomized treatment.

### 14.4. Level of Statistical Significance

All planned analysis for this study will be conducted with an overall type I error of 5% using a gatekeeping testing strategy and Bonferroni adjustment. The primary analysis will be conducted with a two-sided type I error rate of 0.05. Alpha will be shared between the two secondary endpoints using Bonferroni method; each secondary hypothesis will be tested at the two-sided type I error of 0.025 (0.05/2). The secondary hypotheses will be assessed only when the primary hypothesis is met.

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### 14.5. Primary Analyses

#### Phase I (interim analysis):

For photopic and mesopic contrast sensitivity, the logarithm of contrast sensitivity will be calculated as  $\log CS = \log_{10}(1/(\text{contrast threshold}/100))$  and the logCS will be used for the analysis purpose. Note that *contrast threshold* is reported in percentage (%) in the Electronic Data Capture system. Photopic and mesopic logCS will be analyzed separately using linear mixed effects models with a normal distribution. The dependent variable will be the logCS and light source condition (i.e., without glare and with glare) will be the fixed effect in both models. A subject-specific random intercept will be included to account for repeated measurement on the same individuals. The least-square means (LSM, i.e., adjusted means) of photopic and mesopic logCS at 6 cpd will be estimated with 95% confidence interval under each light source condition. The reduction in the estimated means due to the glare source will be compared against the criteria of 0.1 log. If the reduction in the estimated mean due to the glare source is about 0.1 log units, it can be concluded that the glare light source is verified and the study can move to Phase 2.

#### Phase 2:

Superiority testing with respect to the primary endpoint in phase 2 will be assessed on the Intent-to-Treat (ITT) population.

#### Photopic Resolution Acuity using Landolt C's with a Glare Source

The photopic resolution acuity using Landolt C's (converted to logMAR unit using  $\log MAR = \log_{10}(\text{arcminute})$ ) will be analyzed under bright light conditions with a broadband light source (glare) using a linear mixed model with a normal distribution. Lens type, dominant eye, and the interaction of lens type by dominant eye will be included in the model as fixed effects and age as a covariate. The covariance of residuals between eyes within the same subject (R-side) will be modeled using Unstructured (UN) covariance structure. If the model does not converge, then a compound Symmetry (CS) covariance structure will be considered. The Kenward and Roger method (Kenward and Roger, 1997) will be used for the denominator degrees of freedom.

#### Hypothesis Testing

The null and alternative hypotheses for testing superiority of the Test lens relative to the Control lens with respect to photopic resolution acuity with a glare source are as follows:

$$\begin{aligned}H_0: \mu_T - \mu_C &\geq 0 \\H_A: \mu_T - \mu_C &< 0\end{aligned}$$

Where,  $\mu_T$  represents the mean photopic resolution acuity (logMAR) for the Test lens and  $\mu_C$  represents the mean photopic resolution acuity (logMAR) for the Control lens. Statistical superiority will be declared if the upper bound of the adjusted 2-sided 95% confidence interval of the mean difference (Test – Control) is less than 0. A model-based point estimate of mean difference being -0.05 logMAR or more ( $\leq -0.05$  logMAR) will be considered clinically meaningful.

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### 14.6. Secondary Analyses

Superiority testing with respect to the secondary endpoints in phase 2 will be assessed on the Intent-to-Treat (ITT) population.

#### Photopic Contrast Sensitivity with a Glare Source

For photopic and mesopic contrast sensitivity, first the logarithm of contrast sensitivity will be calculated as  $\log CS = \log_{10}(1/(\text{contrast threshold}/100))$ , and then the area under the log contrast sensitivity function (AULCSF) will be calculated using logCS and the log (base 10) of each spatial frequency based on the trapezoidal rule per eye per subject for the analysis purpose.<sup>42</sup>

The AULCSF for photopic contrast sensitivity will be analyzed under bright light conditions with a broadband light source (glare) using a linear mixed model with a normal distribution. Lens type, dominant eye, and the interaction of lens type by dominant eye will be included in the model as fixed effects and age as a covariate. The covariance of residuals between eyes within the same subject (R-side) will be modeled using Unstructured (UN) covariance structure. If the model does not converge, then a compound Symmetry (CS) covariance structure will be considered. The Kenward and Roger method will be used for the denominator degrees of freedom.<sup>43</sup>

#### Hypothesis Testing

The null and alternative hypotheses for testing superiority of the Test Lens compared to the Control lens with respect to AULCSF for photopic contrast sensitivity with a broadband light source are presented below:

$$\begin{aligned}H_0: \mu_T - \mu_C &\leq 0 \\H_A: \mu_T - \mu_C &> 0\end{aligned}$$

Where,  $\mu_T$  represents the mean AULCSF for the Test lens and  $\mu_C$  represents the mean AULCSF for the Control lens. Statistical superiority will be declared if the lower bound of the 2-sided 95% confidence interval of the mean difference (Test – Control) is larger than 0. A model-based point estimate of the mean difference being 0.06 log or more ( $\geq 0.06$  log) will be considered clinically meaningful.<sup>44</sup>

#### Mesopic Contrast Sensitivity with a Glare Source

The AULCSF for mesopic contrast sensitivity testing under dim light conditions with a broadband light source (glare) will be analyzed, tested, and interpreted in the same manner as the analysis of the AULCSF for photopic contrast sensitivity.

### 14.7. Other Exploratory Analysis

Other exploratory analysis may be conducted at the discretion of the study responsible clinician.

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### **14.8. Interim Analysis**

This is a two-phase study and approximately 24 subjects will be enrolled in phase 1 with a target of 20 to complete. An interim analysis will be performed after all subjects completed phase 1 on the primary endpoints (see Section 14.5 for the details of the planned interim analysis). Other endpoints in phase 1 may be descriptively summarized. The interim analysis on the primary endpoints in phase 1 will be used to verify the glare light source. If the glare light source is found effective (e.g., the reduction in the estimated mean of contrast sensitivity due to the glare source is about 0.1 log units), the study can move to Phase 2. If the glare source has no effect, or obliterates the target, then phase 2 will not begin and the study will be terminated.

### **14.9. Procedure for Handling Missing Data and Drop-Outs**

Missing or spurious values will not be imputed. The count of missing values will be included in the summary tables and listings.

### **14.10. Procedure for Reporting Deviations from Statistical Plan**

The analysis will be conducted according to that specified in above sections. There are no known reasons for which it is planned to deviate from these analysis methods. If for any reason a change is made, the change will be documented in the study report along with a justification for the change.

## **15. DATA HANDLING AND RECORD KEEPING/ARCHIVING**

### **15.1. Electronic Case Report Form/Data Collection**

The Vision Assessments (photopic and mesopic contrast sensitivity, photopic resolution acuity) will be collected using the Cambridge Research Systems Metropsis system. This data will be generated as PDF files. The data from the Metropsis and all other study data will be captured on electronic case report forms (eCRFs) using the Bioclinica EDC system. An authorized data originator will enter study data into the eCRFs using the EDC system. Data collected on equipment that is not captured in EDC will be formatted to the specification of the JJVC database manager and sent to JJVC for analysis.

The source data from the Metropsis will be transferred by the site staff to JJVC in regular intervals to be reviewed by JJVC. The data will be uploaded to a cloud-based system, such as MBox, by the site staff. The uploaded data will be remotely source verified by the monitors in accordance to the timelines in the Clinical Monitoring Plan. The Metropsis source data will be stored at the site in accordance with Section 19 of this protocol. The Metropsis source data stored at the site will be stored confidentially and will only be accessible by study site staff. The source data stored at the site may be stored on an external protected drive or a protected shared drive.

External data sources for this study include: Not Applicable

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The clinical data will be recorded on dedicated eCRFs specifically designed to match the study procedures for each visit. Only specifically delegated staff can enter data on a CRF. Once completed, the eCRFs will be reviewed for accuracy and completeness and signed by the Investigator. The sponsor or sponsor's representatives will be authorized to gain access to the subject recordation for the purposes of monitoring and auditing the study.

Edit checks, electronic queries, and audit trails are built into the system to ensure accurate and complete data collection. Data will be transmitted from the clinical site to a secure central database as forms are completed or updated, ensuring information accuracy, security, and confidentiality. After the final database lock, the Investigator will be provided with Individual Patient Profiles (IPP) including the full audit trail on electronic media in PDF format for all of the study data. The IPP must be retained in the study files as a certified copy of the source data for the study.

The content and structure of the eCRFs are compliant with ISO14155:2020.<sup>1</sup>

### **15.2. Subject Record**

At a minimum, subject record should be available for the following:

- subject identification
- eligibility
- study identification
- study discussion
- provision of and date of informed consent
- visit dates
- results of safety and efficacy parameters as required by the protocol
- a record of all adverse events
- follow-up of adverse events
- medical history and concomitant medication
- test article receipt/dispensing/return records
- date of study completion
- reason for early discontinuation of test article or withdrawal from the study, if applicable

The subject record is the eCRF or an external record. The author of an entry in the subject record must be identifiable. The first point of entry is considered to be the source record.

Adverse event notes must be reviewed and initialed by the Investigator.

### **15.3. Trial Registration on ClinicalTrials.gov**

This study will be registered on ClinicalTrials.gov by the Sponsor.

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### **16. DATA MANAGEMENT**

#### **16.1. Access to Source Data/Document**

The Investigator/Institution will permit trial-related monitoring, audits, IEC/IRB review and regulatory inspection(s) by providing direct access to source data/documents. Should the clinical site be contacted for an audit by an IEC/IRB or regulatory authority, JJVC must be contacted and notified in writing within 24 hours.

#### **16.2. Confidentiality of Information**

Information concerning the investigational product and patent application processes, scientific data or other pertinent information is confidential and remains the property of JJVC. The Investigator may use this information for the purposes of the study only. It is understood by the Investigator that JJVC will use information developed in this clinical study in connection with the development of the investigational product and therefore may disclose it as required to other clinical investigators and to regulatory agencies. In order to allow the use of the information derived from this clinical study, the Investigator understands that he/she has an obligation to provide complete test results and all data developed during this study to the Sponsor.

#### **16.3. Data Quality Assurance**

Steps will be taken to ensure the accuracy and reliability of data, include the selection of qualified investigators and appropriate clinical sites and review of protocol procedures with the Principal Investigator. The Principal Investigator, in turn, must ensure that all Sub-Investigators and clinical site personnel are familiar with the protocol and all study-specific procedures and have appropriate knowledge of the study article.

Training on case report form completion will be provided to clinical site personnel before the start of the study. The Sponsor will review case report forms for accuracy and completeness remotely during the conduct of the study, during monitoring visits, and after transmission to data management. Any data discrepancies will be resolved with the Investigator or designee, as appropriate.

Quality Assurance representatives from JJVC may visit clinical sites to review data produced during the study and to access compliance with applicable regulations pertaining to the conduct of clinical trials. The clinical sites will provide direct access to study-related source data/documents and reports for the purpose of monitoring and auditing by JJVC and for inspection by local and regulatory authorities.

#### **16.4. Data Monitoring Committee (DMC)**

Not applicable

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### **17. CLINICAL MONITORING**

The study monitors will maintain close contact with the Principal Investigator and the Investigator's designated clinical site personnel. The monitor's responsibilities will include:

- Ensuring that the investigation is being conducted according to the protocol, any subsequent versions, and regulatory requirements are maintained.
- Ensuring the rights and wellbeing of subjects are protected.
- Ensuring adequate resources, including facilities, laboratories, equipment, and qualified clinical site personnel.
- Ensuring that protocol deviations are documented with corrective action plans, as applicable.
- Ensuring that the clinical site has sufficient test article and supplies.
- Clarifying questions regarding the study.
- Resolving study issues or problems that may arise.
- Reviewing of study records and source documentation verification in accordance with the monitoring plan.

### **18. ETHICAL AND REGULATORY ASPECTS**

#### **18.1. Study-Specific Design Considerations**

Potential subjects will be fully informed of the risks and requirements of the study and, during the study, subjects will be given any new information that may affect their decision to continue participation. Subjects will be told that their consent to participate in the study is voluntary and may be withdrawn at any time with no reason given and without penalty or loss of benefits to which they would otherwise be entitled. Subjects will only be enrolled if the subject is fully able to understand the risks, benefits, and potential adverse events of the study and provide their consent voluntarily.

#### **18.2. Investigator Responsibility**

The Principal Investigator is responsible for ensuring that the clinical study is performed in accordance with the signed agreement, the investigational plan, section 4 of the ICH E6(R2) guidelines on Good Clinical Practice (GCP),<sup>2</sup> and applicable regulatory requirements. GCP is an international ethical and scientific quality standard for designing, conducting, recording, and reporting studies that involve the participation of human subjects. Compliance with this standard provides public assurance that the rights, safety, and well-being of study subjects are protected, consistent with the principles of the Declaration of Helsinki 64<sup>th</sup> WMA General Assembly 2013<sup>3</sup> and that the clinical study data are credible. The Investigator must maintain clinical study files in accordance with section 8 of the ICH E6(R2) guidelines on Good Clinical Practice (GCP),<sup>2</sup> and applicable regulatory requirements.

#### **18.3. Independent Ethics Committee or Institutional Review Board (IEC/IRB)**

Before the start of the study, the Investigator (or Sponsor when applicable) will provide the IEC/IRB with current and complete copies of the following documents (where applicable):

- Final protocol.

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- Sponsor-approved informed consent form (and any other written materials to be provided to the subjects)
- Investigator's Brochure (or equivalent information).
- Sponsor-approved subject recruitment materials.
- Information on compensation for study-related injuries or payment to subjects for participation in the study.
- Investigator's curriculum vitae, clinical licenses, or equivalent information (unless not required, as documented by IEC/IRB).
- Information regarding funding, name of the Sponsor, institutional affiliations, other potential conflicts of interest, and incentives for subjects.
- Any other documents that the IEC/IRB requests to fulfill its obligation.

This study will be undertaken only after IEC/IRB has given full approval of the final protocol, the informed consent form, applicable recruiting materials, and subject compensation programs, and the Sponsor has received a copy of this approval. This approval letter must be dated and must clearly identify the documents being approved.

During the study, the Investigator (or Sponsor when applicable) will send the following documents to the IEC/IRB for their review and approval, where appropriate:

- Protocol revisions
- Revision(s) to informed consent form and any other written materials to be provided to subjects
- If applicable, new or revised subject recruitment materials approved by the Sponsor
- Revisions to compensation for study-related injuries or payment to subjects for participation in the study
- Investigator's Brochure revisions
- Summaries of the status of the study (at least annually or at intervals stipulated in guidelines of the IEC/IRB)
- Reports of adverse events that are serious, unanticipated, and associated with the test articles, according to the IRB's requirements
- New information that may adversely affect the safety of the subjects or the conduct of the study
- Major protocol deviations as required by the IEC/IRB
- Report of deaths of subjects under the Investigator's care
- Notification if a new Investigator is responsible for the study at the clinical site
- Any other requirements of the IEC/IRB

For protocol revisions that increase subject risk, the revisions and applicable informed consent form revisions must be submitted promptly to the IEC/IRB for review and approval before implementation of the change(s).

At least once a year, the IEC/IRB will review and reapprove this clinical study. This request should be documented in writing.

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At the end of the study, the Investigator (or Sponsor where required) will notify the IEC/IRB about the study completion. Documentation of this notification must be retained at the clinical site and a copy provided to the CRO or Sponsor as applicable.

### **18.4. Informed Consent**

Each subject or their representative, must give written consent according to local requirements after the nature of the study has been fully explained. The consent form must be signed before performance of any study-related activity. The consent form that is used must be approved by both the Sponsor and by the reviewing IEC/IRB. The informed consent is in accordance with principles that originated in the Declaration of Helsinki,<sup>3</sup> current ICH GCP<sup>2</sup> and ISO 14155:2020<sup>1</sup> guidelines, applicable regulatory requirements, and Sponsor Policy.

Before entry into the study, the Investigator or an authorized member of the clinical site personnel must explain to potential subject the aims, methods, reasonably anticipated benefits, and potential hazards of the study, and any discomfort it may entail. Subjects will be informed that their participation is voluntary and that they may withdraw consent to participate at any time.

The subject will be given sufficient time to read the informed consent form and the opportunity to ask questions. After this explanation and before entry into the study, consent should be appropriately recorded by means of the subject's dated signature. After having obtained the consent, a copy of the informed consent form must be given to the subject.

### **18.5. Privacy of Personal Data**

The collection, processing and disclosure of personal data and medical information related to the Study Subject, and personal data related to Principal Investigator and any clinical site personnel (e.g., name, clinic address and phone number, curriculum vitae) is subject to compliance with the Health Information Portability and Accountability Act (HIPAA) and other applicable personal data protection and security laws and regulations.<sup>45,46</sup> Appropriate measures will be employed to safeguard these data, to maintain the confidentiality of the person's related health and medical information, to properly inform the concerned persons about the collection and processing of their personal data, to grant them reasonable access to their personal data and to prevent access by unauthorized persons.

All information obtained during the course of the investigation will be regarded as confidential. All personal data gathered in this trial will be treated in strictest confidence by Investigators, monitors, Sponsor's personnel and IEC/IRB. No data will be disclosed to any third party without the express permission of the subject concerned, with the exception of Sponsor personnel (monitor, auditor), IEC/IRB and regulatory organizations in the context of their investigation related activities that, as part of the investigation will have access to the CRFs and subject records.

The collection and processing of personal data from subjects enrolled in this study will be limited to those data that are necessary to investigate the efficacy, safety, quality, and utility of the investigational product(s) used in this study.

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These data must be collected and processed with adequate precautions to ensure confidentiality and compliance with applicable data privacy protection laws and regulations.

The Sponsor ensures that the personal data will be:

- processed fairly and lawfully.
- collected for specified, explicit, and legitimate purposes and not further processed in a way incompatible with these purposes.
- adequate, relevant, and not excessive in relation to said purposes.
- accurate and, where necessary, kept current.

Explicit consent for the processing of personal data will be obtained from the participating subject before collection of data. Such consent should also address the transfer of the data to other entities and to other countries.

The subject has the right to request through the Investigator access to his personal data and the right to request rectification of any data that are not correct or complete. Reasonable steps should be taken to respond to such a request, taking into consideration the nature of the request, the conditions of the study, and the applicable laws and regulations.

Appropriate technical and organizational measures to protect the personal data against unauthorized disclosures or access, accidental or unlawful destruction, or accidental loss or alteration must be put in place. Sponsor personnel whose responsibilities require access to personal data agree to keep the identity of study subjects confidential.

### **19. STUDY RECORD RETENTION**

In compliance with the ICH GCP guidelines,<sup>2</sup> the Investigator/Institution will maintain all CRFs and all subject records that support the data collected from each subject, as well as all study documents as specified in ICH GCP<sup>2</sup> and all study documents as specified by the applicable regulatory requirement(s). The Investigator/Institution will take measures to prevent accidental or premature destruction of these documents.

Essential documents must be retained until at least two (2) years after the last approval of a marketing application in an ICH region and until there are no pending or contemplated marketing applications in an ICH region or until at least two (2) years have elapsed since the formal discontinuation of clinical development of the investigational product. These documents will be retained for a longer period if required by the applicable regulatory requirements or instructed by the Sponsor. It is the responsibility of the Sponsor to inform the Investigator/Institution as to when these documents no longer need to be retained.

If the responsible Investigator retires, relocates, or for other reasons withdraws from the responsibility of keeping the study records, custody must be transferred to a person who will accept the responsibility. The Sponsor must be notified in writing of the name and address of the new custodian. Under no circumstance shall the Investigator relocate or dispose of any study documents before having obtained written approval from the Sponsor.

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If it becomes necessary for the Sponsor or the appropriate regulatory authority to review any documentation relating to this study, the Investigator must permit access to such reports. If the Investigator has a question regarding retention of study records, he/she should contact JJVC.

### 20. FINANCIAL CONSIDERATIONS

Remuneration for study services and expenses will be set forth in detail in the Clinical Research Agreement. The Research Agreement will be signed by the Principal Investigator and a JJVC management representative prior to study initiation.

JJVC reserves the right to withhold remuneration for costs associated with protocol violations such as:

- Continuing an ineligible subject in the study.
- Scheduling a study visit outside the subject's acceptable visit range.

JJVC reserves the right to withhold final remuneration until all study related activities have been completed, such as:

- Query resolution.
- Case Report Form signature.
- Completion of any follow-up action items.

### 21. PUBLICATION

This is a single site study. The participating institution and Principal Investigators for this study agree that, should the study results be published, the first publication of the results of this study shall be made in conjunction with the presentation of a joint publication of the study results with the investigators contributing data, analyses and comments.

### 22. REFERENCES

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44. Korde Vea. Clinically Meaningful Contrast Sensitivity Difference for a Healthy Eye. *Ophthalmology & Visual Science* 2020; 61.7 4614-4614.
45. Health Information Portability and Accountability Act (HIPAA). Available at <https://www.hhs.gov/hipaa/for-professionals/privacy/index.html>

# **Clinical Study Protocol**

## **Johnson & Johnson Vision Care, Inc.**

46. Regulation (EU) 2017/745 of the European Parliament and of the Council of 5 April 2017 on medical devices. Available at <http://data.europa.eu/eli/reg/2017/745/2017-05-05>

**Clinical Study Protocol**  
**Johnson & Johnson Vision Care, Inc.**

**APPENDIX A: PATIENT REPORTED OUTCOMES (STUDY QUESTIONNAIRES)**

Not Applicable

# **Clinical Study Protocol**

## **Johnson & Johnson Vision Care, Inc.**

### **APPENDIX B: PATIENT INSTRUCTION GUIDE**

The Patient Instruction Guide (PIG) will be provided separately.

**Clinical Study Protocol**  
**Johnson & Johnson Vision Care, Inc.**

**APPENDIX C: PACKAGE INSERT (APPROVED PRODUCT)**

1-Day ACUVUE OASYS<sup>®</sup> with HydraLuxe<sup>™</sup>

**IMPORTANT:** Please read carefully and keep this information for future use.

This Package Insert and Fitting Guide is intended for the Eye Care Professional, but should be made available to patients upon request.

The Eye Care Professional should provide the patient with the appropriate instructions that pertain to the patient's prescribed lenses. Copies are available for download at [www.acuvue.com](http://www.acuvue.com).

**ACUVUE®** **1-Day**  
*oasys* WITH **HydraLuxe™**  
BRAND CONTACT LENSES

**ACUVUE OASYS® Brand Contact Lenses 1-Day  
with HydraLuxe™ Technology**

**ACUVUE OASYS® Brand Contact Lenses 1-Day  
with HydraLuxe™ Technology for ASTIGMATISM**

**senofilcon A Soft (hydrophilic) Contact Lenses  
Visibility Tinted with UV Blocker  
for Daily Disposable Wear**

**DRUG-CONFIDENTIAL**
















CAUTION: U.S. Federal law restricts this device to sale by or on the order of a licensed practitioner.

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## SYMBOLS KEY

The following symbols may appear on the label or carton:

SYMBOL	DEFINITION
	Consult Instructions for Use
	Manufactured by or in
	Date of Manufacture
	Use By Date (expiration date)
	Batch Code
	Sterile Using Steam or Dry Heat
	Single-Use
DIA	Diameter
BC	Base Curve
D	Diopter (lens power)
CYL	Cylinder
AXIS	Axis
	Quality System Certification Symbol
	UV-Blocking
	Fee Paid for Waste Management
	CAUTION: U.S. Federal law restricts this device to sale by or on the order of a licensed practitioner
	Lens Orientation Correct
	Lens Orientation Incorrect (Lens Inside Out)

DESCRIPTION

ACUVUE OASYS® Brand Contact Lenses 1-Day and ACUVUE OASYS® Brand Contact Lenses 1-Day for ASTIGMATISM are soft (hydrophilic) contact lenses made with HydraLuxe™ Technology. They are available as spherical or toric lenses respectively.

These lenses are made of a silicone hydrogel material containing an internal wetting agent, visibility tint, and UV absorbing monomer and are tinted blue using Reactive Blue Dye #4 to make the lenses more visible for handling.

A benzotriazole UV absorbing monomer is used to block UV radiation. The transmittance characteristics for these lenses are less than 1% in the UVB range of 280 nm to 315 nm and less than 10% in the UVA range of 316 nm to 380 nm for the entire power range.

Lens Properties:

The physical/optical properties of the lens are:

- Specific Gravity (calculated): 0.98 - 1.12
- Refractive Index: 1.42
- Light Transmission: 85% minimum
- Surface Character: Hydrophilic
- Water Content: 38%
- Oxygen Permeability:

VALUE

122 x 10<sup>-11</sup> (cm<sup>2</sup>/sec)  
(ml O<sub>2</sub>/ml x mm Hg) at 35°C  
103 x 10<sup>-11</sup> (cm<sup>2</sup>/sec)  
(ml O<sub>2</sub>/ml x mm Hg) at 35°C

METHOD

Fatt (boundary corrected, non-edge corrected)  
Fatt (boundary corrected, edge corrected)

Lens Parameters:

- Diameter Range: 12.0 mm to 15.0 mm
- Center Thickness: varies with power
- Base Curve Range: 7.85 mm to 10.00 mm
- Spherical Power Range: -20.00D to +20.00D
- Cylinder Power Range: 0.25D to -10.00D
- Axis Range: 2.5° to 180°

## AVAILABLE LENS PARAMETERS

ACUVUE OASYS® Brand 1-Day with HydraLuxe™ Technology are hemispherical shells of the following dimensions:

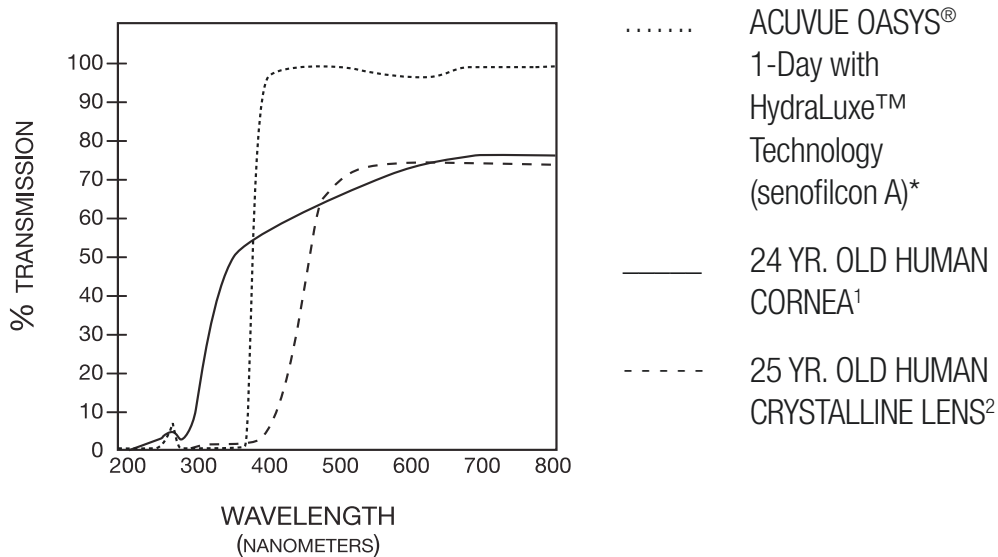
<b>Diameter:</b>	14.3 mm
<b>Center Thickness:</b>	0.085 mm to 0.221 mm (varies with power)
<b>Base Curve:</b>	8.5 mm, 9.0 mm
<b>Powers:</b>	-0.50D to -6.00D (in 0.25D increments) -6.50D to -12.00D (in 0.50D increments) +0.50D to +6.00D (in 0.25D increments) +6.50D to +8.00D (in 0.50D increments)

ACUVUE OASYS® Brand 1-Day with HydraLuxe™ Technology for ASTIGMATISM are hemitoric shells of the following dimensions:

<b>Diameter:</b>	14.3 mm
<b>Center Thickness:</b>	0.075 mm to 0.172 mm (varies with power)
<b>Base Curve:</b>	8.5 mm
<b>Powers:</b>	+0.00D to -6.00D (in 0.25D increments) Cylinders: -0.75D, -1.25D, -1.75D, -2.25D* Axis: 10° to 180° in 10° increments *-2.25D cylinder is available in 10°, 20°, 70°, 80°, 90°, 100°, 110°, 160°, 170°, 180° axes only.  +0.25D to +4.00D (in 0.25D increments) -6.50D to -9.00D (in 0.50D increments) Cylinders: -0.75D, -1.25D, -1.75D Axis: 10°, 20°, 70°, 80°, 90°, 100°, 110°, 160°, 170°, 180°

## TRANSMITTANCE CURVES

ACUVUE OASYS® 1-Day with HydraLuxe™ Technology (senofilcon A) Visibility Tinted with UV Blocker vs. 24 yr. old human cornea and 25 yr. old human crystalline lens.



\* The data was obtained from measurements taken through the central 3-5 mm portion for the thinnest marketed lens (-9.00D lens, 0.075 mm center thickness).

¹Lerman, S., Radiant Energy and the Eye, MacMillan, New York, 1980, p. 58, figure 2-21

²Waxler, M., Hitchins, V.M., Optical Radiation and Visual Health, CRC Press, Boca Raton, Florida, 1986, p. 19, figure 5

**WARNING: UV absorbing contact lenses are NOT substitutes for protective UV absorbing eyewear, such as UV absorbing goggles or sunglasses because they do not completely cover the eye and surrounding area. The patient should continue to use UV absorbing eyewear as directed.**

## ACTIONS

In its hydrated state, the contact lens, when placed on the cornea, acts as a refracting medium to focus light rays onto the retina.

The transmittance characteristics for these lenses are less than 1% in the UVB range of 280 nm to 315 nm, less than 10% in the UVA range of 316 nm to 380 nm for the entire power range.

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**NOTE: Long-term exposure to UV radiation is one of the risk factors associated with cataracts. Exposure is based on a number of factors such as environmental conditions (altitude, geography, cloud cover) and personal factors (extent and nature of outdoor activities). UV-Blocking contact lenses help provide protection against harmful UV radiation. However, clinical studies have not been done to demonstrate that wearing UV-Blocking contact lenses reduces the risk of developing cataracts or other eye disorders. The Eye Care Professional should be consulted for more information.**

## INDICATIONS (USES)

ACUVUE OASYS® Brand Contact Lenses 1-Day with HydraLuxe™ Technology are indicated for daily disposable wear for the optical correction of refractive ametropia (myopia and hyperopia) in phakic or aphakic persons with non-diseased eyes who may have 1.00D or less of astigmatism.

ACUVUE OASYS® Brand Contact Lenses 1-Day with HydraLuxe™ Technology for ASTIGMATISM are indicated for daily disposable wear for the optical correction of refractive ametropia (myopia and hyperopia) in phakic or aphakic persons with non-diseased eyes who may have 0.50D to 3.00D of astigmatism.

These lenses contain a UV Blocker to help protect against transmission of harmful UV radiation to the cornea and into the eye.

## CONTRAINDICATIONS (REASONS NOT TO USE)

**DO NOT USE these contact lenses when any of the following conditions exist:**

- Acute or subacute inflammation or infection of the anterior chamber of the eye.
- Any eye disease, injury or abnormality that affects the cornea, conjunctiva, or eyelids.
- Severe insufficiency of lacrimal secretion (dry eye)

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- Corneal hypoesthesia (reduced corneal sensitivity).
- Any systemic disease that may affect the eye or be exaggerated by wearing contact lenses.
- Allergic reactions of ocular surfaces or adnexa that may be induced or exaggerated by wearing contact lenses or use of contact lens solutions.
- Ocular irritation due to allergic reactions which may be caused by use of contact lens solutions (i.e., rewetting drops) that contain chemicals or preservatives (such as mercury, Thimerosal, etc.) to which some people may develop an allergic response.
- Any active corneal infection (bacterial, fungal, protozoal, or viral).
- If eyes become red or irritated.

## WARNINGS

**Patients should be advised of the following warnings pertaining to contact lens wear:**

**EYE PROBLEMS, INCLUDING CORNEAL ULCERS, CAN DEVELOP RAPIDLY AND LEAD TO LOSS OF VISION; IF THE PATIENT EXPERIENCES:**

- **Eye Discomfort,**
- **Excessive Tearing,**
- **Vision Changes,**
- **Loss of Vision,**
- **Eye Redness,**
- **Or Other Eye Problems,**

**THE PATIENT SHOULD BE INSTRUCTED TO IMMEDIATELY REMOVE THE LENSES AND PROMPTLY CONTACT THE EYE CARE PROFESSIONAL.**

- When prescribed for daily wear, patients should be instructed not to wear lenses while sleeping. Clinical studies have shown that the risk of serious [REDACTED] is increased when lenses are worn overnight, and that the risk of ulcerative keratitis is greater for

extended wear contact lens users than for daily wear users.<sup>3</sup>

- Studies have shown that contact lens wearers who are smokers have a higher incidence of adverse reactions than nonsmokers.
- Problems with contact lenses or lens care products could result in serious injury to the eye. Patients should be cautioned that proper use and care of contact lenses and lens care products are essential for the safe use of these products.
- The overall risk of ulcerative keratitis may be reduced by carefully following directions for lens care.

<sup>3</sup>New England Journal of Medicine, September 21, 1989; 321 (12), pp. 773-783

### **Specific Instructions for Use and Warnings:**

- **Water Activity**

#### **Instructions for Use**

Do not expose contact lenses to water while wearing them.

#### **WARNING:**

Water can harbor microorganisms that can lead to severe infection, vision loss or blindness. If lenses have been submersed in water when participating in water sports or swimming in pools, hot tubs, lakes, or oceans, the patient should be instructed to discard them and replace them with a new pair. The Eye Care Professional should be consulted for recommendations regarding wearing lenses during any activity involving water.

## **PRECAUTIONS**

### **Special Precautions for Eye Care Professionals:**

- Due to the small number of patients enrolled in clinical investigation of lenses, all refractive powers, design configurations, or lens parameters available in the lens material are not evaluated in significant numbers. Consequently, when selecting an appropriate lens design and parameters, the Eye Care Professional should consider all characteristics of the lens that can affect lens performance and ocular health, including oxygen permeability, wettability, central and peripheral thickness, and diameter.

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- The potential impact of these factors on the patient's ocular health should be carefully weighed against the patient's need for refractive correction; therefore, the continuing ocular health of the patient and lens performance on the eye should be carefully monitored by the prescribing Eye Care Professional.
- Patients who wear these lenses to correct presbyopia using monovision may not achieve the best corrected visual acuity for either far or near vision. Visual requirements vary with the individual and should be considered when selecting the most appropriate type of lens for each patient.
- Fluorescein, a yellow dye, should not be used while the lenses are on the eyes. The lenses absorb this dye and become discolored. Whenever fluorescein is used in eyes, the eyes should be flushed with a sterile saline solution that is recommended for in-eye use.
- Eye Care Professionals should instruct the patient to remove the lenses immediately if the eyes become red or irritated.

**Eye Care Professionals should carefully instruct patients about the following care regimen and safety precautions.**

**Handling Precautions:**

- Before leaving the Eye Care Professional's office, the patient should be able to promptly remove the lenses or should have someone else available who can remove the lenses for him or her.
- DO NOT use if the sterile blister package is opened or damaged.
- Always wash and rinse hands before handling lenses. Do not get cosmetics, lotions, soaps, creams, deodorants, or sprays in the eyes or on the lenses. It is best to put on lenses before putting on makeup. Water-based cosmetics are less likely to damage lenses than oil-based products.
- DO NOT touch contact lenses with the fingers or hands if the hands are not free of foreign materials, as microscopic scratches of the lenses may occur, causing distorted vision and/or injury to the eye.
- Carefully follow the handling, removal, and wearing instructions in the "Patient Instruction Guide" for the prescribed

wearing schedule and those prescribed by the Eye Care Professional.

- Always handle lenses carefully and avoid dropping them.
- Never use tweezers or other tools to remove lenses from the lens container unless specifically indicated for that use. Slide the lens up the side of the bowl until it is free of the container.
- Do not touch the lens with fingernails.

### **Lens Wearing Precautions:**

- If the lens sticks (stops moving) on the eye, follow the recommended directions in "Care for a Sticking (Non-Moving) Lens." The lens should move freely on the eye for the continued health of the eye. If non-movement of the lens continues, the patient should be instructed to immediately consult his or her Eye Care Professional.
- Never wear lenses beyond the period recommended by the Eye Care Professional.
- The patient should be advised to never allow anyone else to wear their lenses. They have been prescribed to fit their eyes and to correct their vision to the degree necessary. Sharing lenses greatly increases the chance of eye infections.
- If aerosol products, such as hair spray, are used while wearing lenses, exercise caution and keep eyes closed until the spray has settled.
- Avoid all harmful or irritating vapors and fumes while wearing lenses.
- Always discard lenses worn as prescribed by the Eye Care Professional.

### **Lens Care Precautions:**

- The patient should be informed that no cleaning or disinfection is needed when lenses are worn for daily disposable wear. Patients should always dispose of lenses when removed and have spare lenses or spectacles available.

### **Other Topics to Discuss with Patients:**

- Always contact the Eye Care Professional before using any medicine in the eyes.
- Certain medications, such as antihistamines, decongestants, diuretics, muscle relaxants, tranquilizers, and those for motion sickness may cause dryness of the eye, increased lens awareness, or blurred vision. Should such conditions exist, proper remedial measures should be prescribed. Depending on the severity, this could include the use of lubricating drops that are indicated for use with soft contact lenses or the temporary discontinuance of contact lens wear while such medication is being used.
- Oral contraceptive users could develop visual changes or changes in lens tolerance when using contact lenses. Patients should be cautioned accordingly.
- As with any contact lens, follow-up visits are necessary to assure the continuing health of the patient's eyes. The patient should be instructed as to a recommended follow-up schedule.

### **Who Should Know That the Patient is Wearing Contact Lenses?**

- Patients should inform all doctors (Health Care Professionals) about being a contact lens wearer.
- Patients should always inform their employer of being a contact lens wearer. Some jobs may require use of eye protection equipment or may require that the patient not wear contact lenses.

## **ADVERSE REACTIONS**

### **The patient should be informed that the following problems may occur when wearing contact lenses:**

- The eye may burn, sting, and/or itch.
- There may be less comfort than when the lens was first placed on the eye.
- There may be a feeling of something in the eye (foreign body, scratched area).
- There may be the potential for some temporary impairment due to

peripheral infiltrates, peripheral corneal ulcers, or corneal erosion. There may be the potential for other physiological observations, such as local or generalized edema, corneal neovascularization, corneal staining, injection, tarsal abnormalities, iritis, and conjunctivitis; some of which are clinically acceptable in low amounts.

- There may be excessive watering, unusual eye secretions, or redness of the eye.
- Poor visual acuity, blurred vision, rainbows, or halos around objects, photophobia, or dry eyes may also occur if the lenses are worn continuously or for too long a time.

The patient should be instructed to conduct a simple 3-part self-examination at least once a day. They should ask themselves:

- How do the lenses feel on my eyes?
- How do my eyes look?
- Have I noticed a change in my vision?

If the patient reports any problems, he or she should be instructed to IMMEDIATELY REMOVE THE LENS. If the problem or discomfort stops, the patient should discard the lens and place a new fresh lens on the eye.

If after inserting the new lens, the problem continues, the patient should be directed to IMMEDIATELY REMOVE THE LENS AND CONTACT HIS OR HER EYE CARE PROFESSIONAL.

The patient should be instructed NOT to use a new lens as self-treatment for the problem.

The patient should be advised that when any of the above symptoms occur, a serious condition such as infection, corneal ulcer, neovascularization, or iritis may be present. He or she should be instructed to seek immediate professional identification of the problem and prompt treatment to avoid serious eye damage.

## GENERAL FITTING GUIDELINES

### A. Patient Selection

Patients selected to wear these lenses should be chosen based on:

- Motivation to wear lenses
- Ability to follow instructions regarding lens wear care
- General health
- Ability to adequately handle and care for the lenses
- Ability to understand the risk and benefits of lens wear

Patients who do not meet the above criteria should not be provided with contact lenses.

### B. Pre-fitting Examination

Initial evaluation of the patient should begin with a thorough case history to determine if there are any contraindications to contact lens wear. During the case history, the patient's visual needs and expectations should be determined as well as an assessment of their overall ocular, physical, and mental health.

Preceding the initial selection of trial contact lenses, a comprehensive ocular evaluation should be performed that includes, but is not limited to, the measurement of distance and near visual acuity, distance and near refractive prescription (including determining the preferred reading distance for presbyopes), keratometry, and biomicroscopic evaluation.

Based on this evaluation, if it is determined that the patient is eligible to wear these lenses, the Eye Care Professional should proceed to the lens fitting instructions as outlined below.

### C. Initial Power Determination

A spectacle refraction should be performed to establish the patient's baseline refractive status and to guide in the selection of the appropriate lens power. Remember to compensate for vertex distance if the refraction is greater than  $\pm 4.00D$ .

### D. Base Curve Selection (Trial Lens Fitting)

The following trial lens base curve selection should be used regardless of keratometry readings. However, corneal curvature measurements should be performed to establish the patient's baseline ocular status.

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- ACUVUE OASYS® 1-Day: 8.5 mm/14.3 mm
- ACUVUE OASYS® 1-Day for ASTIGMATISM: 8.5 mm/14.3 mm

The trial lens should be placed on each of the patient's eyes and evaluated after the patient has adjusted to the lenses.

#### 1. Criteria of a Properly Fit Lens

A properly fit lens will center and completely cover the cornea (i.e., no limbal exposure), have sufficient movement to provide tear exchange under the contact lens with the blink, and be comfortable. The lens should move freely when manipulated digitally with the lower lid, and then return to its properly centered position when released.

#### 2. Criteria of a Flat Fitting Lens

A flat fitting lens may exhibit one or more of the following characteristics: decentration, incomplete corneal coverage (i.e., limbal exposure), excessive movement with the blink, and/or edge standoff. If the lens is judged to be flat fitting, it should not be dispensed to the patient.

#### 3. Criteria of a Steep Fitting Lens

A steep fitting lens may exhibit one or more of the following characteristics: insufficient movement with the blink, conjunctival indentation, and resistance when pushing the lens up digitally with the lower lid. If the lens is judged to be steep fitting, it should not be dispensed to the patient.

If the initial trial base curve is judged to be flat or steep fitting, the alternate base curve, if available, should be trial fit and evaluated after the patient has adjusted to the lens. The lens should move freely when manipulated digitally with the lower lid, and then return to a properly centered position when released. If resistance is encountered when pushing the lens up, the lens is fitting tightly and should not be dispensed to the patient.

### **E. Final Lens Power (Spherical)**

A spherical over-refraction should be performed to determine the final lens power after the lens fit is judged acceptable. The spherical over-refraction should be combined with the trial lens power to determine the final lens prescription. The patient should [REDACTED] good visual acuity with the correct lens power unless there is excessive residual astigmatism.

Example 1	
Diagnostic lens:	-2.00D
Spherical over-refraction:	-0.25D
Final lens power:	-2.25D

Example 2	
Diagnostic lens:	-2.00D
Spherical over-refraction:	+0.25D
Final lens power:	-1.75D

If vision is acceptable, perform a slit lamp examination to assess adequate fit (centration and movement). If the fit is acceptable, dispense the lenses and instruct the patient to return in one week for reassessment (see dispensing and follow up information in **PATIENT MANAGEMENT**).

**All patients should be supplied with a copy of the PATIENT INSTRUCTION GUIDE for these lenses. Copies are available for download at [www.acuvue.com](http://www.acuvue.com).**

## TORIC FITTING GUIDELINES

Although most aspects of the fitting procedure are identical for all types of soft contact lenses, including toric lenses, there are some additional steps and/or rules to follow to assure the proper fit of toric lenses.

The only new steps you must follow in prescribing ACUVUE OASYS® 1-Day for ASTIGMATISM are that you must determine the stability, repeatability, and drift angle of the lens axis so that you can prescribe the correct lens axis for the patient.

### A. How to Determine Lens Cylinder and Axis Orientation

#### 1. Locate the Orientation Marks

To help determine the proper orientation of the toric lens, you'll find two primary marks approximately 1 mm from the lens edge representing the vertical position on opposite ends of the lens at 6 and 12 o'clock (Fig. 1). Because of the lens' ballasting system, either mark can represent the vertical position – there is no "top" and "bottom" as in a prism-ballasted lens. You don't need to view both marks to assess orientation; simply look for the 6 o'clock mark as you would with a ballasted lens.



**Figure 1**

You'll need a slit lamp biomicroscope with a 1 to 2 mm parallelepiped beam to highlight the marks when the lens is fitted to the eye. There are a number of techniques you can use to improve the visibility of the 6 o'clock mark. Using a parallelepiped beam and medium magnification (10x or 15x), slowly pan down the lens, looking just below the direct illumination at the retroilluminated area. Backlighting the mark this way should make it more visible. Sometimes manipulating the lower lid may be necessary to uncover the mark.

## **2. Observe Lens Rotation and Stability**

Observe the position and stability of the "bottom" mark. It usually stabilizes at the 6 o'clock position. If it does, calculation of the lens power will be straightforward. The 6 o'clock position is not a "must"; however, the absolute requirement is that the axis position be stable and repeatable.

The mark may stabilize somewhat left or right (drift) of the vertical meridian and still enable you to fit a toric lens for that eye, as long as the lens always returns to the same "drift axis" position after settling. The deviation can be compensated for in the final prescription. Your objective is to ensure that whatever position the initial lens assumes near 6 o'clock, this position must be stable and repeatable. With full eye movement or heavy blink, you may see the marks swing away, but they must return quickly to the original stable position. If the lens does not return quickly, you may need to select a different lens.

## **3. Assessing Rotation**

Imagine the eye as a clock dial and every hour represents a 30° interval. If the orientation mark of the initial lens stabilizes somewhat left or right of the vertical position, the final lens will orient on the eye with the same deviation. You can use an axis reticule in the slit lamp or use a line-scribed lens in a spectacle trial frame to measure or estimate the "drift angle" of the cylinder axis.

To compensate for this "drift", measure or estimate the "drift", then add or subtract it from the refractive axis to determine the correct cylinder axis. Use the LARS (Left Add, Right Subtract) method to determine which direction to compensate.

## B. Final Lens Power

When the diagnostic lens has its axis aligned in the same meridian as the patient's refractive axis, a spherocylindrical over-refraction may be performed and visual acuity determined. However, in the case of crossed axes, such as when the diagnostic lens axis is different from the spectacle cylinder axis, it is not advisable to perform a full spherocylindrical over-refraction because of the difficulty in computing the resultant power. A spherical over-refraction without cylinder refraction may be performed.

If the required cylinder correction falls between two available cylinder powers, it is recommended to prescribe the lower cylinder power lens. See below for instructions on how to determine the final lens power.

### 1. For the Sphere

If sphere alone or combined sphere and cylinder Rx  $> \pm 4.00D$ , compensate for vertex distance. If sphere alone or combined sphere and cylinder Rx  $\leq \pm 4.00D$ , vertex compensation is not necessary.

### 2. For the Cylinder

Adjust the axis by the drift angle using the LARS method. Choose a cylinder that is  $\leq 0.50D$  from the refractive cylinder.

### 3. Case Examples

#### Example 1

Manifest (spectacle) refraction:

O.D.  $-2.50D / -1.25D \times 180^\circ$  20/20

O.S.  $-2.00D / -1.00D \times 180^\circ$  20/20

Choose a diagnostic lens for each eye with axis  $180^\circ$ . Place the lens on each eye and allow a minimum of 3 minutes for it to equilibrate, based on the patient's initial response to the lens. If the lens has not yet stabilized, recheck until stable.

Check the orientation of the axis mark. If the bottom axis mark is in the 6 o'clock position on both eyes, choose the appropriate cylinder as listed previously. If the lens has not yet stabilized, recheck until stable.

Here is the Rx Prescribed:

O.D.  $-2.50D / -1.25D \times 180^\circ$

O.S.  $-2.00D / -0.75D \times 180^\circ$

## Example 2

Manifest (spectacle) refraction:

O.D. -3.00D / -1.00D x 90° 20/20

O.S. -4.75D / -2.00D x 90° 20/20

Choose diagnostic lenses of -3.00D / -0.75D x 90° for the right eye and -4.50D / -1.75D x 90° for the left eye, the nearest lenses available to the spherical power, cylinder power, and axis needed. For the left eye, since the manifest refraction called for -4.75D, compensating for vertex distance the sphere is reduced by 0.25D to -4.50D. The cylinder power will be -1.75D. Place the lens on each eye and allow a minimum of 3 minutes for it to equilibrate, based on the patient's initial response to the lens. If the lens has not yet stabilized, recheck until stable.

### Right Eye

The orientation mark on the right lens rotates left from the 6 o'clock position by 10° and remains stable in this position. Compensation for this rotation should be done as follows:

Compensate the 10° axis drift by adding it to the manifest refraction axis.

Here is the Rx Prescribed:

O.D. -3.00D / -0.75D x 100°

### Left Eye

The orientation mark on the left lens rotates right from the 6 o'clock position by 10° and remains stable in this position.

Compensate for the 10° axis drift by subtracting it from the manifest refraction axis.

Here is the Rx Prescribed:

O.S. -4.50D / -1.75D x 80°

If vision is acceptable, perform a slit lamp examination to assess adequate fit (centration and movement). If fit is acceptable, dispense the lenses instructing the patient to return in one week for reassessment (see dispensing and follow-up information in PATIENT MANAGEMENT).

**All patients should be supplied with a copy of the PATIENT INSTRUCTION GUIDE for these lenses. Copies are available for download at [www.acuvue.com](http://www.acuvue.com).**

# MONOVISION FITTING GUIDELINES

## A. Patient Selection

### 1. Monovision Needs Assessment

For a good prognosis, the patient should have adequately corrected distance and near visual acuity in each eye. The amblyopic patient or the patient with significant astigmatism (greater than 1.00D) in one eye may not be a good candidate for monovision correction with these lenses.

Occupational and environmental visual demands should be considered. If the patient requires critical vision (visual acuity and stereopsis), it should be determined by trial whether this patient can function adequately with monovision correction. Monovision contact lens wear may not be optimal for activities such as:

- visually demanding situations such as operating potentially dangerous machinery or performing other potentially hazardous activities; and
- driving automobiles (e.g., driving at night). Patients who cannot meet state driver's licensing requirements with monovision correction should be advised to not drive with this correction, OR may require that additional over-correction be prescribed.

### 2. Patient Education

All patients do not function equally well with monovision correction. Patients may not perform as well for certain tasks with this correction as they have with spectacles (multifocal, bifocal, trifocal, readers, progressives). Each patient should understand that monovision, as well as other presbyopic alternatives, can create a vision compromise that may reduce visual acuity and depth perception for distance and near tasks. Therefore, caution should be exercised when the patient is wearing the correction for the first time until they are familiar with the vision provided in visually challenging environments (e.g., reading a menu in a dim restaurant, driving at night in rainy/foggy conditions, etc.). During the fitting process, it is necessary for the patient to realize the disadvantages as well as the advantages of clear near vision and straight ahead and upward gaze that monovision contact lenses provide.

## B. Eye Selection

### 1. Ocular Preference Determination Methods

Generally, the non-dominant eye is corrected for near vision. The following two methods for eye dominance can be used.

Method 1: Determine which eye is the "sighting eye." Have the patient point to an object at the far end of the room. Cover one eye. If the patient is still pointing directly at the object, the eye being used is the dominant (sighting) eye.

Method 2: Determine which eye will accept the added power with the least reduction in vision. Place a hand-held trial lens equal to the spectacle near ADD in front of one eye and then the other while the distance refractive error correction is in place for both eyes. Determine whether the patient functions best with the near ADD lens over the right or left eye.

### 2. Other Eye Selection Methods

Other methods include the "Refractive Error Method" and the "Visual Demands Method."

#### Refractive Error Method

For anisometropic correction, it is generally best to fit the more hyperopic (less myopic) eye for distance and the more myopic (less hyperopic) eye for near.

#### Visual Demands Method

Consider the patient's occupation during the eye selection process to determine the critical vision requirements. If a patient's gaze for near tasks is usually in one direction, correct the eye on that side for near.

Example: A secretary who places copy to the left side of the desk will function best with the near lens on the left eye.

## C. Special Fitting Characteristics

### 1. Unilateral Vision Correction

There are circumstances where only one contact lens is required. As an example, an [REDACTED] patient would only require a near lens, whereas a bilateral myope would require corrective lenses on

both eyes.

Examples:

A presbyopic emmetropic patient who requires a +1.75D ADD would have a +1.75D lens on the near eye and the other eye left without correction.

A presbyopic patient requiring a +1.50D ADD who is -2.50D myopic in the right eye and -1.50D myopic in the left eye may have the right eye corrected for distance and the left uncorrected for near.

## **2. Near ADD Determination**

Always prescribe the lens power for the near eye that provides optimal near acuity at the midpoint of the patient's habitual reading distance. However, when more than one power provides optimal reading performance, prescribe the least plus (most minus) of the powers.

## **3. Trial Lens Fitting**

A trial fitting is performed in the office to allow the patient to experience monovision correction. Lenses are fit according to the GENERAL FITTING GUIDELINES for base curve selection described in this Package Insert.

Case history and standard clinical evaluation procedure should be used to determine the prognosis. Determine the distance correction and the near correction. Next determine the near ADD. With trial lenses of the proper power in place, observe the reaction to this mode of correction.

Allow the lenses to settle for about 20 minutes with the correct power lenses in place. Walk across the room and have the patient look at you. Assess the patient's reaction to distance vision under these circumstances. Then have the patient look at familiar near objects such as a watch face or fingernails. Again assess the reaction. As the patient continues to look around the room at both near and distance objects, observe the reactions. Only after these vision tests are completed should the patient be asked to read print. Evaluate the patient's reaction to large print (e.g., typewritten copy) at first and then graduate to newsprint and finally smaller type sizes.

After the patient's performance under the above conditions is completed, tests of visual acuity and reading ability under

conditions of moderately dim illumination should be attempted.

An initial unfavorable response in the office, while indicative of a guarded prognosis, should not immediately rule out a more extensive trial under the usual conditions in which a patient functions.

#### **4. Adaptation**

Visually demanding situations should be avoided during the initial wearing period. A patient may at first experience some mild blurred vision, dizziness, headaches, and a feeling of slight imbalance. You should explain the adaptational symptoms to the patient. These symptoms may last for a brief minute or for several weeks. The longer these symptoms persist, the poorer the prognosis for successful adaptation.

To help in the adaptation process, the patient can be advised to first use the lenses in a comfortable familiar environment such as in the home.

Some patients feel that automobile driving performance may not be optimal during the adaptation process. This is particularly true when driving at night. Before driving a motor vehicle, it may be recommended that the patient be a passenger first to make sure that their vision is satisfactory for operating an automobile. During the first several weeks of wear (when adaptation is occurring), it may be advisable for the patient to only drive during optimal driving conditions. After adaptation and success with these activities, the patient should be able to drive under other conditions with caution.

#### **D. Other Suggestions**

The success of the monovision technique may be further improved by having the patient follow the suggestions below:

- Have a third contact lens (distance power) to use when critical distance viewing is needed.
- Have a third contact lens (near power) to use when critical near viewing is needed.
- Having supplemental spectacles to wear over the monovision contact lenses for specific visual tasks may improve the success of monovision correction. This is particularly applicable for those patients who cannot meet state driver's licensing requirements with monovision correction.
- Make use of proper [REDACTED] when carrying out visual tasks.

Monovision fitting success can be improved by the following suggestions:

- Reverse the distance and near eyes if a patient is having trouble adapting.
- Refine the lens powers if there is trouble with adaptation. Accurate lens power is critical for presbyopic patients.
- Emphasize the benefits of clear near vision and straight ahead and upward gaze with monovision.

The decision to fit a patient with monovision correction is most appropriately left to the Eye Care Professional in conjunction with the patient after carefully considering the patient's needs.

**All patients should be supplied with a copy of the PATIENT INSTRUCTION GUIDE for these lenses. Copies are available for download at [www.acuvue.com](http://www.acuvue.com).**

## PATIENT MANAGEMENT

### Dispensing Visit

Each sterile lens is supplied in a foil-sealed plastic package containing buffered saline solution with methyl ether cellulose. To remove the lens from the container, peel back the foil seal, place a finger on the lens, and slide the lens up the side of the bowl of the lens package until it is free of the container.

- Evaluate the physical fit and visual acuity of the lens on each eye.
- Teach the patient how to apply and remove his or her lenses.
- Explain daily disposable lens wear and schedule a follow-up examination.
- **Provide the patient with a copy of the PATIENT INSTRUCTION GUIDE for these lenses. Copies are available for download at [www.acuvue.com](http://www.acuvue.com).**

**REVIEW THESE INSTRUCTIONS WITH THE PATIENT SO THAT HE OR SHE CLEARLY UNDERSTANDS THE PRESCRIBED WEARING AND REPLACEMENT SCHEDULES.**

### Follow-Up Examinations

Follow-up care (necessary to ensure continued successful contact lens wear) should include routine periodic progress examinations, management of specific problems, if any, and a [REDACTED] with the patient of the wear schedule, daily disposable modality, and proper lens handling procedures.

**Recommended Follow-up Examination Schedule (complications and specific problems should be managed on an individual patient basis):**

1. One week from the initial lens dispensing to patient
2. One month post-dispensing
3. Every three to six months thereafter

**NOTE:** Preferably, at the follow-up visits, lenses should be worn for at least six hours.

**Recommended Procedures for Follow-up Visits:**

1. Solicit and record patient's symptoms, if any.
2. Measure visual acuity monocularly and binocularly at distance and near with the contact lenses.
3. Perform an over-refraction at distance and near to check for residual refractive error.
4. With the biomicroscope, judge the lens fitting characteristics (as described in the **GENERAL FITTING GUIDELINES**) and evaluate the lens surface for deposits and damage.
5. Following lens removal, examine the cornea and conjunctiva with the biomicroscope and fluorescein (unless contraindicated).
  - The presence of vertical corneal striae in the posterior central cornea and/or corneal neovascularization is indicative of excessive corneal edema.
  - The presence of corneal staining and/or limbal-conjunctival hyperemia can be indicative of an unclean lens, a reaction to solution preservatives, excessive lens wear and/or a poorly fitting lens.
  - Papillary conjunctival changes may be indicative of an unclean and/or damaged lens.
6. Periodically perform keratometry and spectacle refractions. The values should be recorded and compared to the baseline measurements.

**CONFIDENTIAL**

**If any observations are abnormal, use professional judgment to alleviate the problem and restore the eye to optimal conditions. If**

**the criteria for successful fit are not satisfied during any follow-up examinations, repeat the patient's trial fitting procedure and refit the patient.**

## WEARING SCHEDULE

The wearing schedule should be determined by the Eye Care Professional. Regular checkups, as determined by the Eye Care Professional, are also extremely important.

Patients tend to overwear the lenses initially. The Eye Care Professional should emphasize the importance of adhering to the initial maximum wearing schedule. Maximum wearing time should be determined by the Eye Care Professional based upon the patient's physiological eye condition, because individual response to contact lenses varies.

The maximum suggested wearing time for these lenses is:

Day	Hours
1	6-8
2	8-10
3	10-12
4	12-14
5 and after	all waking hours

## REPLACEMENT SCHEDULE

These lenses are indicated for daily disposable wear and should be discarded upon removal.

## LENS CARE DIRECTIONS

When lenses are prescribed for daily disposable wear, the Eye Care Professional should provide the patient with appropriate and adequate warnings and instructions for daily disposable lens wear at the time they are dispensed.

The Eye Care Professional should review with patients that no cleaning or disinfection is needed with daily disposable lenses. Patients should always dispose of lenses when they are removed and have spare lenses or spectacles available.

### **Basic Instructions**

- Always wash, rinse, and dry hands before handling contact lenses.
- Do not use saliva or anything other than the recommended solutions for lubricating or rewetting lenses. Do not put lenses in the mouth.
- Eye Care Professionals may recommend a lubricating/rewetting solution which can be used to wet (lubricate) lenses while they are being worn to make them more comfortable.

### **Care for a Sticking (Non-Moving) Lens**

If the lens sticks (stops moving), the patient should be instructed to apply a few drops of the recommended lubricating or rewetting solution directly to the eye and wait until the lens begins to move freely on the eye before removing it. If non-movement of the lens continues after a few minutes, the patient should immediately consult the Eye Care Professional.

## **EMERGENCIES**

The patient should be informed that if chemicals of any kind (household products, gardening solutions, laboratory chemicals, etc.) are splashed into the eyes, the patient should: FLUSH EYES IMMEDIATELY WITH TAP WATER AND IMMEDIATELY CONTACT THE EYE CARE PROFESSIONAL OR VISIT A HOSPITAL EMERGENCY ROOM WITHOUT DELAY.

## **HOW SUPPLIED**

Each UV-blocking sterile lens is supplied in a foil-sealed plastic package containing buffered saline solution with methyl ether cellulose. The plastic package is marked with the following:

- ACUVUE OASYS® 1-Day: base curve, power, diameter, lot number, and expiration date
- ACUVUE OASYS® 1-Day [REDACTED] MATISM: base curve, power, diameter, cylinder, axis, lot number, and expiration date

## REPORTING OF ADVERSE REACTIONS

All serious adverse experiences and adverse reactions observed in patients wearing these lenses or experienced with these lenses should be reported to:

Johnson & Johnson Vision Care, Inc.  
7500 Centurion Parkway  
Jacksonville, FL 32256  
USA  
Tel: 1-800-843-2020  
[www.acuvue.com](http://www.acuvue.com)

Johnson & Johnson Vision Care, Inc.  
7500 Centurion Parkway  
Jacksonville, FL 32256  
USA  
Tel: 1-800-843-2020  
**www.acuvue.com**



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Revision number: AO-03-16-13

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the Johnson & Johnson Vision Care Companies

# **Clinical Study Protocol**

## **Johnson & Johnson Vision Care, Inc.**

### **APPENDIX D:** [REDACTED]

- [REDACTED] Lens Fitting Characteristics
- [REDACTED] Subject Reported Ocular Symptoms/Problems
- [REDACTED] Determination of Distance Spherocylindrical Refractions
- [REDACTED] Biomicroscopy Scale
- [REDACTED] Distance and Near Visual Acuity Evaluation

**Clinical Study Protocol**  
**Johnson & Johnson Vision Care, Inc.**

**██████████ LENS FITTING CHARACTERISTICS**

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**Title:** Lens Fitting Characteristics

**Document Type:** [REDACTED]

**Document Number:** [REDACTED]

**Revision Number: 5**

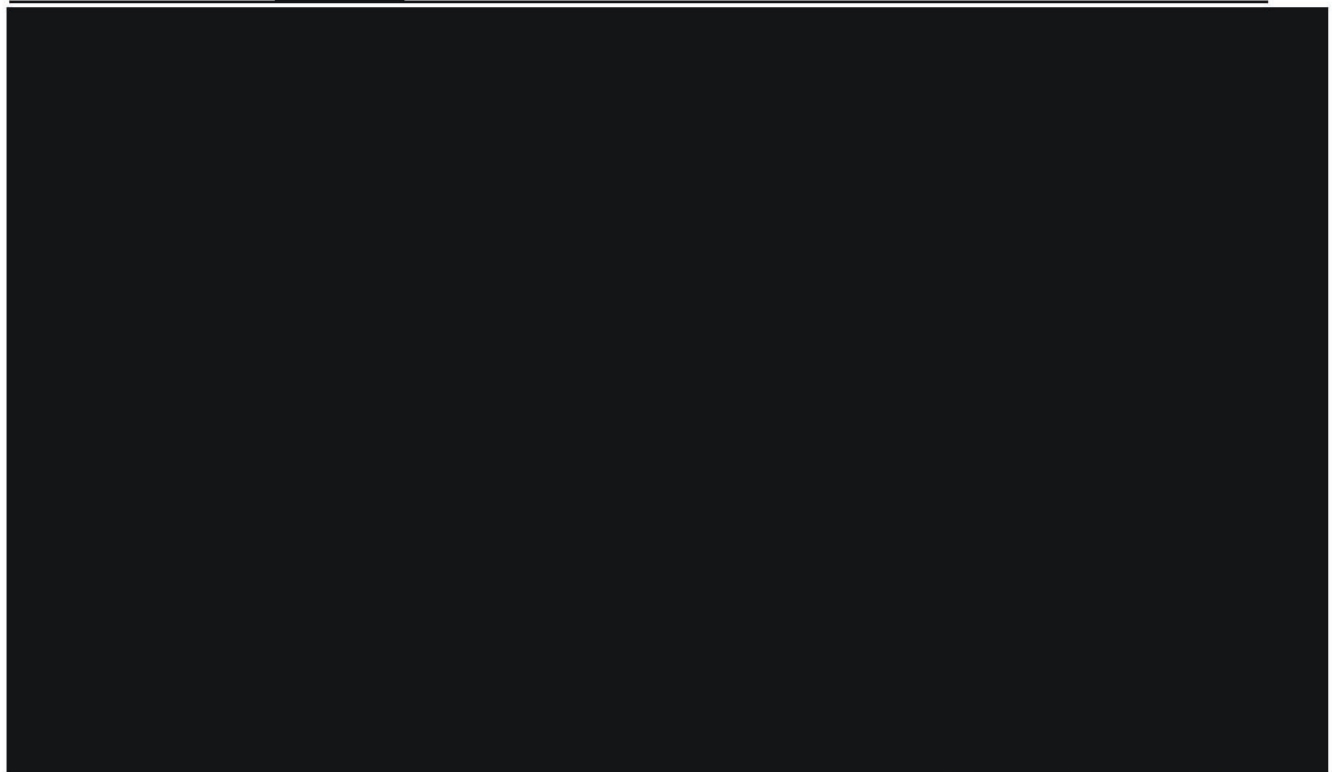


**Title:** Lens Fitting Characteristics

**Document Type:** [REDACTED]

**Document Number:** [REDACTED]

**Revision Number:** 5



**Clinical Study Protocol**  
**Johnson & Johnson Vision Care, Inc.**

**[REDACTED] SUBJECT REPORTED OCULAR SYMPTOMS/PROBLEMS**

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**Clinical Study Protocol**  
**Johnson & Johnson Vision Care, Inc.**

**██████████ DETERMINATION OF DISTANCE SPHEROCYLINDRICAL  
REFRACTIONS**

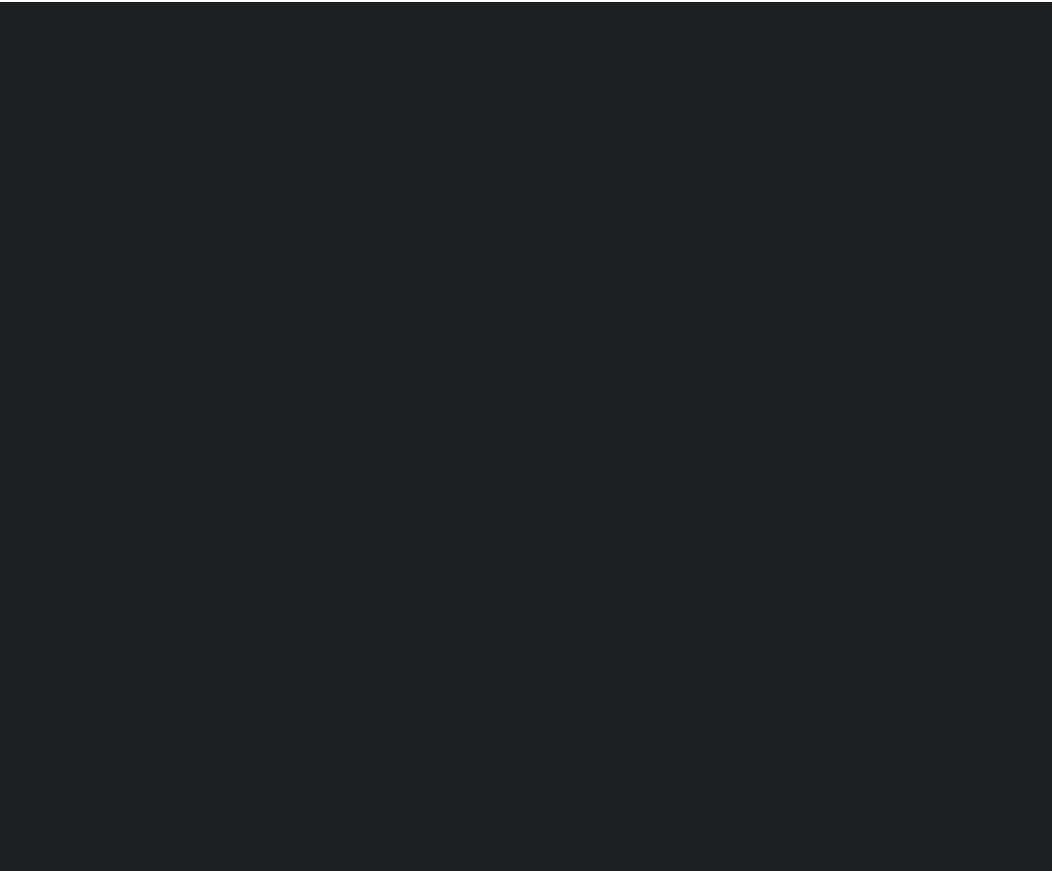
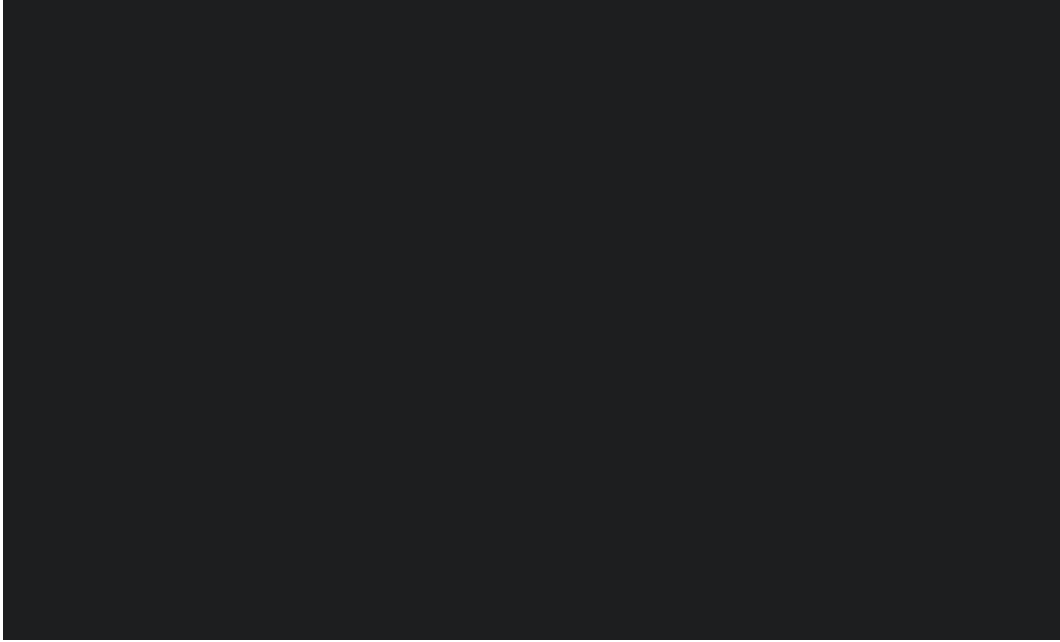
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**Document Type:**    [REDACTED]

**Document Number:** [REDACTED]

**Revision Number: 5**

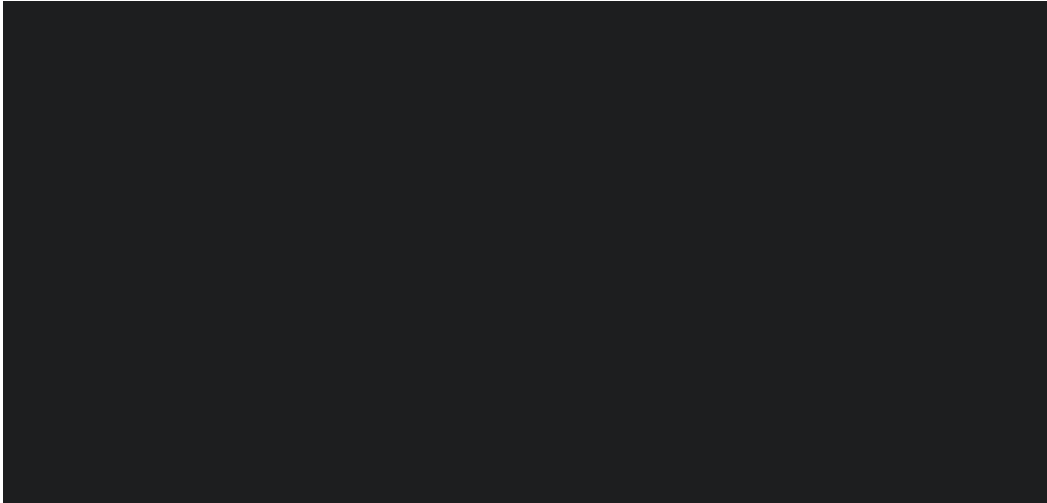


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Document Type: [REDACTED]

Document Number: [REDACTED]

Revision Number: **5**



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**Clinical Study Protocol**  
**Johnson & Johnson Vision Care, Inc.**

**BIOMICROSCOPY SCALE**

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Title: Biomicroscopy Scale

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**Title:** **Biomicroscopy Scale**

**Document Type:** [REDACTED]

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**Clinical Study Protocol**  
**Johnson & Johnson Vision Care, Inc.**

**████████** DISTANCE AND NEAR VISUAL ACUITY EVALUATION

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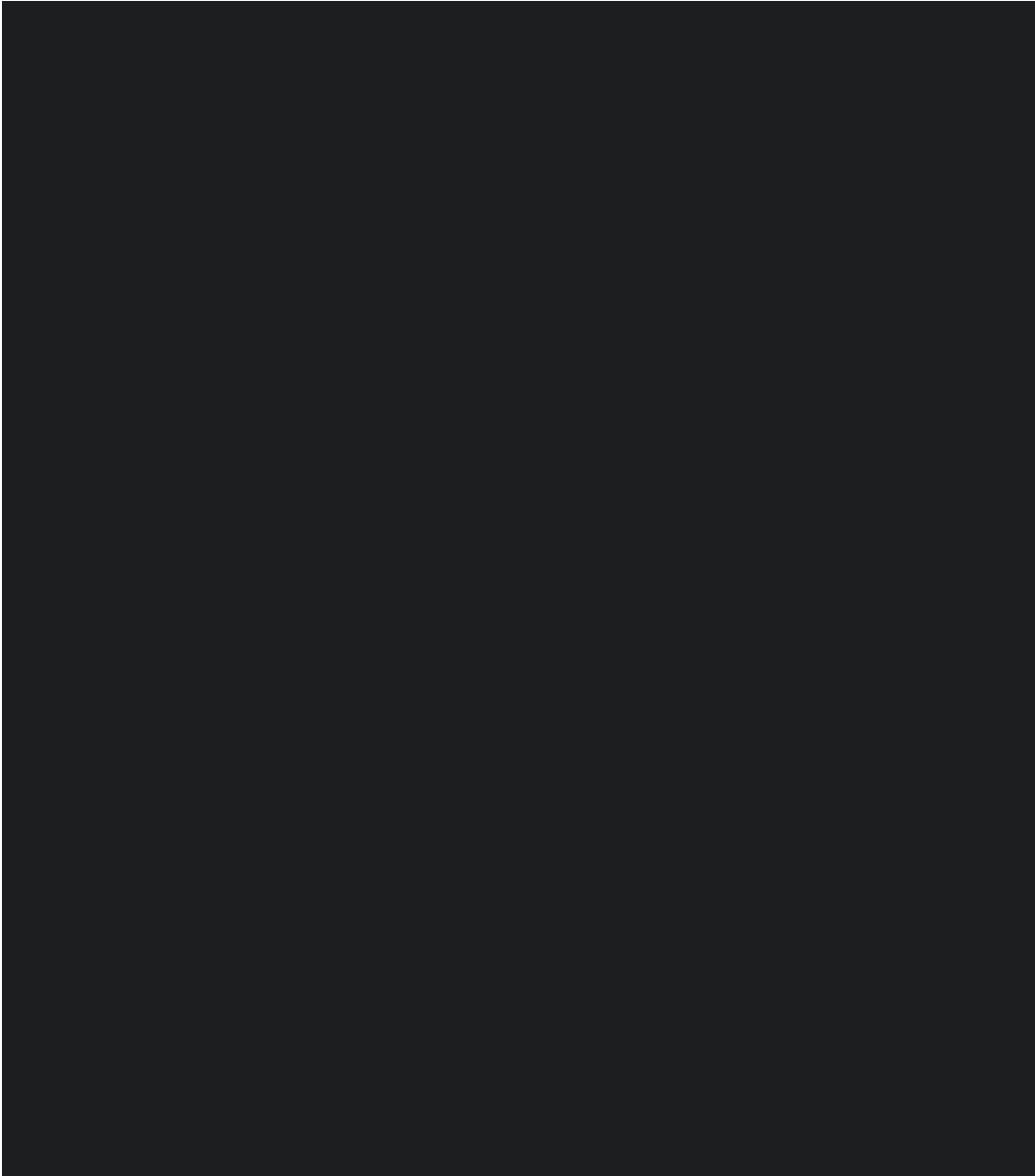
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**Document Number:** [REDACTED]

**Revision Number:** 4



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**Title:** Distance and Near Snellen Visual Acuity Evaluation

**Document Type:** [REDACTED]

**Document Number:** [REDACTED]

**Revision Number: 4**





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Category	Bar 1 (Left)	Bar 2 (Middle)	Bar 3 (Right)
1	95	100	78
2	100	92	50
3	85	90	48
4	100	95	93
5	100	75	95
6	95	90	85
7	100	95	45
8	95	90	85
9	100	100	42
10	80	95	95
11	100	100	40
12	80	95	95
13	100	100	35
14	100	95	95
15	100	100	30

**Clinical Study Protocol**  
**Johnson & Johnson Vision Care, Inc.**

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**Clinical Study Protocol**  
**Johnson & Johnson Vision Care, Inc.**

**APPENDIX F: DETERMINATION OF EYE DOMINANCE**

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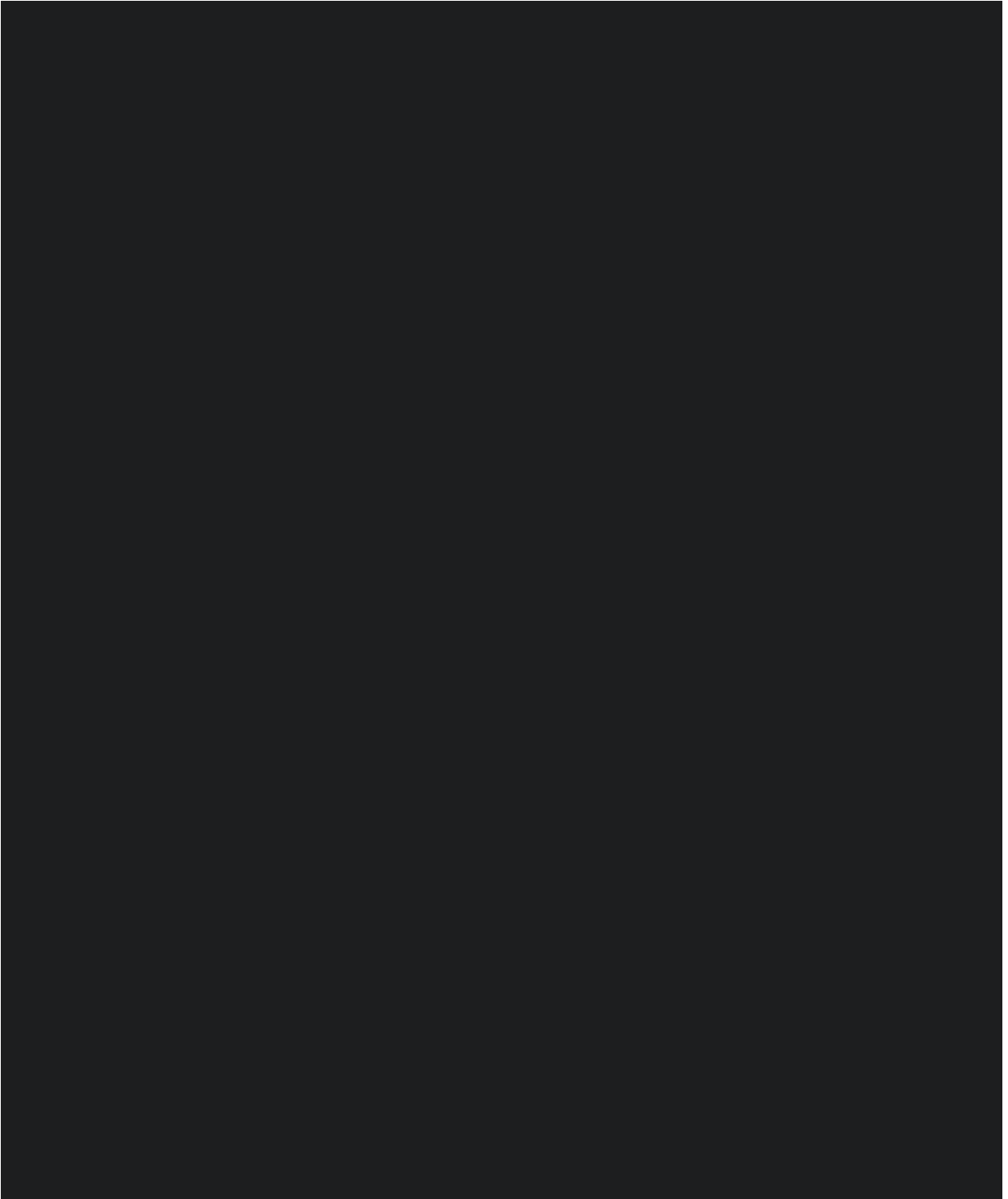
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**Clinical Study Protocol**  
**Johnson & Johnson Vision Care, Inc.**

**APPENDIX G: GUIDANCE FOR INITIAL LENS POWER**



**Clinical Study Protocol**  
**Johnson & Johnson Vision Care, Inc.**

**APPENDIX H: METROPSIS WORK AID**

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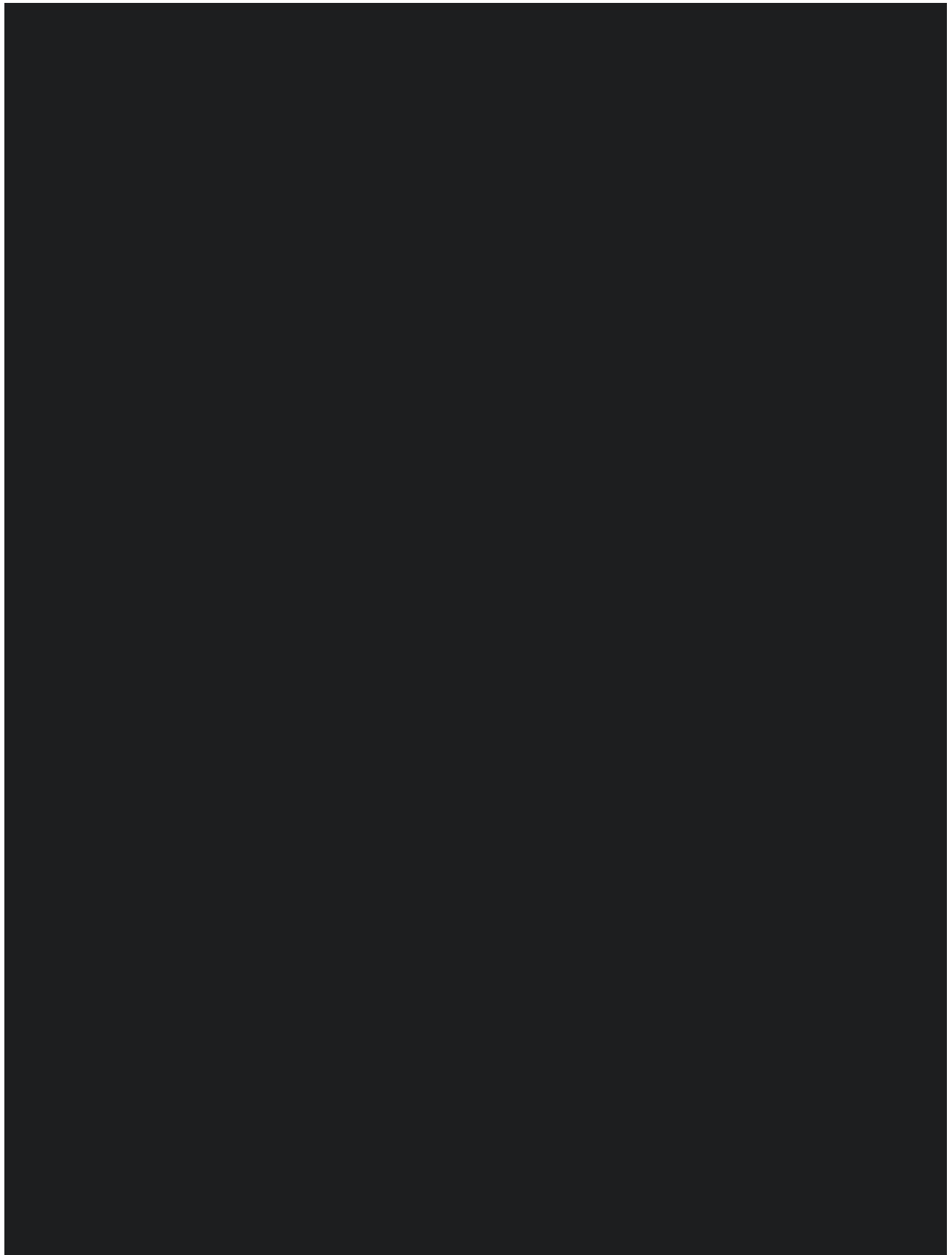


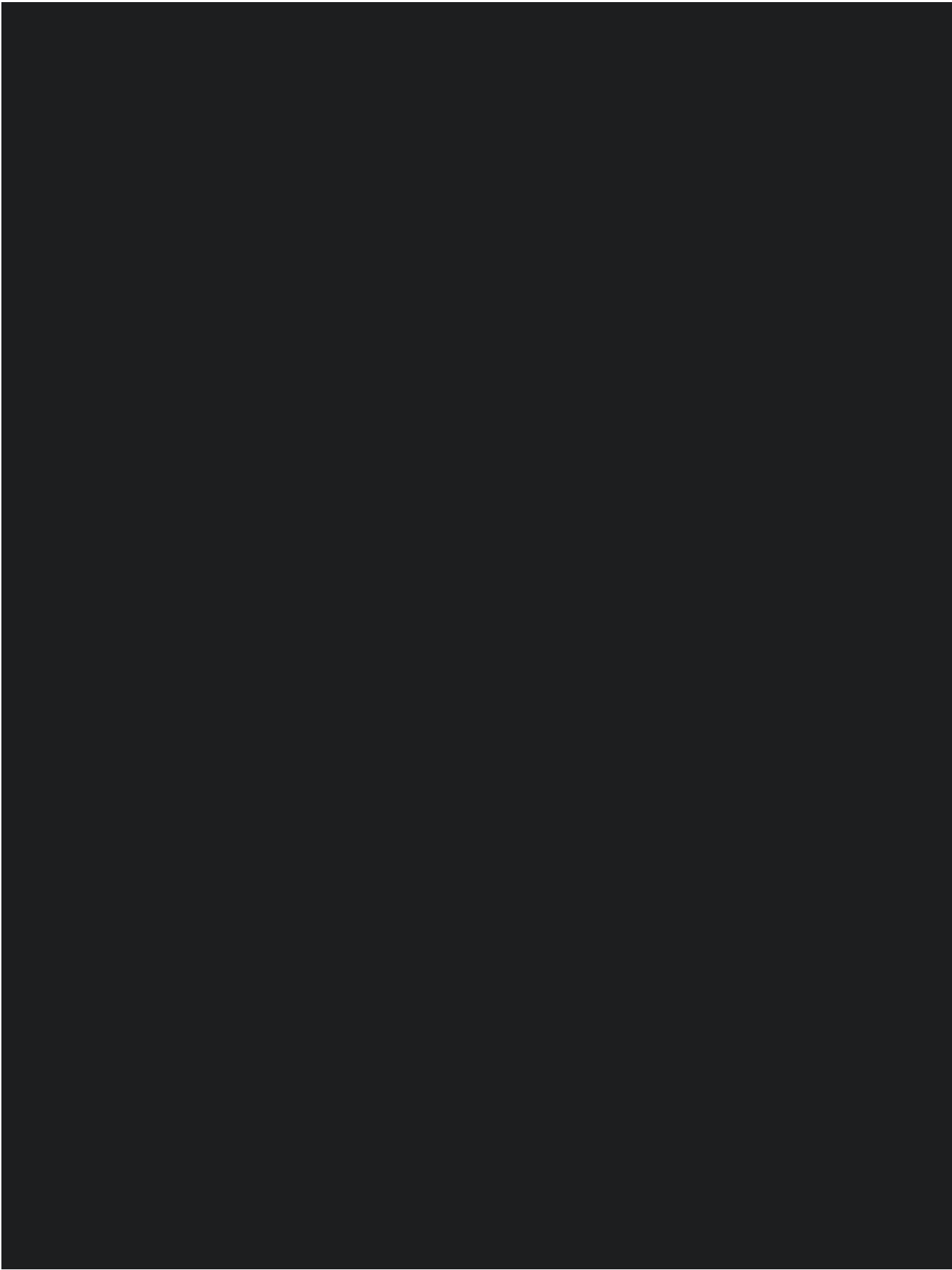
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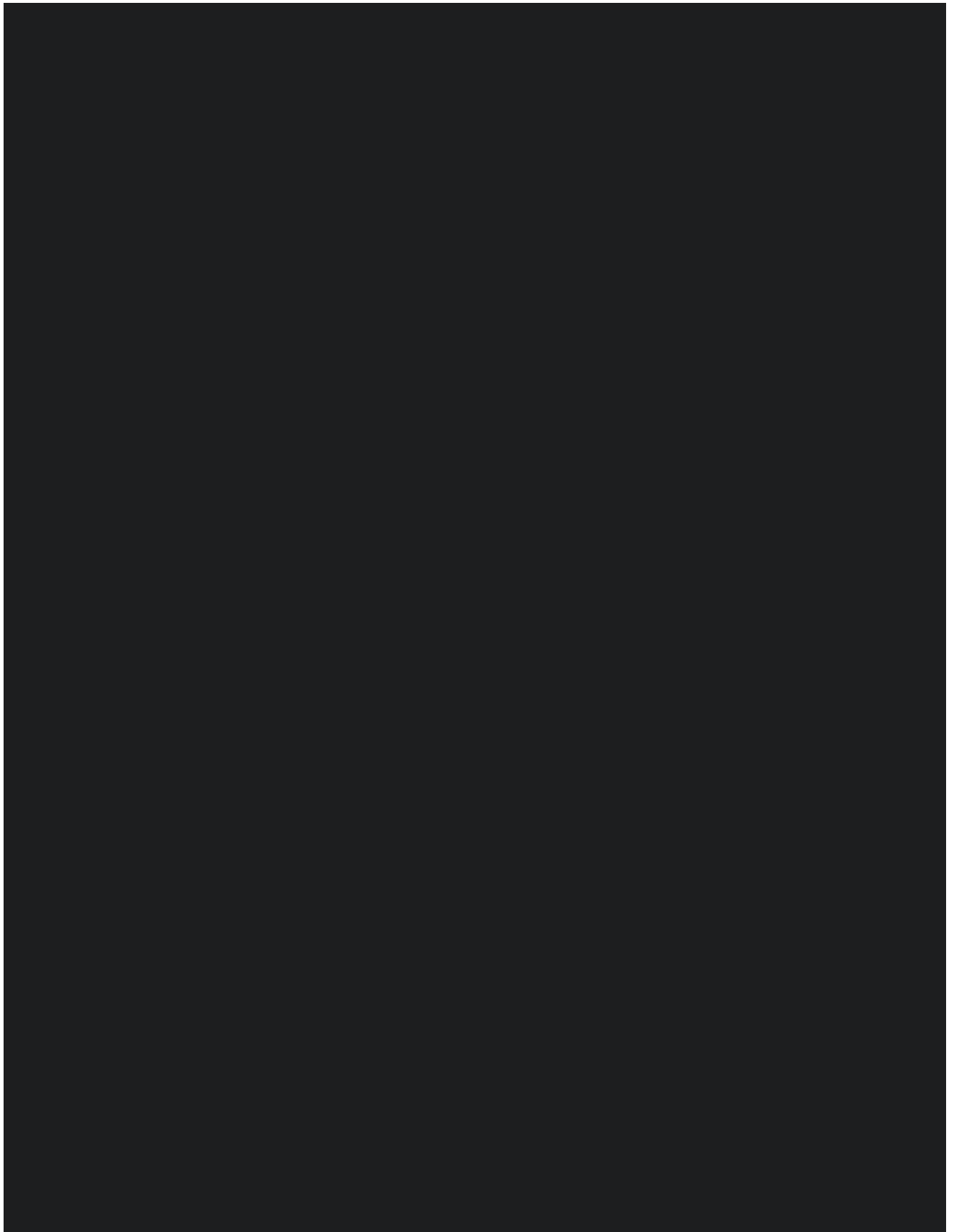




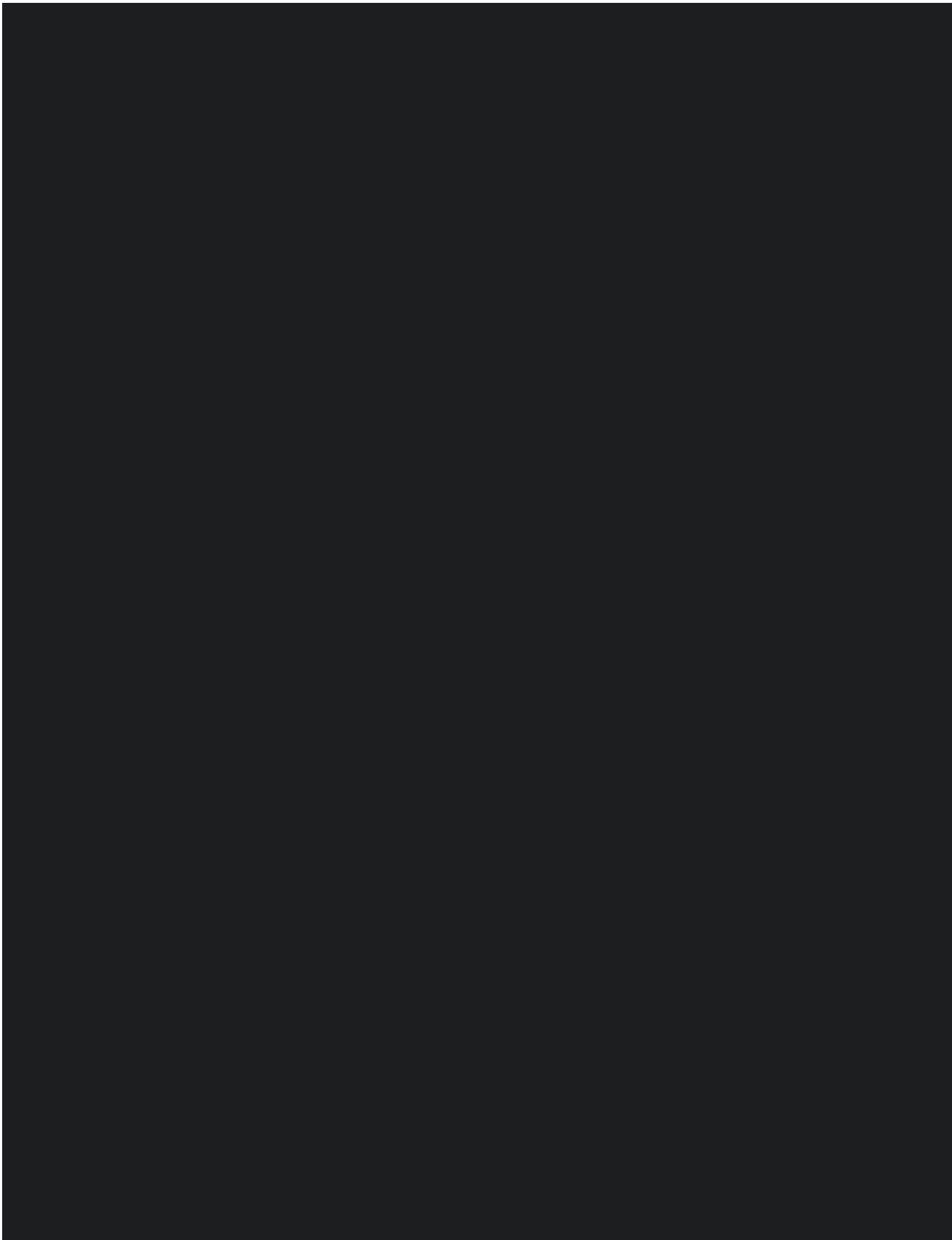










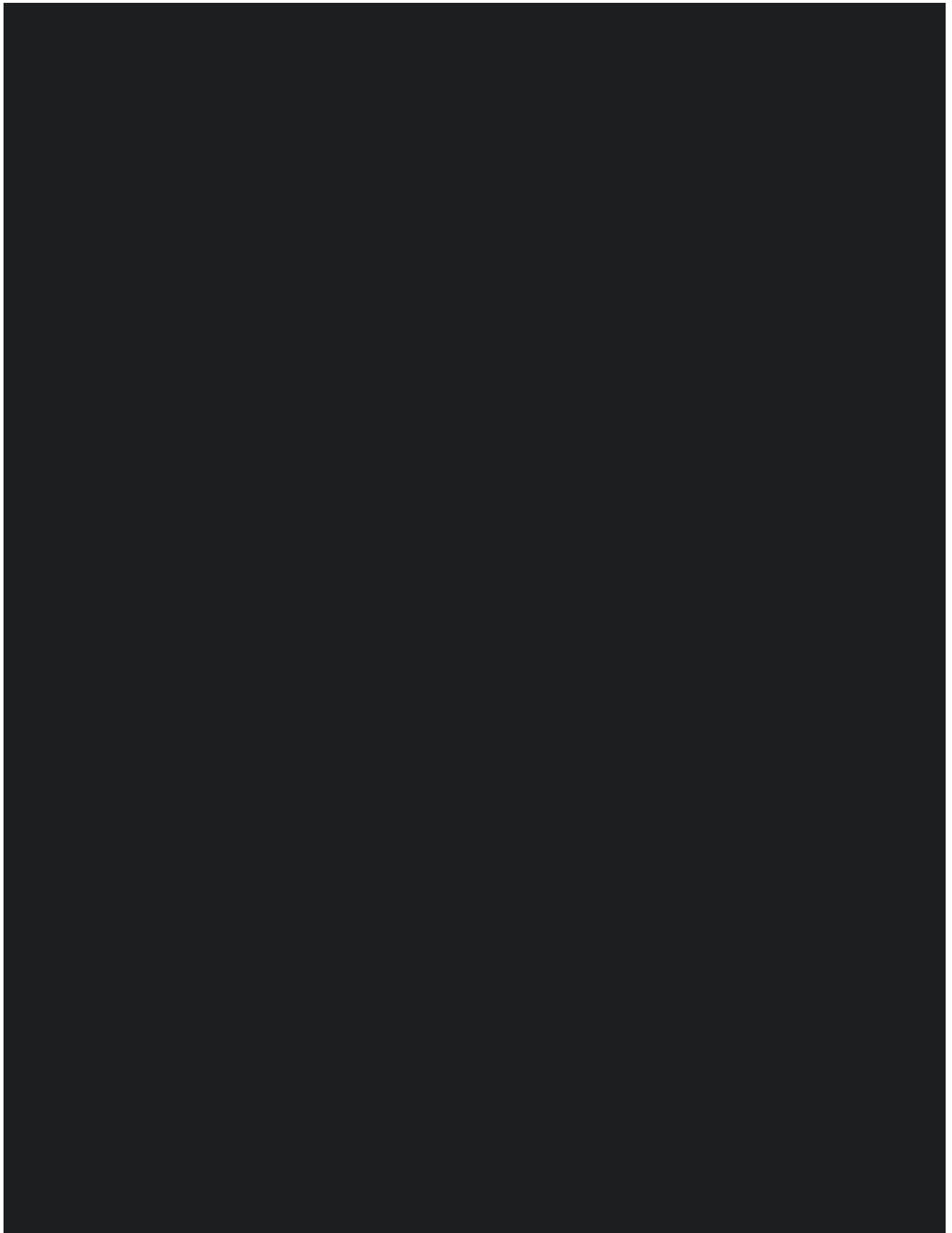


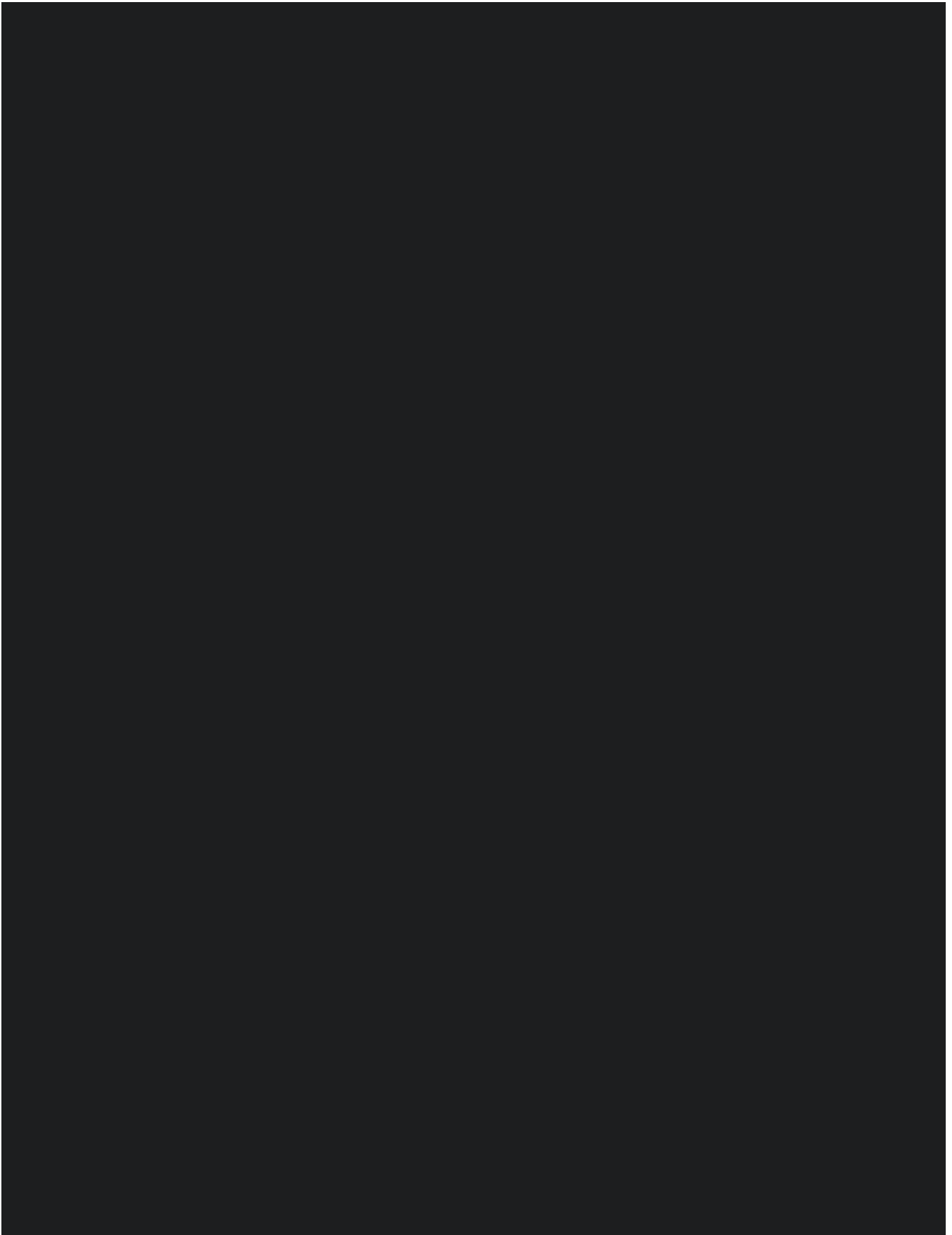


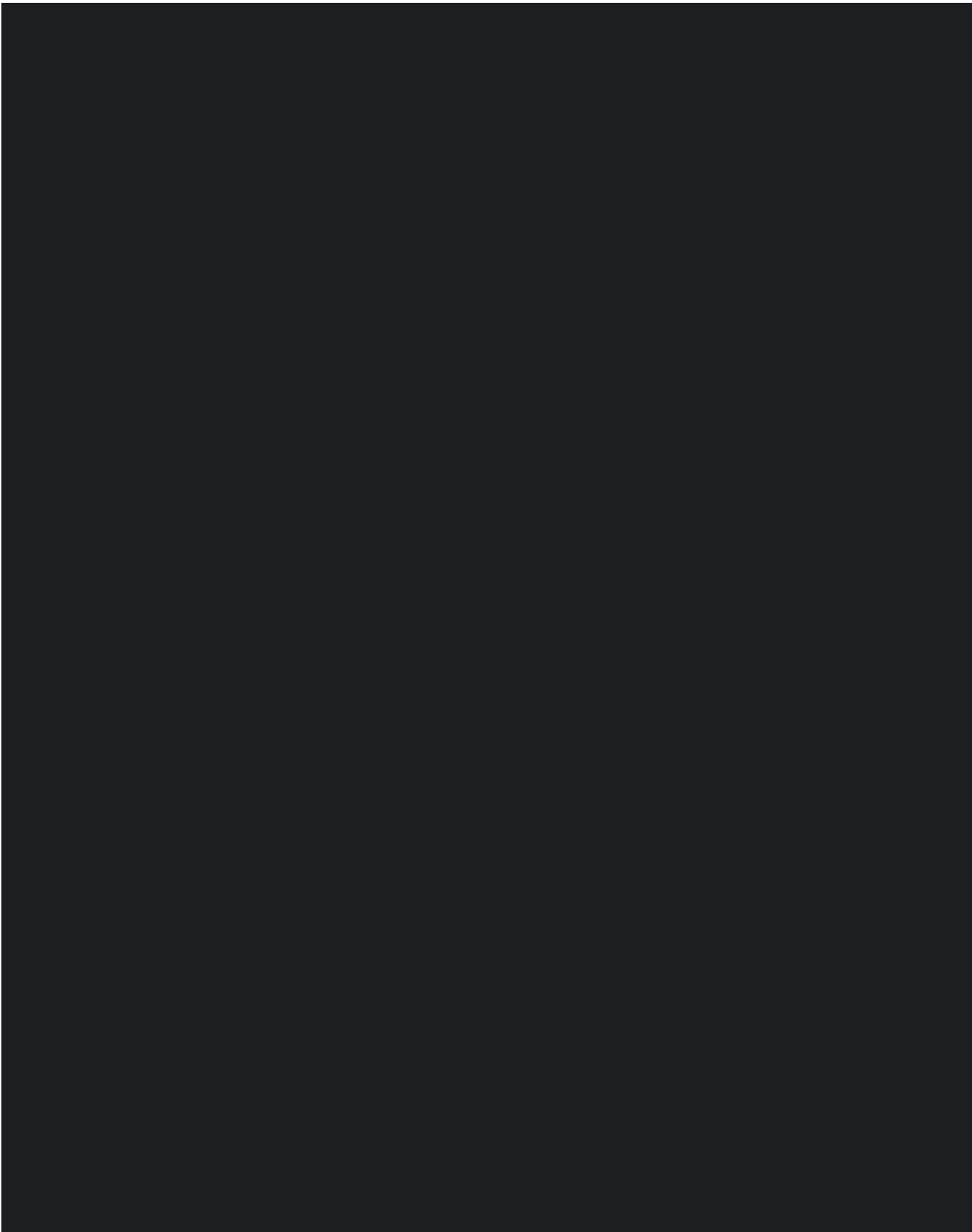


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## APPENDIX I: METROPSIS AND GLARE SOURCE SPECIFICS

Category	Percentage
1.	100%
2.	95%
3.	90%
4.	85%
5.	100%
6.	20%
7.	95%
8.	10%
9.	95%
10.	10%
11.	95%
12.	70%
13.	40%
14.	95%
15.	95%
16.	95%
17.	80%
18.	95%
19.	95%
20.	95%
21.	80%
22.	95%
23.	95%
24.	95%
25.	100%

Response	Percentage
Yes, the U.S. should take action to address climate change	95%
No, the U.S. should not take action to address climate change	5%

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

A horizontal bar chart titled "U.S. should take action to address climate change" showing the percentage of respondents who believe the U.S. should take action to address climate change. The chart is broken down by age group (18-29, 30-49, 50-69, 70+) and gender (Male, Female). The y-axis lists the demographic groups, and the x-axis shows the percentage from 0 to 100. The bars are colored blue for Male and pink for Female. The data is as follows:

Age Group	Gender	Percentage
18-29	Male	100%
	Female	95%
30-49	Male	100%
	Female	95%
50-69	Male	100%
	Female	95%
70+	Male	100%
	Female	95%
Total	Male	100%
	Female	95%

**Clinical Study Protocol**  
**Johnson & Johnson Vision Care, Inc.**

**APPENDIX J: GUIDELINES FOR COVID-19 RISK MITIGATION**

## 1.0 PURPOSE

The purpose of this document is to provide guidelines for the re-opening or initiation of clinical study sites participating in Johnson & Johnson Vision Care, Inc. (JJVCI) clinical studies during the COVID-19 pandemic.

## 2.0 SCOPE

This document provides guidelines for Johnson & Johnson Vision Care (JJVCI) to address the potential risks from COVID-19 to study subjects, investigators, study site staff, and monitors at study sites. The guidance provided in this document is in effect from the date of approval through the date of retirement of this Work Instruction. At a minimum, this Work Instruction will be reviewed and updated on a quarterly basis, as appropriate.

**NOTE: Re-opening of sites outside of the US will be evaluated on a country by country basis subject to local health authority guidance.**

## 3.0 DEFINITIONS

**American Academy of Optometry (AAO):** The American Academy of Optometry is an organization of optometrists based in Orlando, Florida. Its goal is to maintain and enhance excellence in optometric practice, by both promoting research and the dissemination of knowledge. The AAO holds an annual meeting, publishes a monthly scientific journal, gives credentials to optometrists through the fellowship process and publishes position statements.

**American Optometric Association (AOA):** The American Optometric Association, founded in 1898, is the leading authority on quality care and an advocate for our nation's health, representing more than 44,000 Doctors of Optometry (O.D.), optometric professionals, and optometry students. Doctor of Optometry take a leading role in patient care with respect to eye and vision care, as well as general health and well-being. As primary health care providers, Doctor of Optometry have extensive, ongoing training to examine, diagnose, treat and manage ocular disorders, diseases and injuries and systemic diseases that manifest in the eye. The American Optometric Association is a federation of state, student, and armed forces optometric associations. Through these affiliations, the AOA serves members consisting of optometrists, students of optometry, paraoptometric assistants and technicians. The AOA and its affiliates work to provide the public with quality vision and eye care.

**Centers for Disease Control and Prevention (CDC):** The Centers for Disease Control and Prevention is a national public health institute in the United States. It is a United States federal agency, under the Department of Health and Human Services, and is headquartered in Atlanta, Georgia.

**COVID-19:** Current outbreak of respiratory disease caused by a novel coronavirus. The virus has been named "SARS-CoV-2" and the disease it causes has been named "Coronavirus Disease 2019" (COVID-19).

**Clinical Study:** Voluntary research studies conducted in people and designed to answer specific questions about the safety or effectiveness of drugs, vaccines, other therapies, or new ways of using existing treatments. May also be called clinical trials, studies, research, trials, or protocols.

**Clinical Study Site:** Location where a clinical study is conducted, such as a doctor's office, university, or laboratory. Clinical studies are conducted by Investigators who are individual(s) responsible for the conduct of the clinical study at a study site. If a study is conducted by a team of individuals, the Investigator is the responsible leader of the team and may be called the Principal Investigator.

**Clinical Operations Manager (COM):** The Johnson & Johnson Vision Care (JJVCI) individual responsible for the overall management of a clinical trial.

**Monitor:** An individual designated to oversee the progress of a clinical study and ensure that it is conducted, recorded, and reported in accordance with the protocol, Standard Operating Procedures (SOPs), Good Clinical Practice (GCP), and applicable regulatory requirements.

**Medical Safety Officer (MSO):** Physician who has primary accountability in their product portfolio for product health and safety, and who serves as an independent medical voice for patient safety.

**Safety Management Team (SMT):** A cross-functional, collaborative team responsible for review, assessment and evaluation of medical safety data arising from any source throughout the product life cycle.

## 4.0 GUIDANCE FOR STUDY DOCUMENTS

In alignment with recent health authority guidance, JJVCI is providing recommendations for study-related management in the event of disruption to the conduct of the clinical study. This guidance does not supersede any local or government requirements or the clinical judgement of the investigator to protect the health, safety and well-being of participants and site staff. If, at any time, a participant's safety is considered to be at risk, study intervention will be discontinued, and study follow-up will be conducted as outlined in the protocol.

During the COVID-19 pandemic, the additional risks listed below need to be considered for study participants and study personnel:

### 4.1 Additional Risks Related to the COVID-19 Pandemic:

- The possible transmission of the Coronavirus infection and consequent complications, beyond the risk of adverse events due to the investigational device and/or procedures.
- The risk may be higher in an optometric clinical study because of the close contact the subject will have with health care professionals during the procedures and assessments (since the investigator must make the measurements close to the subject's face) and, in addition the need for multiple follow-up visits/exams which may expose the subject to other patients and/or healthcare professionals who might be transmitting the virus, even if they do not have symptoms.
- Potential disruptions to the study may be necessary due to current or future pandemic-related emergency restrictions, which may lead to delays in scheduled follow-up visits.
- Subjects experiencing an adverse event related to contact lens wear may receive delayed treatment due to COVID-19 restrictions. In this event, all assessments that can be conducted virtually will be completed by the investigator to determine the best course of treatment for the subject, including an unscheduled visit, up to discontinuation from the study, as appropriate.

If a study subject is found to have contracted COVID-19 during participation in a study, he/she will be discontinued from the study and followed until COVID-19 Adverse Event (AE) resolution.

To help minimize the above potential risks, JJVCI recommend reviewing/complying with local, state, and governmental guidance for COVID-19 risks.

JJVCI will provide the following study specific documents with language pertaining to COVID-19 risks:

#### 4.1.1 Informed Consent:

Will include information concerning the study-associated risks related to the COVID-19 pandemic in bold font and/or boxed on the first page of the Informed Consent document:

## STUDY ASSOCIATED RISKS RELATED TO COVID-19 (CORONAVIRUS) PANDEMIC

It is important to note that this study will be conducted, at least in part, during the COVID-19 pandemic. As such, additional risks associated with the infection with COVID-19 exist for you. This is particularly important for this study due, in part, to the closeness of the doctor during the study examinations.

The potential effects of the disease are not fully known, at this time, and may include long-term serious health consequences. In severe cases, this may result in hospitalization and/or death. Based on current knowledge from the Centers for Disease Control and Prevention (CDC), those at high-risk for severe illness from COVID-19 include older adults and people with underlying medical conditions.

During this study, all appropriate measures will be taken to minimize risks including the use of personal protective equipment such as masks and gloves, as well as proper sanitization. This is in conformance to guidance from the CDC, local health departments, and the state and county in which the study doctor's office is located. However, these measures may not completely eliminate the risks associated with contracting COVID-19.

If you are found to have contracted COVID-19 or feel ill with flu-like symptoms during participation in the study, you will not be permitted to continue in-office study follow-up visits, but you will receive instructions and your condition will be monitored by the doctor and/or study staff.

### 4.1.2 COVID-19 Risk Control Checklist (Attachment-B):

Will include COVID-19 risk control methods that are required by a site to conduct JJVCI clinical studies. The risk controls are consistent with CDC, AOA, AAO Guidance. The Principal Investigator will review/sign the study specific checklist prior to the Site Initiation Meeting.

### 4.1.3 Protocol Compliance Investigator(s) Signature Page:

Will include a statement indicating that the Principal Investigator (PI) agrees to conduct the study in compliance with all local, state, and governmental guidance's for COVID-19 risk mitigation.

I have read the suggested guidance provided by JJVCI pertaining to the COVID-19 risk mitigation, (COVID-19 Work Instruction in the Appendix of this protocol). I agree to conduct this study in compliance with local, state, governmental guidance for COVID-19 risks.

### 4.1.4 Study Site Initiation Training Slides:

Will include suggestions to help mitigate potential transmission of COVID-19. Suggestions may include maintaining social distancing in the clinical site by staggered scheduling of study patients, wearing proper PPEs, frequent disinfection, and installing shields on the slit lamp and other applicable equipment.

## 5.0 GUIDANCE FOR REMOTE SUBJECT VISITS

Potential disruptions to the study may be necessary due to current or future pandemic-related emergency restrictions. Possible disruption of the study as a result of COVID-19 control measures may lead to delays in scheduled follow-up visits.

Subjects may be delayed in being seen for study follow up visit(s), for example due to COVID-19 control measures or due to the subject's concerns or fears about COVID-19 risk. When appropriate, the remote assessment will be conducted to the extent possible. Discussions with the subject during remote assessments may include:

Procedure	Details
Subject Reported Ocular Symptoms	Subjects will respond to a verbal open-ended symptoms questionnaire regarding the test article when applicable and feasible.
Change of Medical History (Adverse Events) and Concomitant Medications / Therapies Review	Record any adverse events or medical history changes from the previous study visit with the subject/parents.  Review the subject's concomitant medications/therapies and record any changes from the previous study visit.
Wearing Time and Compliance	Record the average wearing time (including number of hours per day during weekdays and weekends, and number of days per week).  Confirm compliance with the prescribed wear schedule. <ul style="list-style-type: none"><li>Record and discuss the lens wear compliance based on the subject's self-report. For example, the subjects will be asked the time of the day the subject typically puts on the study lenses in the morning and takes off in the evening, the number of days per week lenses were worn, and the number of consecutive days the subject didn't wear the study lenses, etc.</li></ul>

The discussion with the subject will be documented in EDC under Tele-Visit and a minor protocol deviation will be noted. If during the telephone consultation, a subject states he/she wishes to discontinue participating in the study, instruct the subject to stop wearing the study lenses and schedule the subject to return to the clinic for a Final Evaluation at the at earliest possible time. Subjects should return all unused lenses to the clinic at the last visit.

Changes in study visit schedules, missed visits, or participant discontinuations may lead to missing data, including data related to protocol-specified procedures. Case report forms should capture specific information regarding the basis of missing data, including the relationship to the COVID-19 pandemic.

## 6.0 STUDY CONDUCT DURING PANDEMIC

It is recognized that the Coronavirus Disease 2019 (COVID-19) pandemic may have an impact on the conduct of this clinical study due to, for example, self-isolation/quarantine by participants and study-site personnel; travel restrictions/limited access to public places, including Optometry Clinics; and changes in clinic procedures required to address the COVID-19 challenge.

Every effort should be made to adhere to protocol-specified assessments for study participants, including follow-up. However, if scheduled visits cannot be conducted in person at the study site it is suggested that assessments be performed to the extent possible remotely/virtually or delayed until such time that on-site visits can be resumed in order to continue participant monitoring in accordance with the protocol where possible. At each contact, participants will be interviewed to collect safety data. Key efficacy endpoint assessments should be performed if required and as feasible.

Modifications to protocol-required assessments may be permitted via COVID-19 Appendix after consultation with the participant, investigator, and the sponsor. Missed assessments/visits will be captured in the clinical trial management system for protocol deviations. Interruptions of test article wear or discontinuations of study interventions and withdrawal from the study should be documented with the prefix "COVID-19-related" in the case report form (CRF).

The sponsor will continue to monitor the conduct and progress of the clinical study, and any changes will be communicated to the sites and to the health authorities according to local guidance.

If a participant has tested positive for COVID-19, the investigator should contact the sponsor's responsible medical monitor to discuss initial plans for study intervention and follow-up. The medical monitor will notify the Safety Management Team of any subject(s) that have reported "COVID-19", "Asymptomatic COVID-19", or "Suspected COVID-19" adverse events within 24 hours of the notification.

Modifications made to the study conduct as a result of the COVID-19 pandemic will be summarized in the clinical study report.

COVID-19 screening procedures that may be mandated by local healthcare systems do not need to be reported as an amendment to the protocol even if done during clinical study visits.

## 6.1 Monitoring Visits

When on-site monitoring by the sponsor is not feasible, the sponsor's site monitor will contact the study site to schedule remote visits. In such cases, on-site monitoring visits will resume when feasible, with increased frequency to address the source data verification backlog.

Even with staffing limitations during this COVID-19 pandemic, all routine operations related to clinical trials should be well-documented and archived as part of standard process. When conditions permit, all parties involved in this clinical trial should communicate relevant information in a timely manner so that all relevant parties remain sufficiently informed.

### 6.1.1 Study Site Initiation:

During the period that this Work Instruction is in effect, Site Initiation Meetings and training of study site staff will be conducted remotely. The JJVCI study team will conduct training via Skype, Zoom, Microsoft Teams or similar software as well as utilize online training materials, as applicable. Study site training will be documented utilizing Site Initiation Report [REDACTED]

On-site visits may be considered when, for example, hands-on training or evaluation of site facilities is required. While on site, the Clinical Research Associate (CRA) will follow all local, state, and governmental policies for COVID-19 Risk Mitigation, including social distancing, wearing of PPE, etc. as applicable for the location of the study site.

### 6.1.2 Interim Monitoring Visits (if applicable):

During the period that this Work Instruction is in effect, Interim Monitoring On-site visits will be kept to a minimum and include only those tasks that the CRA cannot perform remotely (e.g., source document verification, test article reconciliation, etc.).

To ensure data integrity during the conduct of all JJVC studies, clinical study teams will follow the study specific Clinical Monitoring Plan [REDACTED]

While on site, the CRA will follow all local, state, and governmental policies for COVID-19 Risk Mitigation, including social distancing, wearing of PPE, etc. as applicable for the location of the study site.

6.1.3 Study Site Closure:

During the period that this Work Instruction is in effect, the duration of the Study Site Closure Visit will be limited to tasks that the CRA cannot perform remotely (e.g., source document verification, test article final reconciliation and return, etc.).

<b>Title:</b>	<b>Guidelines for COVID-19 Risk Mitigation</b>		
<b>Document Type:</b>	[REDACTED]		
<b>Document Number:</b>	[REDACTED]	<b>Revision Number: 5</b>	

## Attachment A: Study Site Correspondence

XXXX XX, 2020

**Re: COVID-19 Mitigation Plan, <<CR-xxxx/protocol title>>**

Dear <<Principal Investigator>> and Study Team,

Coronavirus (COVID-19) has impacted several communities and business activities over the past several months. While we work toward the successful conduct of clinical studies, our commitment continues to be the safety of patients, healthcare professionals, and to our communities.

Therefore, we would like to share the following revisions/additions related to the above referenced Johnson & Johnson Vision Care company sponsored clinical trial(s) you are currently working on or considering participation within.

### **Protocol:**

- Guidelines for COVID-19 Risk Mitigation provided in the Appendix section.

### **Protocol Signature Page:**

- Will include a statement indicating the Principal Investigator agrees to conduct the study in compliance with all local, state, and governmental guidelines for COVID-19 risk mitigation.

### **Informed Consent:**

- Will include information concerning the study-associated risks related to the COVID-19 pandemic in bold font and/or boxed on the first page of the Informed consent document.

### **COVID-19 Risk Control Checklist for Clinical Studies:**

- Will include COVID-19 risk control measures that are required to ensure the safety and health of subjects, site staff and monitors during the pandemic.

We want to encourage the need for open lines of communication about potential challenges you may foresee as the result of the current COVID-19 situation. Therefore, we encourage you to regularly connect with your respective Johnson & Johnson clinical study team (Clinical Research Associate (CRA), Lead CRA or Study Managers).

Thank you for your continued engagement, collaboration, and dedication to your study subjects during this challenging time.

Please file this letter in your site file study correspondence.

**COVID-19 Risk Control Checklist (Attachment-B):**

Study Number

Site Number

Principal Investigator (PI) Name

The following COVID-19 risk control methods are required to conduct Johnson & Johnson Vision Care clinical studies. Please review the following requirements and Initial each requirement.

PI Initials	General Site Safety Planning Measures
	Signage within site describing Risk Control methods
	Social Distancing practices throughout site (waiting rooms, lobby, exam rooms, etc.)
	Non-contact thermometer available to assess temperatures of staff and patients
	Training on patient flow and physical distancing in waiting room
	Establish longer time frame between patient appointments to reduce persons in the site
	Staff should receive job-specific training on PPE and demonstrate competency with selection and proper use of PPE and wear at all times during interactions with subjects (e.g., putting on and removing without self-contamination)

PI Initials	Site Staff Daily Safety Measures
	As part of routine practice, site staff should regularly monitor themselves for fever and symptoms of COVID-19, including temperature checks
	Any staff member (including non-study clinic staff and Investigators) showing signs of being sick or testing positive for COVID-19 must not be permitted to work on activity that may expose study related staff and subject and the Sponsor shall be informed <b>NOTE: Inform JJVC in 24 hours of any COVID-19 cases and all potential exposure during the clinical study.</b>
	Ensure that all staff wear a mask Gloves should be required when working directly with patients and changed between each patient
	Have staff thoroughly wash hands for at least 20 seconds or use an alcohol-based hand sanitizer when they arrive, before and after each patient, before eating and after using the bathroom.
	Cleaning and disinfection procedures for exam rooms and instruments or equipment between patients with gloves.
	Cleaning and disinfection procedures for commonly touched surfaces (doors, chairs, computers, phones, etc.) with gloves.

PI Initials	Before a Patient or Study Visit:
	Patients should be asked prior to entering the site about fever and respiratory illness and whether they or a family member have had contact with another person with confirmed COVID-19 in the past 14 days. Patients exhibiting signs of being sick should be rescheduled when their symptoms resolve.
	Instruct patients that companions should remain outside of the facility and not accompany the patient into the facility unless they are a parent/guardian of the patient or if they are a true caregiver and need to assist the patient
	Request the patient to call or text the office upon arrival so entrance to and movement through facility can be coordinated by site staff

**Title:** **Guidelines for COVID-19 Risk Mitigation**

**Document Type:** [REDACTED]

**Document Number:** [REDACTED]

**Revision Number: 5**

PI Initials	Patients Entering the site:
	Temperature checks utilizing a non-contact thermometer for all patients and companions entering the site.
	All patients and companions must wear cloth or disposable mask at all times in the site
	Maintain social distancing. Waiting rooms or lobbies should be as empty as possible. Advise seated patients to remain at least 6 feet from one another.
	Communal objects in (e.g. toys, reading materials, etc.) should be removed or cleaned regularly.

I certify that I have read and agree to implement all the listed COVID-19 Risk Control Measures required for the conduct of Johnson & Johnson Vision Care studies.

---

Principal Investigator Signature and Date

## **RESOURCE LINKS**

### **US Resource Links**

- OSHA Training  
<https://www.osha.gov/SLTC/covid-19/controlprevention.html>  
  
Personal Protective Equipment (PPE) Training  
CDC: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/using-ppe.html>
- I&R Training  
ACUVUE® LensAssist: <https://www.acuvue.com/lensassist>
- Clinic Preparedness Guides  
CDC: <https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinic-preparedness.html>  
AOA: <https://aoa.uberflip.com/i/1240437-aoa-guidance-for-re-opening-practices-covid-19?m4=>  
American Optometric Association: <https://www.aoa.org/optometry-practice-reactivation-preparedness-guide>
- In-Office Disinfection of Multi-Patient Use Diagnostic Contact Lenses  
<https://www.gpli.info/wp-content/uploads/2020/03/2020-01-15-in-office-disinfecting-of-diagnostic-lenses.pdf>

### **OUS Resource Links**

- Updates on local regulations in Hong Kong  
<https://www.coronavirus.gov.hk/eng/index.html>
- Resumption of optical services in England: Letter from Matt Neligan and Poonam Sharma  
<https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/04/C0601-reopening-of-optical-services-letter-17-june-2020.pdf>
- NHS Optical Letter  
<https://www.england.nhs.uk/coronavirus/wp-content/uploads/sites/52/2020/04/C0127-optical-letter-1-april-2020.pdf>
- The College of Optometrists primary eye care COVID-19 guidance: Red phase  
<https://www.college-optometrists.org/the-college/media-hub/news-listing/coronavirus-covid-19-guidance-for-optometrists.html>
- The College of Optometrists COVID-19: College updates  
<https://www.college-optometrists.org/the-college/media-hub/news-listing/coronavirus-2019-advice-for-optometrists.html#CollegeGuidelines>
- Infection Control Guidelines. (n.d.). Retrieved from Canadian Association Of Optometrists:  
[https://opto.ca/sites/default/files/resources/documents/infection\\_control\\_guidelines\\_2016.pdf](https://opto.ca/sites/default/files/resources/documents/infection_control_guidelines_2016.pdf)
- Infection prevention and control for COVID-19: Interim guidance for outpatient and ambulatory care settings. (2020, May 23 May). Retrieved from Government of Canada: <https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection/guidance-documents/interim-guidance-outpatient-ambulatory-care-settings.html>

- Information for Members On Coronavirus (COVID-19). (n.d.). Retrieved from Canadian Association Of Optometrists:  
[https://opto.ca/sites/default/files/resources/documents/information\\_for\\_members\\_on\\_coronavirus.pdf](https://opto.ca/sites/default/files/resources/documents/information_for_members_on_coronavirus.pdf)
- Coronavirus (COVID-19) resources for health professionals, including aged care providers, pathology providers and health care managers. (2020, September 24). Retrieved from Australian Government Department of Health:  
<https://www.health.gov.au/resources/collections/coronavirus-covid-19-resources-for-health-professionals-including-aged-care-providers-pathology-providers-and-health-care-managers>
- Environmental Cleaning and Disinfection Principles for COVID-19. (n.d.). Retrieved from Australian Government Department of Health:  
<https://www.health.gov.au/sites/default/files/documents/2020/03/environmental-cleaning-and-disinfection-principles-for-covid-19.pdf>
- Infection control guidelines and advice. (n.d.). Retrieved from Optometry Australia :  
<https://www.optometry.org.au/practice-professional-support/coronavirus-covid-19-what-optometrists-need-to-know/covid-19-clinical-advice/infection-control-guidelines-and-advice/>

# Clinical Study Protocol

## Johnson & Johnson Vision Care, Inc.

### PROTOCOL COMPLIANCE INVESTIGATOR(S) SIGNATURE PAGE

Protocol Number and Title: CR-6463 Visual performance of senofilcon A with and without a new UV/HEV-filter

Version and Date: 3.0 30 August 2021

I have read and understand the protocol specified above and agree on its content.

I agree to conduct this study according to ISO 14155:2020,<sup>1</sup> and ICH guidelines,<sup>2</sup> the Declaration of Helsinki,<sup>3</sup> United States (US) Code of Federal Regulations (CFR),<sup>4</sup> and the pertinent individual country laws/regulations and to comply with its obligations, subject to ethical and safety considerations. The Principal Investigator is responsible for ensuring that all clinical site personnel, including Sub-Investigators adhere to all ICH<sup>2</sup> regulations and GCP guidelines regarding clinical trials during and after study completion.

I will assure that no deviation from or changes to the protocol will take place without prior agreement from the Sponsor and documented approval from the Institutional Review Board (IRB), except where necessary to eliminate an immediate hazard(s) to the trial participants.

I am responsible for ensuring that all clinical site personnel including Sub-Investigators adhere to all ICH<sup>2</sup> regulations and GCP guidelines regarding clinical trials during and after study completion.

All clinical site personnel involved in the conduct of this study have completed Human Subjects Protection Training.

I agree to ensure that all clinical site personnel involved in the conduct of this study are informed about their obligations in meeting the above commitments.

I shall not disclose the information contained in this protocol or any results obtained from this study without written authorization.

I have read the suggested guidance provided by JJVCI pertaining to the COVID-19 risk mitigation, (COVID-19 Work Instruction in the Appendix J of this protocol). I agree to conduct this study in compliance with local, state, governmental guidance for COVID-19 risks.

Principal  
Investigator:

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Name and Professional Position (Printed)

Institution/Site:

\_\_\_\_\_  
Institution/Site Name

\_\_\_\_\_  
Institution/Site Address