Say goodbye to cataracts & astigmatism!

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Say hello to the forerunner in lens replacement that's proven and reliable.



One simple solution to better vision.

Now, one simple procedure can help you regain quality vision – while reducing dependence on eyeglasses or contact lenses.

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If you have astigmatism, you probably rely on eyeglasses or contact lenses to correct your vision.
The problem is, eyeglasses can be easily misplaced
Dr broken, and taking contact lenses in and out can complicate an active, spontaneous lifestyle.

If you have been diagnosed with cataracts, one simple outpatient procedure may eliminate your need or eyeglasses or contact lenses – replacing your clouded cataract lens with an artificial lens designed to correct astigmatism too. The solution is called the STAAR Toric Intraocular Lens (or "IOL"), and it is the irst such lens to be approved by the FDA for its effectiveness, safety and reliability.



What makes the STAAR Toric IOL such a good choice?

The STAAR Toric IOL is a revolutionary, single-piece foldable lens that your surgeon implants in your eye during cataract surgery. It is specially
designed to correct astigmatism, and help you
regain quality vision. The STAAR Toric IOL is made from a stable, non-toxic and flexible material the eye comfortably welcomes, providing excellent
optical performance and high quality vision.



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How the eye sees.

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The eye is a complex organ composed of many small parts, each vital to normal vision. The ability to see clearly depends on how well these parts work together.

 Light rays reflected off objects enter the eye through the cornea – the transparent front part
 of the eye that covers the iris and pupil.



Next, the light rays pass through an opening in the iris (colored part of the eye), called the pupil. The iris controls the amount of light entering the eye by dilating or constricting the pupil. In bright light, for example, the pupil contracts in order to prevent too much light from entering. In dim light, the pupil enlarges dramatically to allow more light to enter the eye.

Light then reaches the crystalline lens. The lens focuses light rays onto the retina by bending (refracting) them. The cornea does most of the refraction and the crystalline lens fine-tunes the focus.

Behind the lens and in front of the retina is a chamber called the vitreous body, which contains
a clear, gelatinous fluid called vitreous humor.
Light rays pass through the vitreous before

reaching the retina. The retina lines the back twothirds of the eye and is responsible for the wide field of vision. For clear vision, light rays must focus directly on the retina. When light focuses in front of or behind the retina, the result is blurry vision.

What is a cataract?

The eye's natural crystalline lens is the clear part of the eye that helps focus incoming light rays on the retina to form an image, which is then transmitted to the brain through the optic nerve. The crystalline lens is made primarily of water and protein, allowing the structure to change shape to focus on near and distant objects.

A cataract is a painless clouding of the eye's lens. Since a cataract affects the clarity of the lens, it prohibits the light from passing through the lens easily. This causes the retina to receive blurred or distorted images. Because the brain cannot receive clear images of objects, vision gradually becomes



impaired. As a cataract progresses, the possibility of cataract eye surgery should be strongly considered. As a cataract, if left untreated, could lead to blindness. In fact, cataracts are the leading cause of blindness in the world. Cataracts affect nearly 20.5 million Americans age 40 and older¹.



What is "astigmatism?"

Astigmatism is a common condition that may cause blurred vision. The distorted vision is due to the eye's cornea (corneal astigmatism) or lens (lenticular astigmatism) having an irregular shape.

The cornea and lens of a perfectly shaped eye have a smooth circular surface, like a sphere or round ball. With astigmatism, the cornea or the lens will have more of an oblong, football-like shape.

Blurred or distorted vision is typically experienced







Vision with cataract and astigmatism.

Vision with cataract corrected, astigmatism remaining.

STAAR Toric corrected vision.

by patients with moderate or high degrees of astigmatism. These distortions can be corrected through refractive surgery.

The STAAR Toric IOL: The single best option for correcting cataracts and astigmatism.

The surgery to remove cataracts is an outpatient procedure, and involves replacing the clouded natural lens with an artificial one. However, if you also have astigmatism you may still experience blurred or distorted vision, since the lens typically implanted during ordinary cataract surgery cannot correct this secondary condition. Astigmatic patients who are planning cataract surgery can request the use of a STAAR Toric IOL during their lens replacement – treating the cataract and the astigmatism at the same time. The STAAR Toric IOL is ideal for cataract patients with regular, pre-existing astigmatism. It has been used safely and effectively in a countless number of procedures.

Open your eyes to quality vision today.

The STAAR Toric IOL may be the single best solution for providing quality vision to patients with cataracts and astigmatism. It is the first such lens to be approved by the FDA for its effectiveness, safety and reliability.

If you have a cataract, ask your doctor if the STAAR Toric IOL can also help you eliminate your astigmatism, allowing you to recapture quality vision – and a hassle-free, spontaneous lifestyle.

References

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STAAR TORIC

One simple solution to better vision.



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The Clear Choice.

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An exceptional balance of stability and predictability: Predictable visual outcomes, stable design, and optical quality in everything you see.



STAAR TORIC

Stable. Predictable. Precise.



STAAR TORIC

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Delivering **predictable high quality vision** that has patients saying "wow"

Available in a range of spherical powers with cylindrical adds of 2.0 D and 3.5 D



PREDICTABLITY



STAAR Silicone lens technology induces fewer higher order aberrations than acrylic lenses³



Lower refractive index (RI) when compared to acrylic lenses – minimizing incidence of halos, glare, and ghosting

Exceptional Clarity

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• STAAR Toric IOL demonstrates comparable if not greater visual acuity with stable and predictable outcomes as compared to other competitive toric lenses



Exceptional Visual Acuity⁴ POST-OP UCVA AT 1 MONTH UCVA CUMULATIVE PERCENT OF EYES

Stable and Predictable Outcomes⁴

PREDICTABILITY OF CYLINDER CORRECTION PERCENTAGE OF EYES WITH POST-OP MANIFEST REFRACTION CYLINDER WITHIN 0.5 D AND 1.00 D OF TARGET



Data courtesy of Dr. Ken Maverick, Dallas, Texas"

• STAAR silicone lens technology produces significantly fewer optical aberrations than do acrylic lenses³



- STAAR silicone lenses feature a lower refractive index (RI) when compared to acrylic lenses minimizing incidence of halos, glare, and ghosting
 - o Light is efficiently transmitted through the silicone lens but commonly reflected through an acrylic lens

RI Can Make A Difference In Functional Vision With Night Driving And In The Living Room^{**}

Silicone

Index of refraction 1.41 No visible glare, halos or ghosting

Acrylic Index of refraction 1.55 Serious glare, halos and ghosting









*All images depict reflections 10° from line of sight.

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Rotational Stability Design Improvements



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Microetched grip

- Microetched haptics and large diameter foramina promote bioadhesion
- Optimizes capsular bag stability for an exceptional fit

Available enhanced horizontal axis IOL (11.2 mm)

• Greater prevention of lens rotation in nearsighted eyes²





Large foramina

• Allow fibrocellular tissue to migrate through and around the lens foramina to secure the lens to the equator of the capsular bag for added stability.¹

"Fibrous adhesions often occur between the anterior and posterior capsules following ingrowth of fibrocellular tissue through the holes. This helps enhance the fixation and stability of these designs within the capsular bag."¹

David Apple, MD, Charleston, South Carolina

Single-piece design

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- Simplified delivery and controlled placement in dual-directional positioning
- Highly resistant to rotation compared to C-loop haptic lenses⁵
- Minimal rate of lens repositioning and fewer returns to the ophthalmologist^{2,6,7}

Lens Stability That Requires Minimal Repositioning

Toric Repositioning Rates^{2,5,6}

STAAR Toric TL	2/130	1.5%
AcrySof [®] Toric	3/263	1.1%

"STAAR Toric IOL is my 'go to' lens for astigmatism correction. Both in terms of its first-rate clinical performance and my practice's bottom line, the STAAR Toric IOL takes care of business."

Andrew Siedlecki, MD, Amherst, NY

"I have been using the STAAR Toric IOL to treat astigmatism for over a decade and and my experience is that it has excellent rotational stability and the refractive outcomes have allowed an increased freedom from glasses for my patients"

Robert J. Weinstock, MD, Eye Institute of West Florida

The Clear Choice in Stability and Predictability

A 1-2 Combination Knockout Punch in Astigmatic Cataract Surgery.

STAAR TORIC

Stable. Predictable. Precise.

For more information, please visit www.staar.com or call STAAR Customer Service at 800-352-7842.

Important Safety Information for STAAR Toric IOL

INDICATIONS: The Silicone 1P Toric IOLs are intended to improve uncorrected visual acuity, correct aphakia and decrease refractive cylinder resulting from corneal astigmatism in persons aged 60 and over. The device is to be implanted into the capsular bag through a tear-free capsulorhexis (circular tear anterior capsulotomy). The 2.0 D Toric IOL is intended for patients having 1.5 D to 2.25 D of pre-existing corneal cylinder while the 3.5 D Toric IOL is intended for patients having greater than 2.25 D of pre-existing corneal cylinder while the 3.5 D Toric IOL is intended for patients having greater than 2.25 D of pre-existing corneal cylinder. **PRECAUTIONS:** 1. The potential for the IOL to rotate causing misalignments that will reduce the effectiveness of the Toric IOL may be greater in larger-than-average eyes. 2. IOL rotation less than 30° may not warrant reorientation. 3. Any reorientations should be performed prior to IOL fixation, generally within the first 2 weeks. 4. Silicone 1P Toric IOL is of the Single use. Do not resterilize this intraocular lens by any method as this can produce undesirable side effects. 5. Do not store IOLs at temperatures over 115° Fahrenheit. 6. Use only sterile intraocular irrigating solutions (e.g., balanced salt or normal saline solution) to rinse and/or sask lenses. 7. A high level of Surgical skill is required for intraocular lens implantation. A surgeon should have observed and/or assisted on numerous surgical implantations, and successfully completed one or more courses on intraocular lens implantation before attempting to implant intraocular lenses.

WARINGS: 1. This IOL should not be implanted if the posterior capsule is ruptured or if a primary capsulorary is to be performed. 2. Before implantation of a Toric IOL in the fellow eye, surgeons should verify that the Toric IOL in the first eye is properly aligned. 3. Rotation of toric IOLs away from their intended axis can reduce their effectiveness. Misalignment of greater than 30⁻⁴ eV will increase postoperative retractive cylinder. Repositioning their IOL to the intended axis should only be performed when a significant reduction in effectiveness of the Toric IOLs in otice. This IOL should only be repositioned when the refractive needs of the patient outweigh the potential risks inherent in any surgical reintervention into the eye. 4. YAG-Laser posterior capsulotomics should be delayed until at least 21 eveeks after the implant surgery. The posterior capsulotany opening should be kept as small as possible. There is an increased risk of IOL dislocation and/or secondary surgical reintervention with early or large capsulotomics. As with any surgical procedure, there is risk involved. Potential complications accompanying carearca or implant surgery may include, but are not limited to, the following: corneal endothelial damage, nonpigment precipitates, cystoid macular edema, infection, retinal detachment, witreous lass, publiary block, secondary glaucoma, active chronic anterior or posterior uveitis, rubeosis iritis, synechiae, short anterior segment. 6. Some adverse reactions which have been associated with the implantation of intraocular lenses aprivato. They publicry block. 7. The safety of intraocular lense implantation has not been substantiated in patients with pre-existing ocular conditions (e.g., chronic drug miosi; glaucoma and consider IOL inplantation in patients with pre-existing ocular conditions (e.g., chronic drug miosi; glaucoma and publicg), disabitic relinopathy, previous corneal transplant, history of retinal detachment, or rinitis). Physicians considering IOL inplantation in patients

ATTENTION: Reference the Directions for Use labeling for a complete listing of adverse events which may include iritis and corneal edema.



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 2. Chang DF. Early Rotational Stability of the Longer Staar Toric Intraocular Lens: Fifty
 Consecutive Cases. J Cataract Refract Surg. 2003;29:935-939.

 3. Martin RG, Sanders DR. A comparison of higher order aberrations following implantation of four foldable intraocular lens designs. *J Refract Surg.* 2005;21:716-721.

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 5. Alio, J. L., et al. (2013) Clinical and optical intraocular performance of rotationally asymmetric multifocal IOL plate-haptic design versus C-loop haptic design; *Journal* of *Refractive Surgery*, 29(4); 252-59.

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 David Chang, MD. Repositioning Technique and Rate for Toric Intraocular Lenses. *Journal of Cataract and Refractive Surgery*. July 2009.

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Stable. Predictable. Precise.

Surgical Guide





The STAAR Toric IOL with advanced silicone lens technology is designed to:

- Produce significantly fewer optical aberrations than acrylic lenses1
- Demonstrates comparable if not better visual acuity with stable and predictable outcomes as compared to the other competitive toric lenses²
- Produce lower incidence of halos, glare and glistenings because of a lower refractive index of silicone lenses compared to acrylic lenses¹



Prevalence of Astigmatism in the US Population

Rotational Stability

Overall 11.2 mm length aids in preventing IOL rotation for larger myopic eyes



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Microetched haptics

• Promotes greater bioadhesion for capsular bag stability

Large foramina

• Large foramina allow fibrocellular tissue to migrate through and around the lens hole to lock the lens to the equator of the capsular bag for added stability³

"Fibrous adhesions often occur between the anterior and posterior capsules following ingrowth of fibrocellular tissue through the holes. This helps enhance the fixation and stability of these designs within the capsular bag." Dr. David Apple³

Single-piece design

- Simplified delivery and controlled placement with dual-directional positioning
- Resists rotation as compared to C-loop lens design⁴

Surgical Pearls

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- Patient axis should be marked pre-op at the slit lamp, and sitting upright
- CCC should be no larger than 5.5 mm in diameter
- Minimize BSS infusion of the anterior segment. Leave eye relatively and safely soft to prevent IOL movement. Leaving the eye somewhat "softer" than usual most likely allows the capsular bag to collapse around the IOL more immediately
- Use a cohesive viscoelastic. Compared to dispersive viscoelastics, these are less likely to coat the IOL surface
- Remove viscoelastic trapped behind the IOL with irrigation-aspiration to maximize posterior capsule-IOL surface contact
- Confirm lens orientation after I&A and after wound closure to ensure that Toric IOL did not move
- YAG-Laser posterior capsulotomies should be delayed until at least 12 weeks after the implant surgery. The posterior capsulotomy opening should be kept as small as possible. There is an increased risk of IOL dislocation and/or secondary surgical reintervention with early or large capsulotomies
- Any reorientations should be performed prior to IOL fixation, generally within the first 2 weeks



STAAR Toric IOL Calculator

PreVize Optimized Toric IOL calculation software

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- Creates a surgical worksheet that includes preoperative data
- List of suggested surgical powers (The choice of the lens selection is yours)
- Clearly labeled illustration of the exact placement of the STAAR Toric IOL
- To ensure that the power of the cylindrical correction is maximized, use the two markings indicating the axis of the cylindrical correction of the lens and align them with the steep corneal meridian



STAAR Toric IOL calculator required data

- Steep K reading
- Steep K meridian/axis
- Flat K reading
- Flat K meridian/axis
- Surgically induced astigmatism (SIA) estimate
- Incision site

www.staartoric.com

Position Toric IOL to Steep Corneal Meridian

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• Spherrical power: visit staartoric.com to calculate IOL powers and lens orientation

With the Rule¹ Corneal Astigmatism IOL Cylinder Power Expected Cylinder Correction from IOL² 1.5 D to 2.25 D 2.0 D 1.5 D 2.5 D to 3.0 D 3.5 D 2.25 D 3.25 D or more³ 3.5 D+ LRIs 2.25 D Against the Rule¹ IOL Cylinder Power Expected Cylinder Correction from IOL² Corneal Astigmatism 1.25 D to 1.75 D 2.0 D 1.5 D 2.0 D to 2.5 D 3.5 D 2.25 D

2.25 D

Cylinder power selected according to corneal astigmatism nomogram as follows:

Nomogram assumes astigmatically neutral surgery.

¹With the Rule, steep corneal meridian between 46 to 134; Against the Rule, steep corneal

3.5 D+ LRIs

meridian between 0 to 45 and 135 to 180.

2.75 D or more³

²Approximate value of the equivalent IOL cylinder power at the cornea.

³Combine with Astigmatic Keratotomy or Limbal Relaxing Incisions.

Available in a range of spherical powers with cylindrical adds of 2.0 D and 3.5 D

• At the corneal plane, the optics of the 2.0 D and 3.5 D lenses correct

1.4 D and 2.3 D of astigmatism, respectively

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AA4203TF				
Optic Characteristics				
Powers	Diopter	Cylinder		
	24 D to 28.5 D (0.5 D Increments)	2.0 D and 3.5 D		
Shape	6.0mm Biconvex			
Material	Silicone			
Refractive index	1.41			
Biometry				
A-Constant	118.5 (Suggested)			
ACD	5.26			
Haptic Characteristics				
Overall length	10.8 mm			
Material	Silicone			
Design	One-Piece 1.15 Diameter Foramina			
Style	Single Piece			

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AA4203TL				
Optic Characteristics				
Powers	Diopter	Cylinder		
	9.5 D to 23.5 D (0.5 D Increments)	2 D and 3.5 D		
Shape	6.0mm Biconvex			
Material	Silicone			
Refractive index	1.41			
Biometry				
A-Constant	118.5 (Suggested)			
ACD	5.26			
Haptic Characteristics				
Overall length	11.2 mm			
Material	Silicone			
Design	One-Piece 1.15 Diameter Foramina			
Style	Single Piece			

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 Martin RG, Sanders DR. A comparison of higher order aberrations following implantation of four foldable intraocular lens designs. *J Refract Surg.* 2005;21:716-721.

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