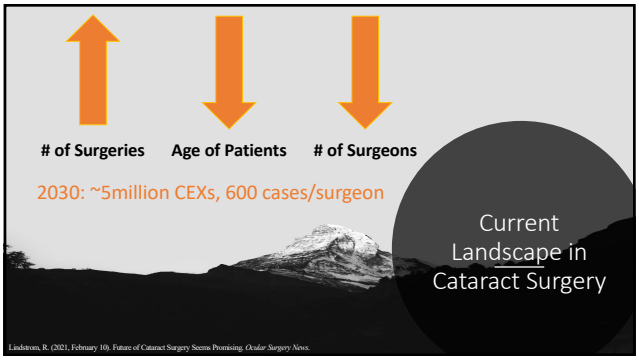

Sight Restored, Life Transformed:
The Power of Modern IOLs
Mitch Ibach, OD FAAO
Residency Coordinator
VANCE THOMPSON VISION
Intrepid

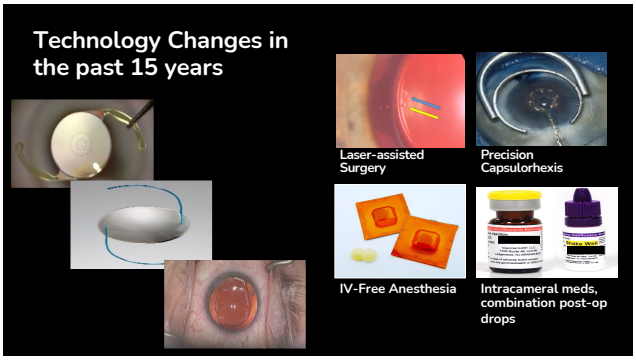
1


Current Landscape in Cataract Surgery
Where are we at?
Where are we going?

2


# of Surgeries
Age of Patients
# of Surgeons
2030: ~5million CEXs, 600 cases/surgeon
Current Landscape in Cataract Surgery
Lindstrom, R. (2021, February 10). Future of Cataract Surgery Seems Promising. Ocular Surgery News.

3


Technology Changes in the past 15 years
Laser-assisted Surgery
Precision Capsulorhexis
IV-Free Anesthesia
Intracameral meds, combination post-op drops

4


Who is our typical cataract patient today?
Distance
Intermediate
Near
How would you rate them in order of importance to you?
What is your lifestyle?
What is preferred reading distance?

5


What is Refractive Cataract Surgery (CEX)?
• Do all patients want a refractive outcome?
• Do all doctors want a refractive outcome/target?
Refractive Cataract Surgery = Premium implant

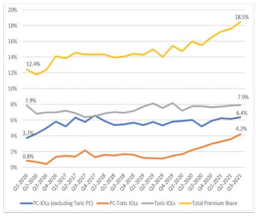
6

Refractive Cataract Surgery

Data Trends:

- ***-Premium growing***
- ***-PCIOLs ~10%***
- ***-Toric monofocal stable***

ADVANCED TECHNOLOGY IOLS DRIVING INNOVATION AND MARKET PENETRATION



49.1%
Increase in ATIOL penetration from Q1 2016 to Q3 2021

ATIOL, advanced technology IOL; IOL, intraocular lens; PC-IOLS, presbyopia correcting IOL.

Copyright 2025, Market Scope

Source: Market Scope Q4-2024 Ophthalmic Market Trends: Cataract Edition

7

Multifocal IOLs have come a long way!





Array 1999

ReZoom
ReSTOR
Tecnis
2000's

Symfony (EDOF) 2016

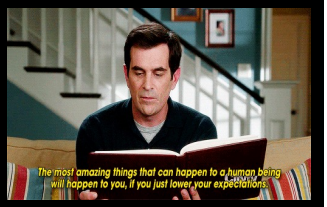
PanOptix (trifocal) 2019
Synergy 2021
Symfony OptiBlue 2021
Odyssey 2024
Envy 2024
PanOptix Pro 2025

EDOF, extended depth of focus; IOL, intraocular lens.

8

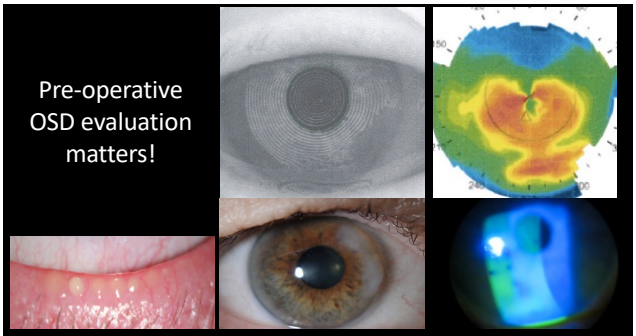
Educate and Set Appropriate Expectations

- Identify co-morbidities
- Identify patient goals
- Review risks involved with surgery
- Discuss the referral and co-management process before surgery

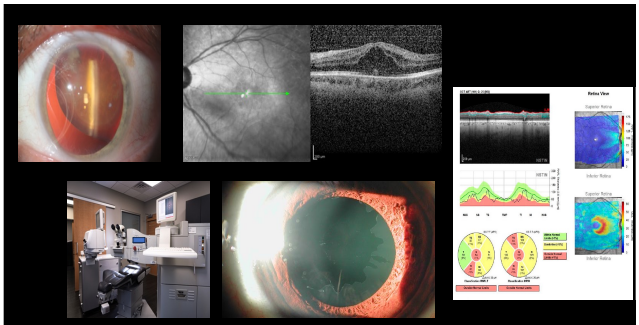


9

Pre-operative OSD evaluation matters!



10



Pre-operative evaluation matters!

11

#Goals



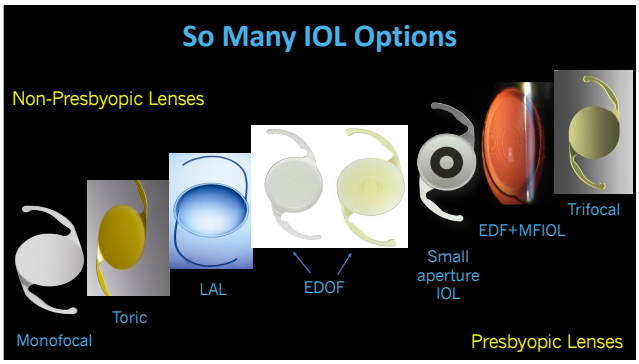
- Habitual Refractive Error (Below)
- Psychology of ReLACs (Rule of 95)

Patient refraction	Satisfaction after surgery; average mark [1–10]
High hyperopia	9.6
Low hyperopia	9.1
Plano-presbyopia	8.7
High myopia	8.2
Low myopia	8.1

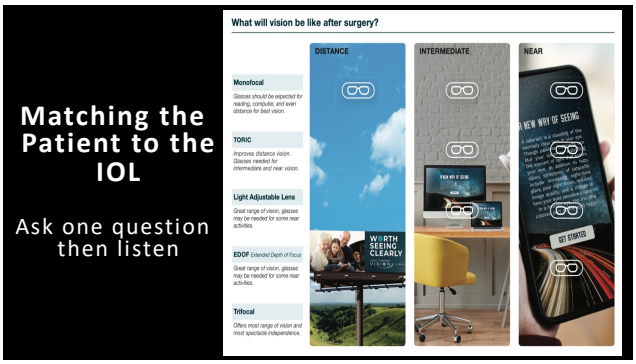
Table 2. Satisfaction rate after bilateral multifocal intraocular lens implantation, according to preoperative refractive error.

Presbyopia Correction During Cataract Surgery with Multifocal Intraocular Lenses. Delkaris et al 2018

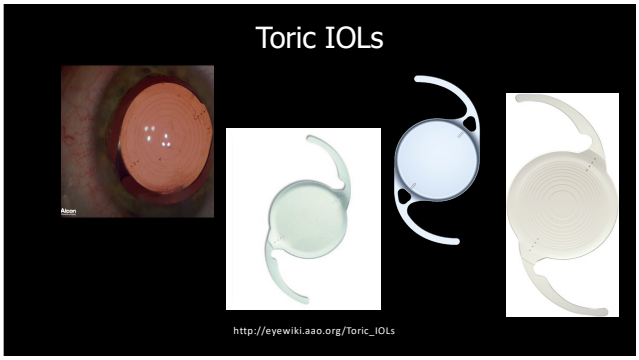
12



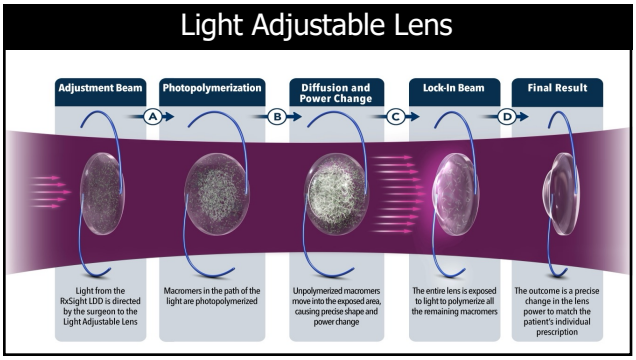
13



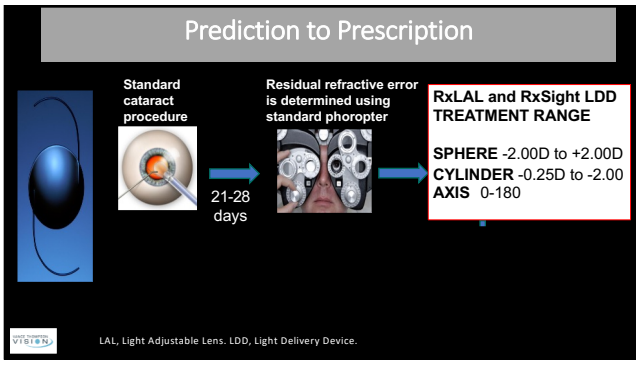
14



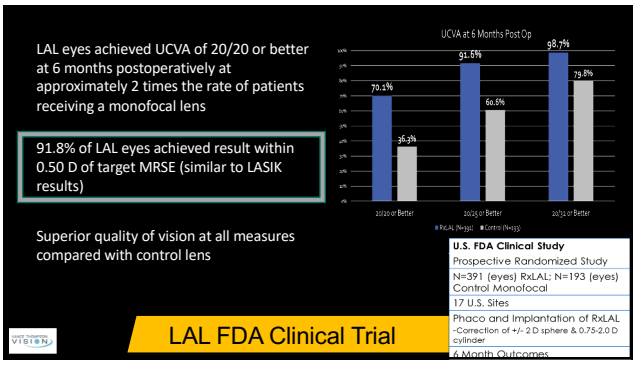
15



16



17



18

- Americans check their smartphones 8 billion times per day
- 46x/day 2015
- 80x/day now
- 560x/week
- 29,120x/year

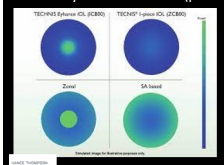


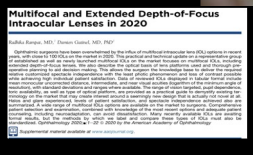
19

Extended Depth of Focus Lens** vs MFIOL

- Leadoff – Symfony (1.00-1.5D add)
- Vivity (1.5 D add)
- Eyhance (1.0D add)
- Puresee (1.5D add)
- Only true EDOF: IC-8 (pinhole IOL)









MFIOL, multifocal intraocular lenses.

20

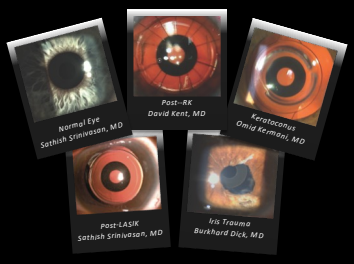
"True" EDOF IOLs on the Market

Vivity (non-diffractive)	PureSee (non-diffractive)	Apthera IC-8 (pinhole)
		 Non-dom eye
•Optic •Material: UV-filtering, hydrophobic acrylic •Index of refraction: 1.55 •Spherical power: +15.0 D to +25.0 D in 0.5 D increments •Type: Biconvex, wavefront-shaping •Overall diameter: 13.0 mm •Optic diameter: 6.0 mm	•Optic •Material: UV-absorbing hydrophobic acrylic •Index of refraction: 1.47 •Power: +5.0 to +34.0 D in 0.5 D increments •Type: Biconvex, wavefront-designed anterior aspheric surface with a modified posterior refractive surface for continuous power changes •Overall diameter: 13.0 mm •Optic diameter: 6.0 mm •Violet filter	•Optic •Material: UV-blocking hydrophobic acrylic •Index of refraction: 1.483 •Power: +10 to +30.0 D in 0.5 D increments •Type: Biconvex, aspheric anterior surface •Edge: 360° posterior square •Overall diameter: 12.5 mm •Optic diameter: 6.0 mm •Aperture diameter: 1.36 mm

21

IC-8 Small Aperture Lens



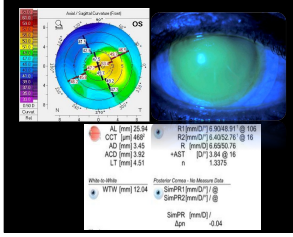


Mean IC-8 IOL MRSE: -0.42 D at 6 months. Mean monofocal IOL MRSE: 0.01 D at 6 months.
Dick HB et al. *J Cataract Refract Surg.* 2017;43(7):956-968.

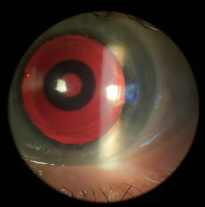
22

Keratoconus and Cataract Comorbidities

- 81-year-old M- s/p PKP OD, KCN OS
- OS: -6.00-5.00x99 20/80 BCVA



- Goal: "Get out of specialty lens"

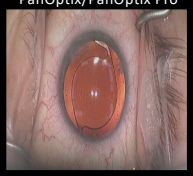


UCVA: 20/20-1, no diplopia w/o scleral

23

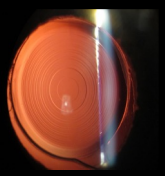
Full-Range D,I,N (diffractive) IOLs.

PanOptix/PanOptix Pro



- True trifocality
- Focal points- distance, 60cm, 40cm
- Focus on light utilization- 88% vs 94%
- Sphere and toric

Odyssey



- Multi-focal + EDOF
- Goal of continuous range
- Blue chromofore
- Sphere and toric

Envista Envy



- Trifocal
- Less dysphotopsias?
- 86% light utilization
- Sphere and toric

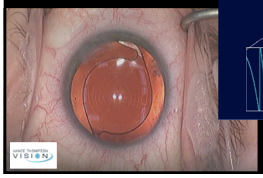
24

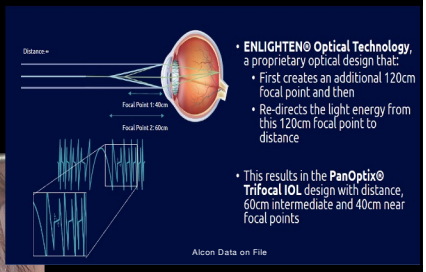
Trifocal

August 28, 2019

First trifocal IOL was FDA approved

Alcon PanOptix





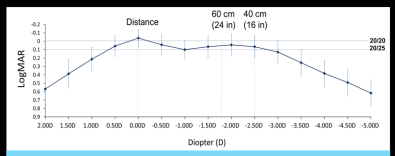
- **ENLIGHTEN® Optical Technology,** a proprietary optical design that:
  - First creates an additional 120cm focal point and then
  - Re-directs the light energy from this 120cm focal point to distance
- This results in the **PanOptix® Trifocal IOL** design with distance, 60cm intermediate and 40cm near focal points

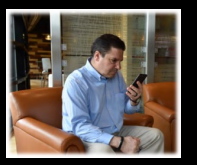
Alcon Data on File

25

Defocus Curve

- **Binocular Distance-Corrected Defocus Curve at 6 months Post-Implantation with a trifocal IOL***
  (n=134 patients, 17 sites in Europe, Latin America and Australia)



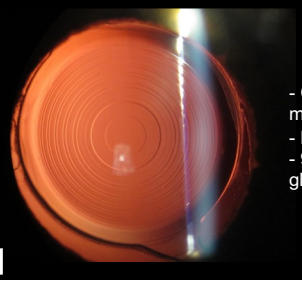


This Trifocal IOL showed a visual acuity of 20/25 or better from distance to 40 cm (16 in).

* Clinical trials.gov record NCT02529488.

26

Tecnis Odyssey



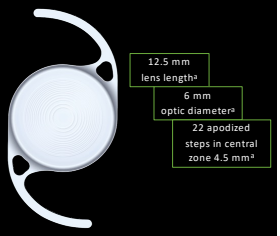
- Combines EDOF with multifocality
- Blue chromophore
- 94% satisfaction w vision without glasses

Data on File. 2024DOF4027

27

EnVista Envy

- Trifocal technology
- Distance, 62cm, 32cm focal points
- 86% light utilization, adapted optics for lower dysphotopsias
- Low powered toric (~1D)

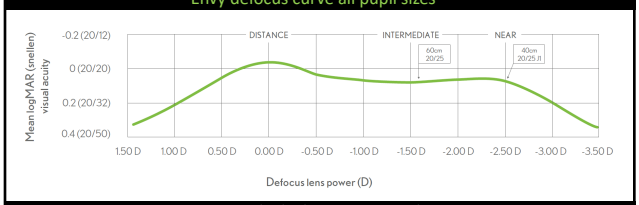


Data on File. enVista Envy US Clinical Study. 2. Data on File. enVista Envy Canadian Clinical Study

28

EnVista Envy

Envy defocus curve all pupil sizes



enVista Envy US Clinical Study, n=110 patients reported outcomes 4-6–month post-op, bilateral

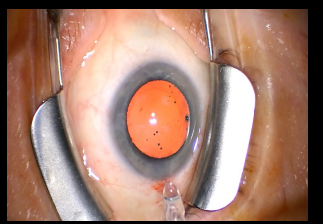
1. Data on File. enVista Envy US Clinical Study.

29

Lenstec Clearview

ClearView 3MFIOL

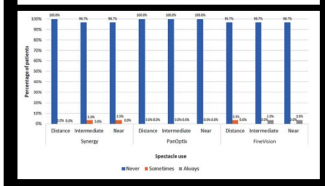
- Segmented bifocal IOL
- 3.0D add IOL (~2.00D at K-plane)
- Transition zone (similar to line in a bifocal glasses lens)



30

Comparison of refractive and visual outcomes of 3 presbyopia-correcting intraocular lenses

Tiago B. Ferreira, MD, PhD, FEDOS-CR, Filomena J. Ribeiro, MD, PhD, FEBO, Diana Silva, CO, Ana Cláudia Matos, CO, Sylvia Gaspar, CO, Soraia Almeida, CO



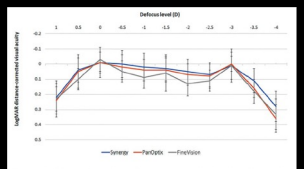


Figure 3. Mean binocular defocus curve obtained at 3 months postoperatively in the 3 groups of the analyzed sample.

% of eyes using spectacles at D, I, N

<4% all IOLs + distances

Ferreira TB et al. J Cataract Refract Surg. 2022;48(3):280-287.

31

Expanded IOL Options → Expanded Patient Pool



Focal Point	Monofocal/ Enhanced monofocal	EDOF (diffractive, non-diffractive, small-aperture, adjustable+)	Full-range (diffractive, segmented)
Distance	+++	++	+
Intermediate	-/+	+	+
Near	-	-	+

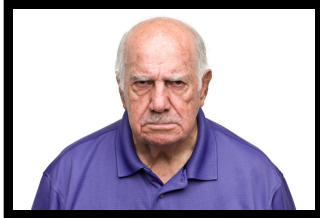
Spectacle independence

Quality of vision

EDOF, extended depth of focus; IOL, intraocular lens.

32

The Unhappy ~~Refractive~~ Premium IOL Patient





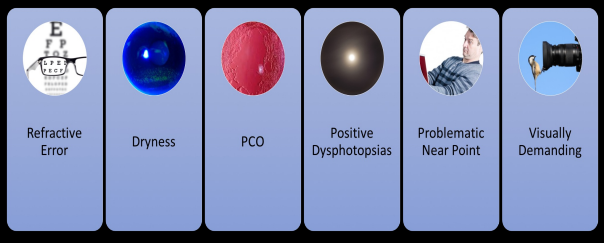
33



1st Thing - Understand why they are unhappy

34

20/Unhappy – Why?



Woodward MA, Randleman JB, Stulting RD. Dissatisfaction after multifocal intraocular lens implantation. *Journal of cataract and refractive surgery*. 2009;35(6):992-997.

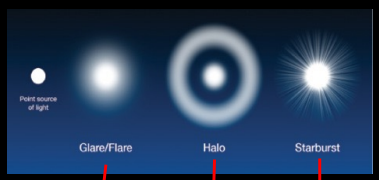
35

What About Dysphotopsias?

Dysphotopsias

Positive
Glare, Halo, Starburst

Negative
temporal curved shadow



Multifocal IOLs

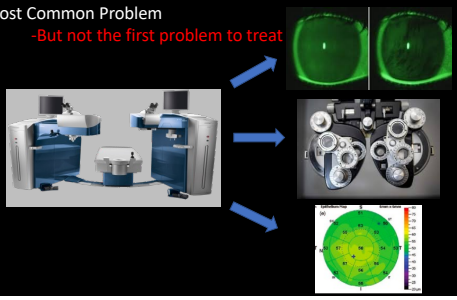
PCO, refractive error, optical aberrations, OSD

36

What If We Miss? Enhancements

Most Common Problem

-But not the first problem to treat



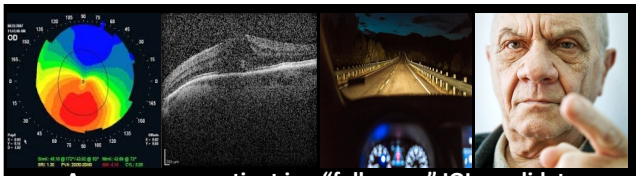
37

What are the keys to the game?

1. What is candidacy for premium IOLs?
2. How can we better educate patients on the IOL decision?
3. How do we manage these patients post-operatively?



38



Assume every patient is a "full-range" IOL candidate

Then ask yourself:

1. Is the topography abnormal (irregular astigmatism, HOAs, OSD)?
2. Is there retina or ONH pathology limiting macular health
3. Does the patient have unrealistic expectations?

If the answer is "yes" to #1 (untreatable?) #2 or #3

Think monofocal toric, EDOF, LAL, IC8

39

Educating Patients on ATIOLs – 4 Tips

VANCE THOMPSON VISION

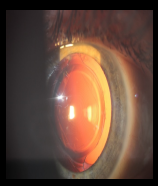
1. Lens choice: emphasize the importance of the decision
2. Be willing to make a recommendation
3. Transparency about expectations + price + financing options
4. Don't force the lens decision on the day of the consultation

ATIOL, advanced technology IOL.

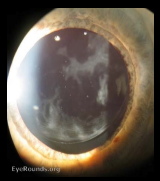
40

Finish the Premium Journey

Step 1: CEX w/IOL



Step 2: YAG Cap



Step 3:Adjustment/ Enhancement



http://webeye.ophth.uiowa.edu/eyeforum/atlas/pages/posterior-capsular-opacity-PCO-following-cataract-surgery.html

41

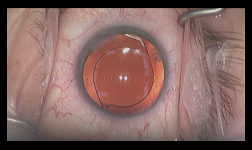
Patient Satisfaction

BCVA



UCVA

BCIQ



UCIQ

42

We have the technology and tools to unlock patient happiness



mitch.lbach@vancethompsonvision.com

43