**MultiFocal Lenses: Promise and Delivery**

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**Financial Considerations**

- Research grants – Alcon, AMO, Bausch and Laumb

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**MultiFocal (Presbyopic) Lenses**

What These Mean To Me
- Implanting since 1999
- More chair time
- More patient complaints
- Trickier surgery

Why Get Involved?
- Greater patient satisfaction
- Greater patient referrals

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**MultiFocal Lenses – What is Expected**

- What we say – What our patients hear
  Multifocal – I will never have to wear glasses again

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**Old Focus**
- Restore vision loss due to cataracts

**New Focus**
- Optimize patient satisfaction based on lifestyle needs
  - Better vision for more patients
  - Help patients enjoy activities that are most important to them
  - Optimize, not just improve vision
  - Provide safer, sharper vision
Our Objectives

- Good uncorrected distance vision
- Some restoration of near vision
  - 20/30 or better intermediate vision
  - 20/40 (J3) or better uncorrected near vision
- Possible dependence on glasses for some tasks
- Happy patients with functional vision

Stepwise Implementation

- Understand multifocal implants and new technology IOLS
  - Mechanisms of action
  - Strengths, weaknesses and applications
- Understand patient selection and communication
- Make changes to clinical infrastructure
  - Staff, surgical counselor and billing personnel education
  - Biometry and additional diagnostics
- Add necessary surgical skills
  - Astigmatism control and correction
  - Avoidance of complications
  - Prepare for post operative management
  - Need for additional treatment

Assessing Your Practice

- Ability to have outcomes of +/- 0.5D of spherical equivalent postop refractions
- Ability to correct astigmatism to within +/- 0.75D
- Ability to talk to patients about upgrades and out of pocket expenses
- Ability to handle patient complaints
- Ability to deal with enhancements

Is Our Practice Ready?

- Do we have the equipment/tools for the job?

Do We Have What It Takes?

- Optimized IOL nomogram using IOL master, LenStar
- Astigmatism control at time of cataract surgery
- Ability to assess personalities of patients
- Ability to do postop enhancements – Lasik, LRI, lens exchange

FDA approved presbyopic correcting implants

- Crystalens (B and L)
- ReStor (Alcon)
- Tecnis (AMO)
**Crystallens® Accommodative IOL**
- Biosil®
  - Third generation silicone
- Optic
  - 5.0 mm square edge
- Hinges
- Length
  - 11.5mm

**AcrySof® ReSTOR® Apodized Diffractive Aspheric IOL**
- Acrylic single piece lens
- 6.0 mm optic
- Apodized = non-uniform illumination or transmission profile which reduces diffraction edge effects
- Aspheric = - spherical aberration to counteract corneal + aberration
- Central near add

**Tecnis Multifocal**
- Acrylic
- 6 mm one piece lens
- Central zone for distance

**Visual Disturbances 120-180 Days Post-Operative**
- Night Vision Problems
  - AcrySof® ReSTOR® IOL N=457
    - None/Mild 37%
    - Moderate 74%
    - Severe 20%
  - Monofocal Control N=156
    - None/Mild 94%
    - Moderate 3%
    - Severe 3%
- Glare
  - AcrySof® ReSTOR® IOL N=457
    - None/Mild 27%
    - Moderate 7%
    - Severe 10%
  - Monofocal Control N=156
    - None/Mild 5%
    - Moderate 19%
    - Severe 97%
- Halos
  - AcrySof® ReSTOR® IOL N=457
    - None/Mild 4%
    - Moderate 2%
    - Severe 94%
  - Monofocal Control N=156
    - None/Mild 19%
    - Moderate 97%
    - Severe 1%

**Review of Presbyopic IOLs: Which One to Use?**

**Crystallens**
- Pros:
  - Excellent DVA
  - Good Int VA
  - No Halos
- Add: +1.25
- Cons:
  - Poor reading
  - Contrast sensitivity loss

**ReSTOR**
- Pros:
  - Excellent DVA
  - Good Int VA
  - Excellent NVA
- Add: +2.00
- Cons:
  - Poor Int VA
- Sweet Spot: Distance/Intermediate

**Tecnis**
- Pros:
  - Excellent DVA
  - Good Int VA
  - Excellent NVA
- Add: +2.25
- Cons:
  - Halo
- Sweet Spot: Distance/Intermediate

**Patient**
- Young
- Night Driver
- Near tasks
- Computer/Near
Patient Selection: matching the right technology with the right person

- Healthy eye
- Minimal corneal astigmatism
- Significant cataract
- Easy going personality
- Normal visual demands

Communicate with the patient

- What is the personality?
- What are their goals?
- What are their common activities?
- What is their lifestyle?

'The Multifocal Date'

Trying to decide if the Lenses we have will satisfy this patient

Some matches made in heaven!

Some matches not!

The ‘Right’ Patient

- Motivated, well informed & interested in quality of vision
- Asks questions about their alternatives & probes for more details
- Younger, active
- Realistic expectations
- Realistic idea of the degree of near vision obtainable & resultant visual function
- Understanding that results can be variable from patient to patient
- Clear understanding potential complications & side effects

Patient Selection
Pre–operative Exclusion Criteria

- Subjective Exclusion
  - Hypercritical patients – accountants, engineers, pharmacists
  - Patients with unrealistic expectations – Rx bouncers
  - Occupational night drivers
  - Not tolerant – ‘I had to wait 10 minutes to be seen’
- Medical Exclusion
  - Pre-existing ocular pathology
  - Individuals with a monofocal lens
Patient Education
Developing a method of educating our patients
- begins in my office as soon as patient reaches the age of 60 or develops early cataracts
- all cataract patients given option of multifocal lenses
- stepwise approach to education using:
  1. forms/questionnaires
  2. handouts
  3. Video/Eyemagination computer education
  4. informed consent video

Key questions for patients
- Do they want to get out of reading glasses
- Night driving and activities
- Computer use
- Reading
- Hobbies/work with visual demands
- Critical vs. tolerant

Communicate with the patient
- Whatever the lens choice, the patient must be comfortable and confident in the decision – all options are good options
- Patients must understand that postoperative refractive enhancements to fine-tune their vision are routine
- Patients must understand that they will need to have both eyes done and that it will take months to feel comfortable
- Patients must understand that they will experience halos/glare and that they will improve
- Patients must understand that there may be a need for glasses postoperatively for:
  - Reading small type
  - Driving long distances or night driving
- The goal is to create realistic expectations based on lens selection and maximize patient satisfaction
What is a cataract?
What is presbyopia?
What is astigmatism?
How do different lens implant types work?

Office staff dress code & greeting mannerism
Introduction and hand shake
Staff professionalism, pleasantness & knowledge
Control the small talks

Always answer questions after you know their eyes
Explain every test, reinforce positivity and competence
Make patients feel they are at the right place at the right time with the right doctor
Get them excited about having made the right decision on multifocal implants

At least 5 scans within 0.05mm in AL
SNR above 2 with every scan
Symmetry of axial length with both eyes
Consistency with K value and axis
Consistency with ACD
Consistency with WTW

Correct Formula for Axial Length. Holladay I, Hoffa Q and SRK -T
Correct IOL in columns
**Pre-op Chart Audit**

- Optical Path Difference Scan
  - Any Corneal Irregularity
  - K Value matches IOL Master’s
  - Axis matches IOL Master’s, within 10 degree if ≤1.00D
  - Corneal cyl, within 5 degree if >1.00D
  - Angle Kappa

- Endothelial Cell Count
  - Total Cell Count analysis
  - High Cell Density
  - Lack of Guttata
  - Lack of variation in cell size

**Ideal Patient Clinically**

- Healthy Fovea dip
- Lack of Macular Edema, >300 um
- Lack of Macular hole
- Lack of ERM

**Not an Ideal Patient**

- OCT Scan

**Surgical Considerations**

- Biometry
  - Immersion, IOL master
  - Consistent staff and formula use
  - Personalization of A constant/SF
- Astigmatically neutral wound
- LRI’s, AK’s
- CTR’s
- Capsular integrity
Surgical Procedure

- Prepare for increased chair time
- Listen to the patient
- Address concerns and reassure
- Perform additional procedures
  - Avoid YAG capsulotomy until sure of lens
- Accept possibility of LRI, Lasik, CK, or Implant Exchange

Post-op Issues

- Be Proactive
  - Address complaints before patient has an opportunity too
  - ‘Your vision will get better once both eyes are done’
  - ‘Are you seeing those halo’s/glare we talked about’
  - ‘Your vision isn’t perfect, if it stays this way we may need to do …:
  - ‘Your vision will get better with time, it just takes time for your brain to accommodate the distance, intermediate, and near focal images’

Steps to Improve Outcomes

- Where did we go wrong?
  - Biometry error – refractive surprise
  - Prior refractive surgery
  - Surface Disease
  - Residual Astigmatism
  - Early PC Haze
  - Wrong patient personality
  - Need longer neuroadaptation

How am I going to Enhance Outcomes?

- Longer Neuroadaptation
- Show ability to read/Inability to read
- Glasses for full correction, does patient like
- IOL Exchange
- Piggyback IOL
- LRI
- LASIK/PRK

Timing of Enhancements

- IOL procedures best done early, but many times issues unresolved early
- Indercorrecte LRI’s extended early
- Need refractive stability – usually 3 months
Scenario #1 – Tecnis patient 1st eye, 1 week postop, complains bitterly of halos/glare

Scenario #2 – Bilateral Restor patient, 3 months postop, great vision but complaining of halos/glare

Scenario #3 – Bilateral Tecnis patient 2 months postop, complaining of poor vision

It Takes A System

- Staff and doctors are involved
- It begins with the initial appointment
- Basic education before patient decides on surgery
- Surgeon focuses on clinical exam and makes lens recommendation
- Staff handles lengthy questions and finances

Summary

Crawl→ Walk→ Run
Learn new skills
Educate staff
Implement in stages
Approach with refractive mindset
Choose appropriate patients
Enjoy practice growth

Thank You!

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Patients to Avoid

- Unrealistic expectations
  - Demand 'perfect' vision
  - Not willing to accept the potential complications of cataract surgery
  - Demand immediate results
    - Near vision improves over time