



Multifocal IOL's MIX AND MATCH

GERMAN CATARACT & REFRACTIVE MEETING
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Options for Presbyopia

- Monovision
- Accomodative IOL-
 - Humanoptics for hyperopes
 - Kellan, Crystalens
 - Dual optic
- Multifocal IOL
- Cornea inlays
- Conductive keratoplasty

Multifocal IOL

- Refractive IOL – Array / ReZoom (*pupil* > **3.0mm**)
- Diffractive IOL - ReSTOR and TecnisMF
- Recommended for Astigmatism < 1.0D
- Limbal Relaxing Incision made to bring astigmatism within range using Gills nomogram

Choice of Lenses

Array / ReZoom

Array for High Myopes

- lens power from -10D to +30D
- Corrects approx. -32.0D to +4.0D

Rezoom for hyperopes and low to moderate myopes

Choice of Lenses

ReSTOR

For low Myope and Hyperopes

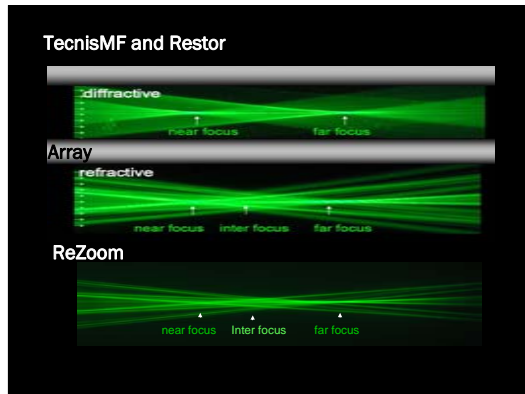
- Clear lens +16D to +25D
- Corrects approx. -5.0D to +4.0D
- Yellow ReSTOR lens +6D to +30D
- ReStor Aspheric

Choice of Lenses

TecnisMF

For moderate Myopes

- Lens power from +5D to +34D
- Corrects approx. -15.0D to +5.0D



MIOL Experience

- Since Nov 2003
- 500 eyes implanted with MIOL (Array, ReZoom, ReSTOR, TecnisMF)
- 50% TecnisMF
- Only 2 eyes requested lens exchange
 - One post lasik high myope with cataract
 - One developed diabetic maculopathy.

Reason for Rejection

Array exchanged with AR40e

- Patient high myope (-10D) had BE Lasik done in 1997
- LE cataract developed and surgery done in 2004 with Array implanted
- After surgery patient complained of haze, persistent distance and near blurriness (UCVA 20/40-2, J5-)
- Lens exchanged after 5M of surgery (UCVA 20/30)

Reason for Rejection

- ReSTOR exchanged with AR40e
- A DM patient had RE ReSTOR implanted in 2005
- Shortly after surgery, she developed diabetic macula edema and BCVA dropped to 20/40
- She believed that problems were related to MIOL and requested lens exchange
- Lens exchanged after 1 year of surgery but no improvement in VA

Mix and Match

- Up to recently the same lens was always implanted in both eyes
- With bilateral diffractive lenses patient have good distance and near but no intermediate vision
- With bilateral refractive lenses patient have all three near, intermediate and far but near is weak.
- Using one eye diffractive and one eye refractive one can achieve best of both worlds

Mix and Match

- Patients who read a lot, diffractive in non dominant eye
 - if happy with near - offer refractive in dominant eye to give better distance and some intermediate vision for computer
 - If not satisfied with near then use diffractive in dominant eye
- Patients who predominantly drive and use computer who don't read a lot offer refractive (ReZoom) in dominant eye
 - if not satisfied with near offer diffractive in other eye

Mix and Match

- 27 patients implanted with 1 eye TecnisMF and 1 eye Array/ReZoom
- Aim at full range vision
- All tolerated different lenses very well with no complaints

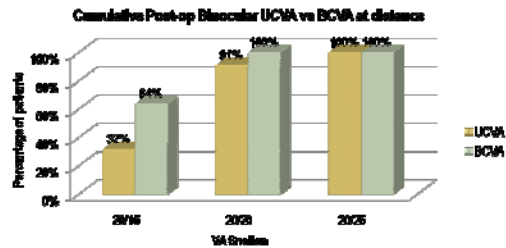
Mix and Match- Early result

No. of patients	27
Mean Age (years)	51.4 ± 8.1
Age Range (years)	38 to 69
Mean FU (days)	123 ± 77
FU Range (days)	19 to 299

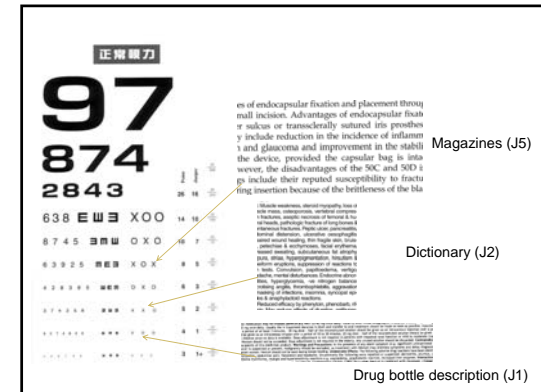
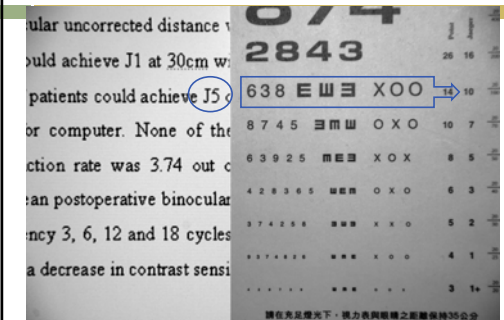
Mix and Match- Early result

	Array / ReZoom	TecnisMF
Preop mean MRSE (D)	-8.50	-7.30
STD	±8.68	±5.16
Range	+7.25 to -29.75	+2.63 to -13.5
Postop mean MRSE (D)	-0.01	0.03
STD	±0.42	±0.39
Range	+0.75 to -0.63	+0.75 to -0.63

Mix and Match- Early result

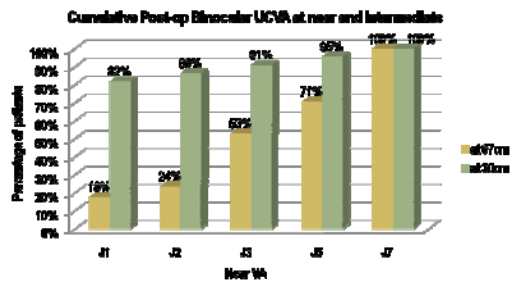


17" monitor; Resolution 1024 x 768
Time News Roman size 12

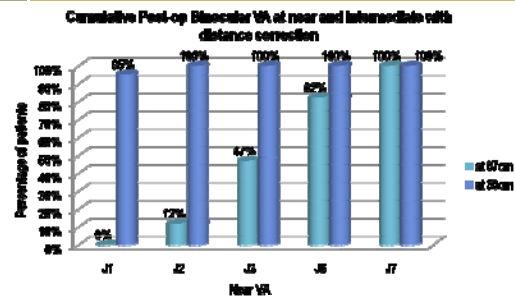


Drug bottle description (J1)

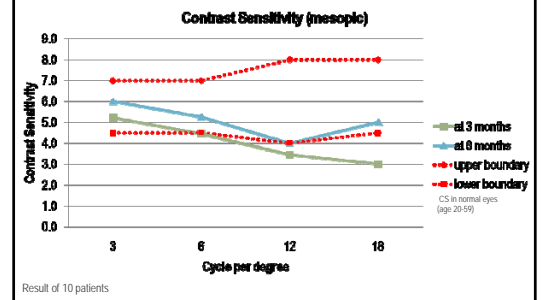
Mix and Match- Early result



Mix and Match- Early result



Mix and Match- Early result



Mix and Match- Early result

	Array / ReZoom	TecnisMF
Night Glare*	2.29	2.22
Halo*	2.35	2.06
Starburst*	1.70	1.62
Satisfaction#	3.71	3.78

* the higher the score, the more the severity (from 0-5)
 # the higher the score, the higher the satisfaction (from 0-5)

Mix and Match- Early result

	Binocular
Night Glare*	2.26
Halo*	2.20
Starburst*	1.65
Satisfaction#	3.74

* the higher the score, the more the severity (from 0-5)
 # the higher the score, the higher the satisfaction (from 0-5)

Mix and Match- Early result

Spectacle dependence

	Ave. Time Spent	Yes	No
Distance	---	0%	100%
Reading	2.4 hr	5%	95%
Computer	3.2 hr	5%	95%

Almost all patients are 100% of time SPECTACLE FREE

Mix and Match- Early result

Case report : F/47, 3M FU

	RE Tecnis ZM900 +4D	LE ReZoom
Preop MR / VA	-11.00/+2.50x84 (20/70)	-7.00/+0.50x12 (20/30)
Lens implanted	+17.5D	+17.0D
Postop UCVA	20/20	20/25
Postop MR / VA	-0.50/+0.50x75 (20/15)	-0.75/+0.50x100 (20/20)
Postop UCVA (67cm)	J5	J2
Postop UCVA (30cm)	J1	J2
Binocular UCVA	20/20 at ∞; J1 at 30cm; J2 at 67cm	

Mix and Match- 3M vs 6M

Mean reading of:	at 3 months	at 6 months
Binocular UCVA at distance	20/19.3	20/18.8
Binocular UCVA at 67cm	J3	J4.1
Binocular UCVA at 30cm	J1.9	J1.4
Scotopic binocular BCVA at distance	20/20	20/20
Monocular UCVA at distance	20/23.5	20/22.9
Monocular UCVA at 67cm	J6.6	J7.4
Monocular UCVA at 30cm	J1.8	J1.8
Satisfaction rate	3.6 (of 5)	3.9 (of 5)
% use of glasses for reading	6.20%	8.90%

Presbyopic lens exchange

PRELEX MIOL

Works well for

- advanced presbyopes
- high myopes
- hyperopes

Not so well for early emmetropic presbyope

Conclusion

- MIOL results are safe and very satisfactory
- No patients request exchange of lens
- Halo and glare has not been an issue provided proper preop consultation is given
- Mix and Match can provide patients with FULL range vision.
- Mix and Match is the way to go for presbyopic correction in patients who want intermediate vision also

Thank You

Mix and Match

	TecnisMF	ReZoom/Array
Recommended Target	-	-
Refractive Error	0 to +/- 0.25D	0 to +0.50 D
Uncorrected Post-op astigmatism	< 1.0 D	< 0.5D
IOL Near addition	4.0 D	3.5 D

A rectangular box with a black border. At the top, there is a horizontal bar divided into two segments: a small green segment on the left and a larger gold segment on the right. Below this bar, the text "□ M" is positioned in the upper left corner of the main area.

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