

# Outcome of Diffractive Multifocal Intraocular Lens Implantation in Pediatric Cataract Surgery



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# Multifocal IOLs in children – For and against

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## □ For –

- nearer to natural vision,
- Sports and other activities not hindered
- young children's activities are mostly at near.
- Avoid problems of bifocal glasses in children

## □ Against –

- Clear stable retinal image, necessary for visual development, not possible
- IOL power problems in a growing eye
- PCO causing loss of centration.

# Our Experience: Pediatric Multifocal IOL

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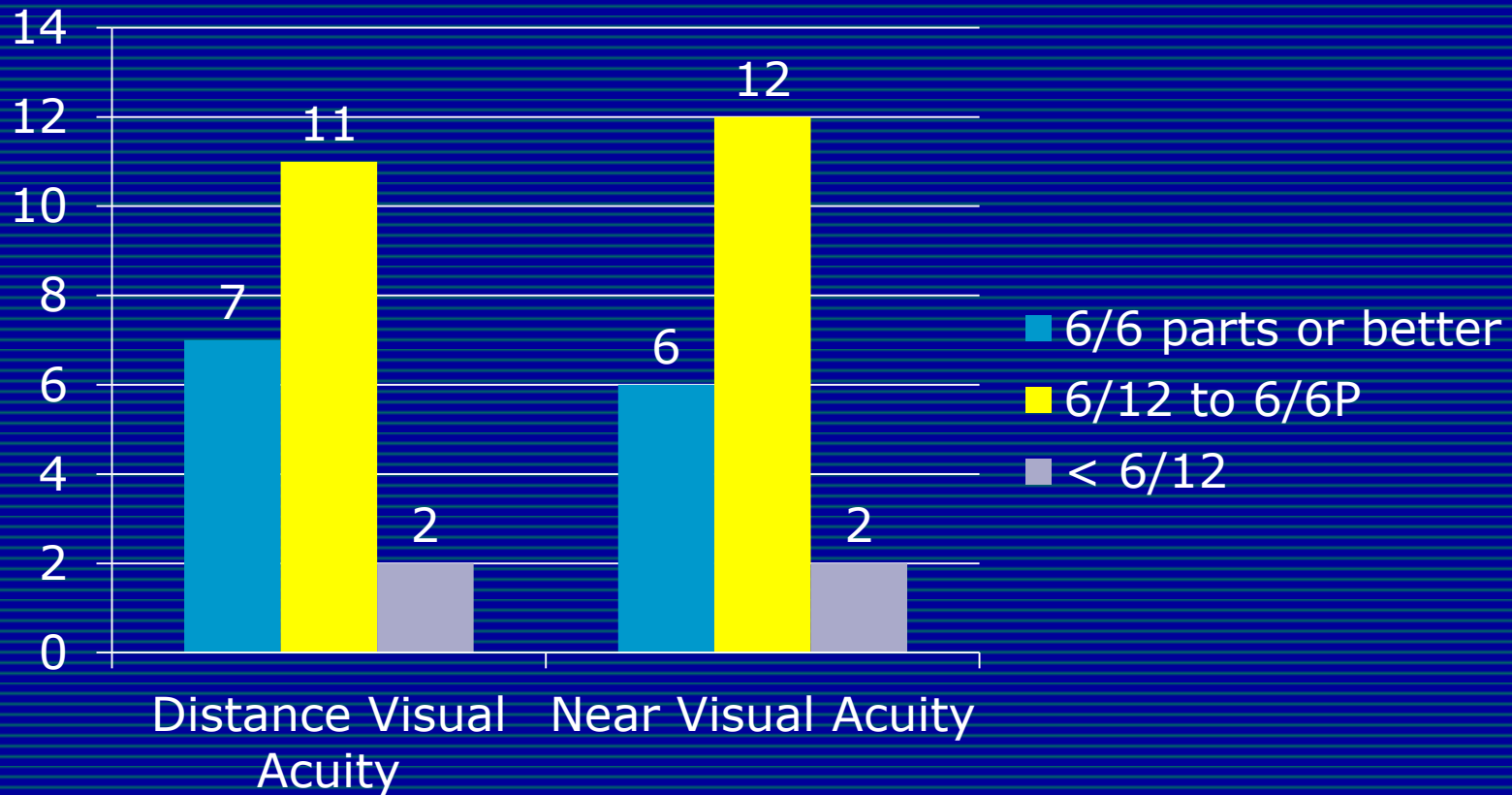
- ❑ PURPOSE: To evaluate visual outcome of diffractive multifocal IOLs in children
- ❑ Total Cases 10 (20 eyes)
- ❑ Age: 8 years to 16 years
- ❑ Bilateral Developmental Cataract
- ❑ Types of IOL Implanted: AMO Tecnis (10 eyes), Alcon AcrySof (10 eyes)

# RESULTS

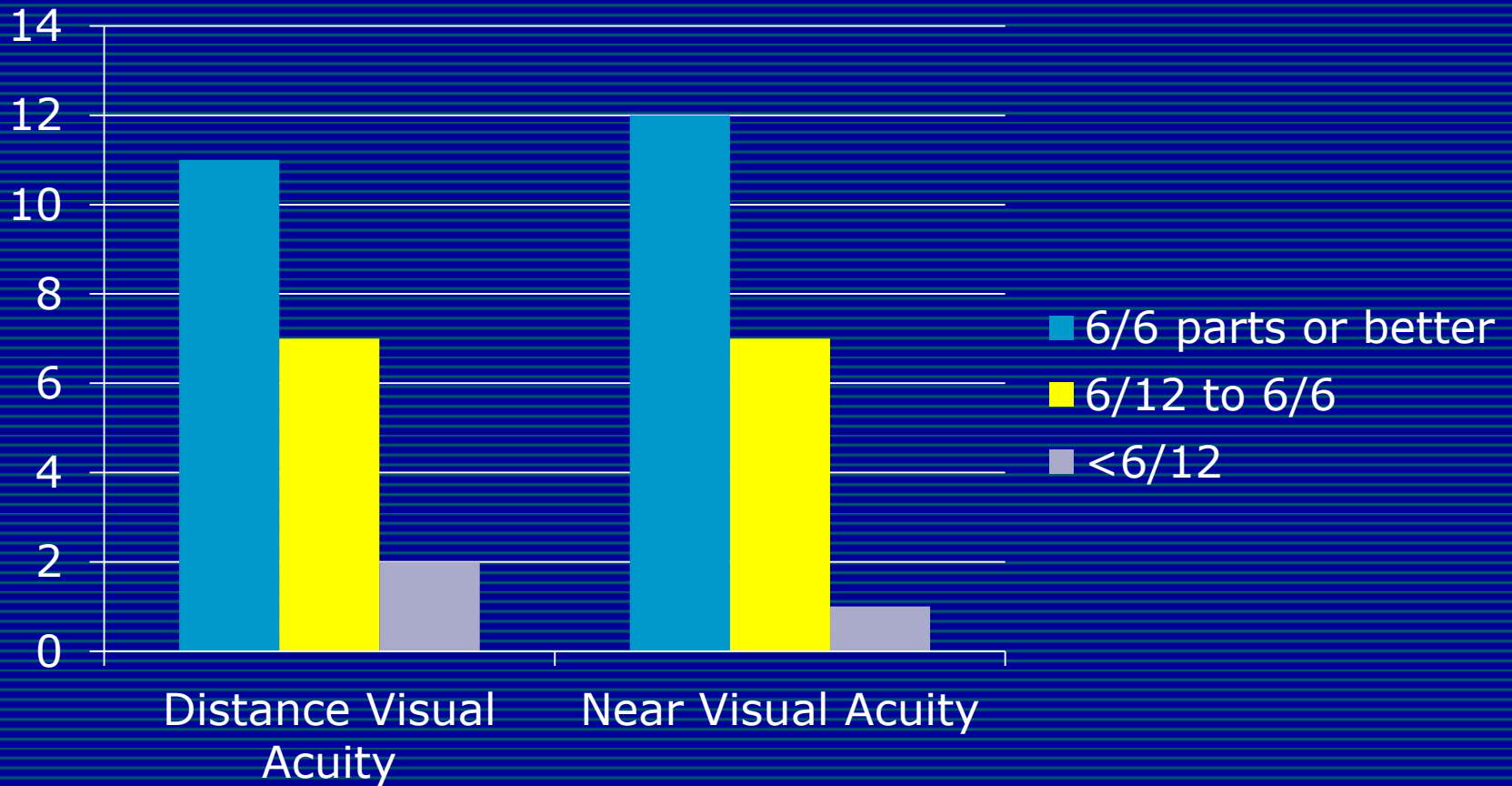
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- Ten children (20 eyes) had an average follow-up of 15.4 +/- 1.7 months. At last follow-up, best-corrected distance visual acuity improved significantly, 90% of eyes with unaided visual acuity of both 20/30 or better (for distance) and N9 or better (for near).

# Uncorrected Visual Acuity



# Corrected Visual Acuity



# Our Experience: Pediatric Multifocal IOLs

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- ❑ Most children were happy with their multifocal IOLs and did not need glasses for their routine activities
- ❑ One child complained of glare, haloes etc.
- ❑ In carefully selected cases, bilateral multifocal IOLs provide good binocularity of vision



# Piggyback Multifocal IOL in kids

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- ❑ With the availability of Sulcoflex – piggyback, multifocal IOLs, we can now implant a multifocal IOL as a secondary procedure
- ❑ We implanted the zero power multifocal Sulcoflex IOL in 3 cases (separate from the other 20) as a secondary procedure, when the visual recovery was surprisingly good

# Limitations

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- ❑ Growing eye ball
- ❑ Precise biometry and IOL power stability
- ❑ The greater posterior vitreous pressure in children may push the IOL forward, altering the position and power of IOL.
- ❑ It is common for the pediatric capsule to undergo significant fibrosis leading to shifting of the IOL.
- ❑ Avoid cases with dense amblyopia

# CONCLUSIONS

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- ❑ Results of this pilot study suggest that newer-generation aspheric diffractive multifocal IOLs are suitable for pediatric population older than 8 years.
- ❑ Multifocal IOLs have clear advantages in older children and may be a big psychological advantage in older children
- ❑ More studies needed to conclusively demonstrate the benefits/ drawbacks of multifocal IOLs in pediatric eyes

# Take Home Message

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- ❑ The multifocal IOL requires precise biometry and excellent centration in all axes. The surgeon must carefully consider these facts and decide whether their patient is a good candidate for multifocal IOL implantation.
- ❑ Children less than 8 years of age might not be a good candidate as precise biometry and centration are more difficult to achieve in the younger patient.