

Iris Surgery: Repair vs Prosthesis

Cases Review

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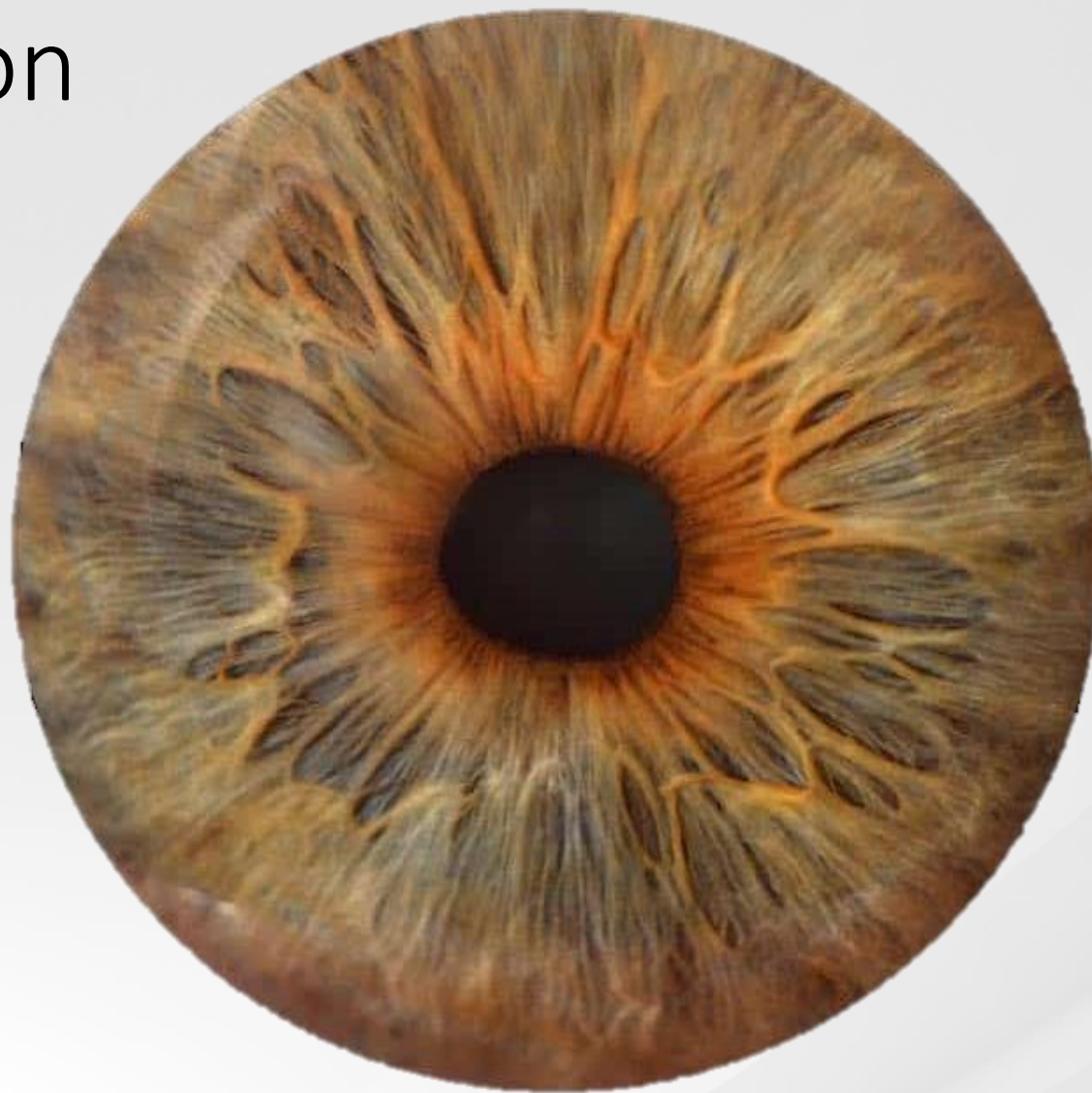


Design

- 129 iris surgery over the last five years were reviewed
- 120 (93%) of them were repair procedures, the rest: 9 (7%) included prosthesis implantation
- We looked into:
 - **Surgical Duration and Complexity**
 - **Visual and Cosmetic Outcomes**
 - **Complications & subsequent procedures**
 - **Recovery Times**
 - **Cost-Effectiveness**



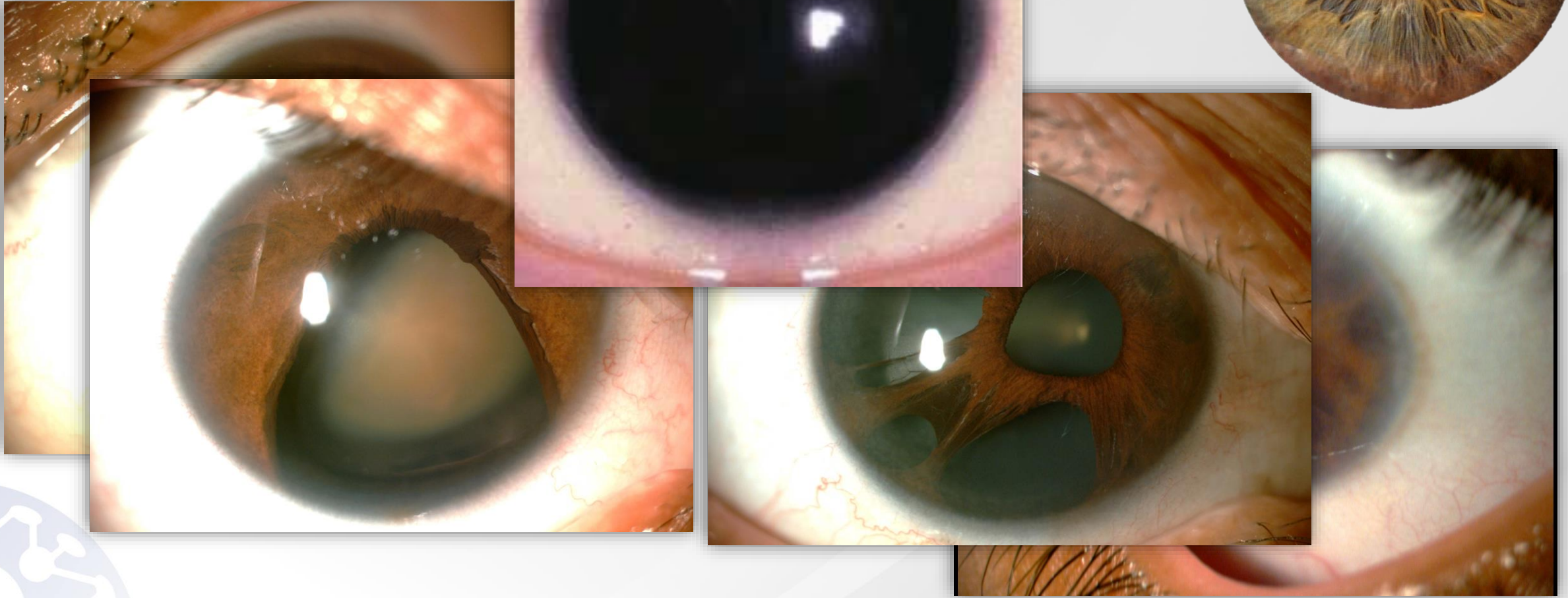
Introduction



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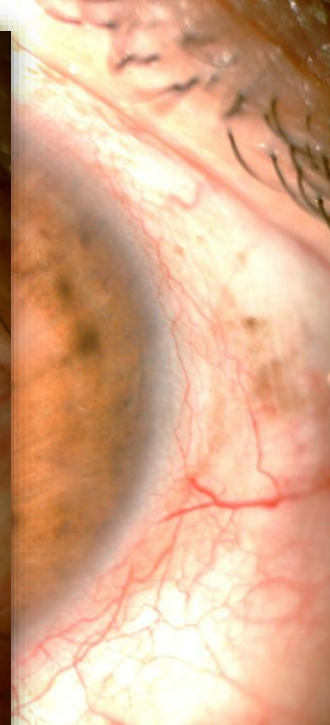
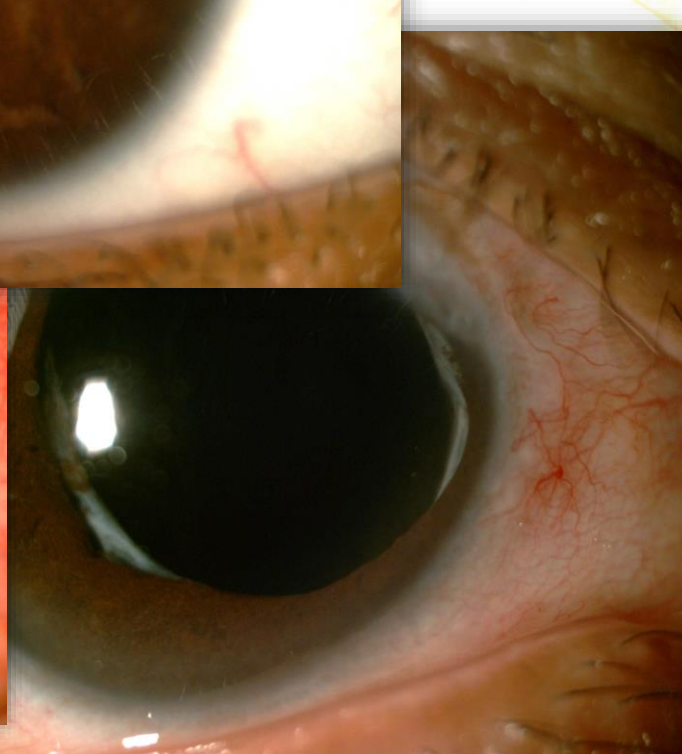
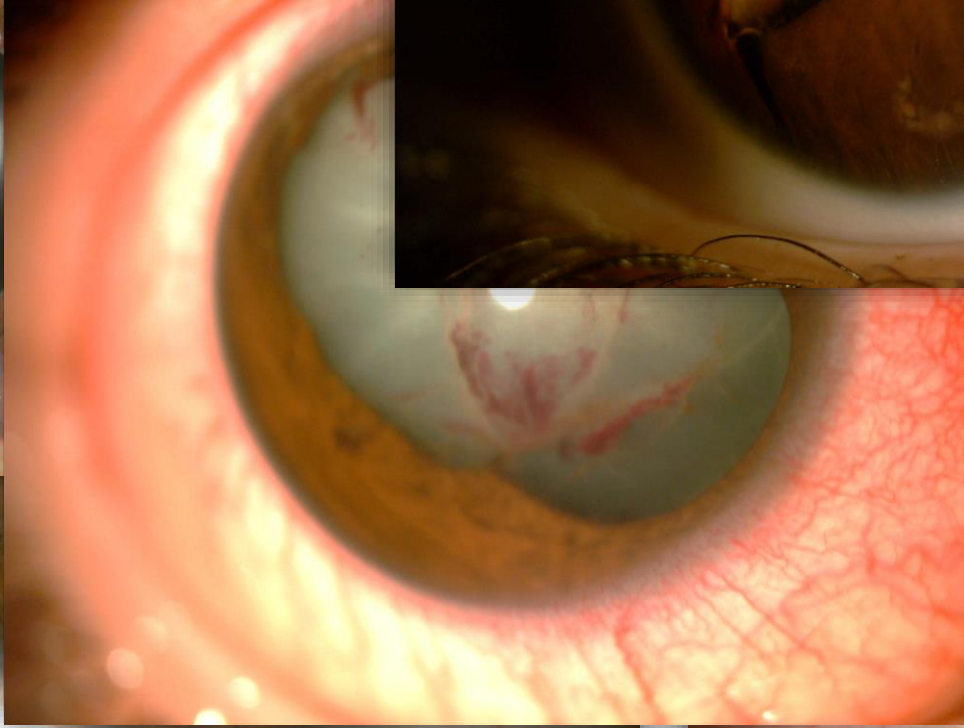
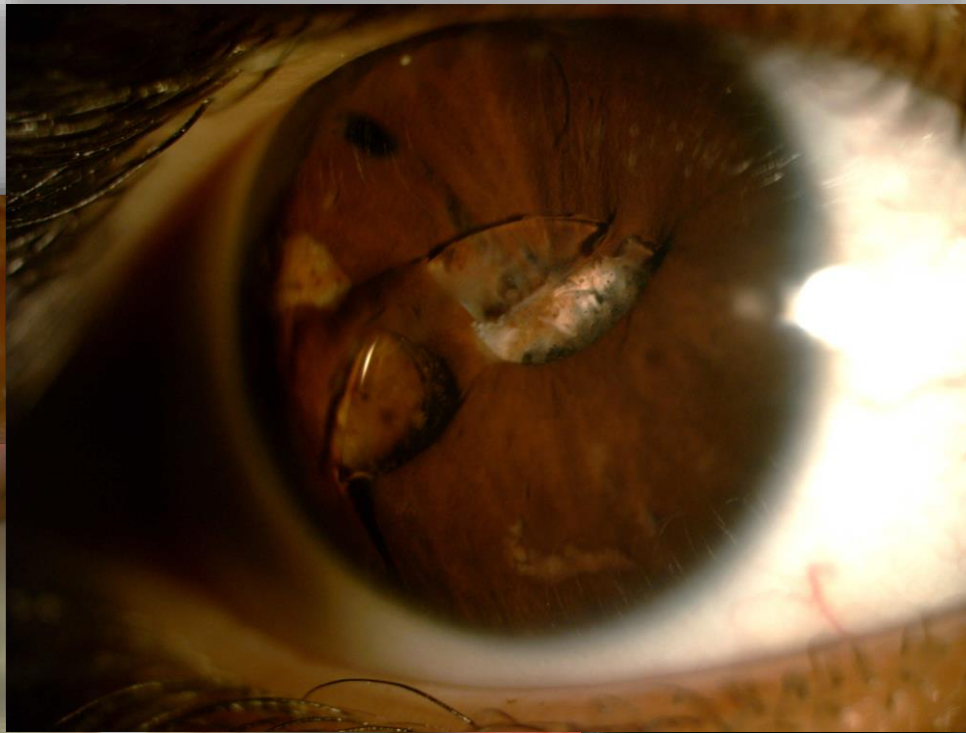
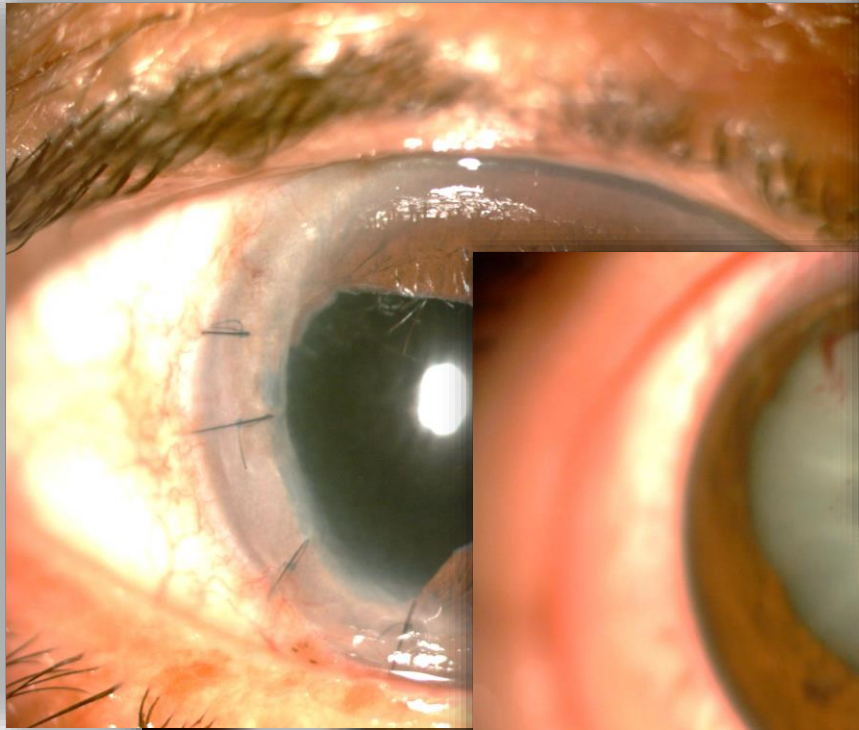
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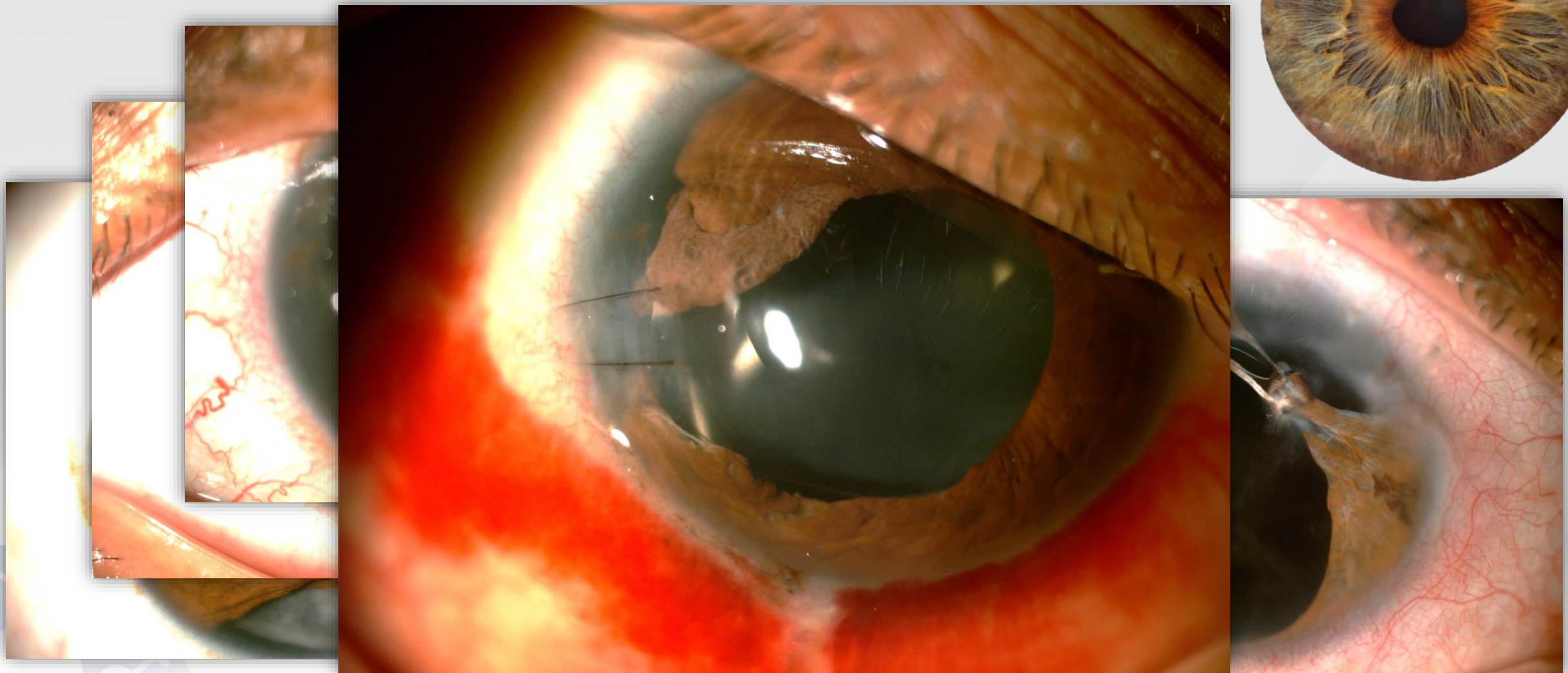


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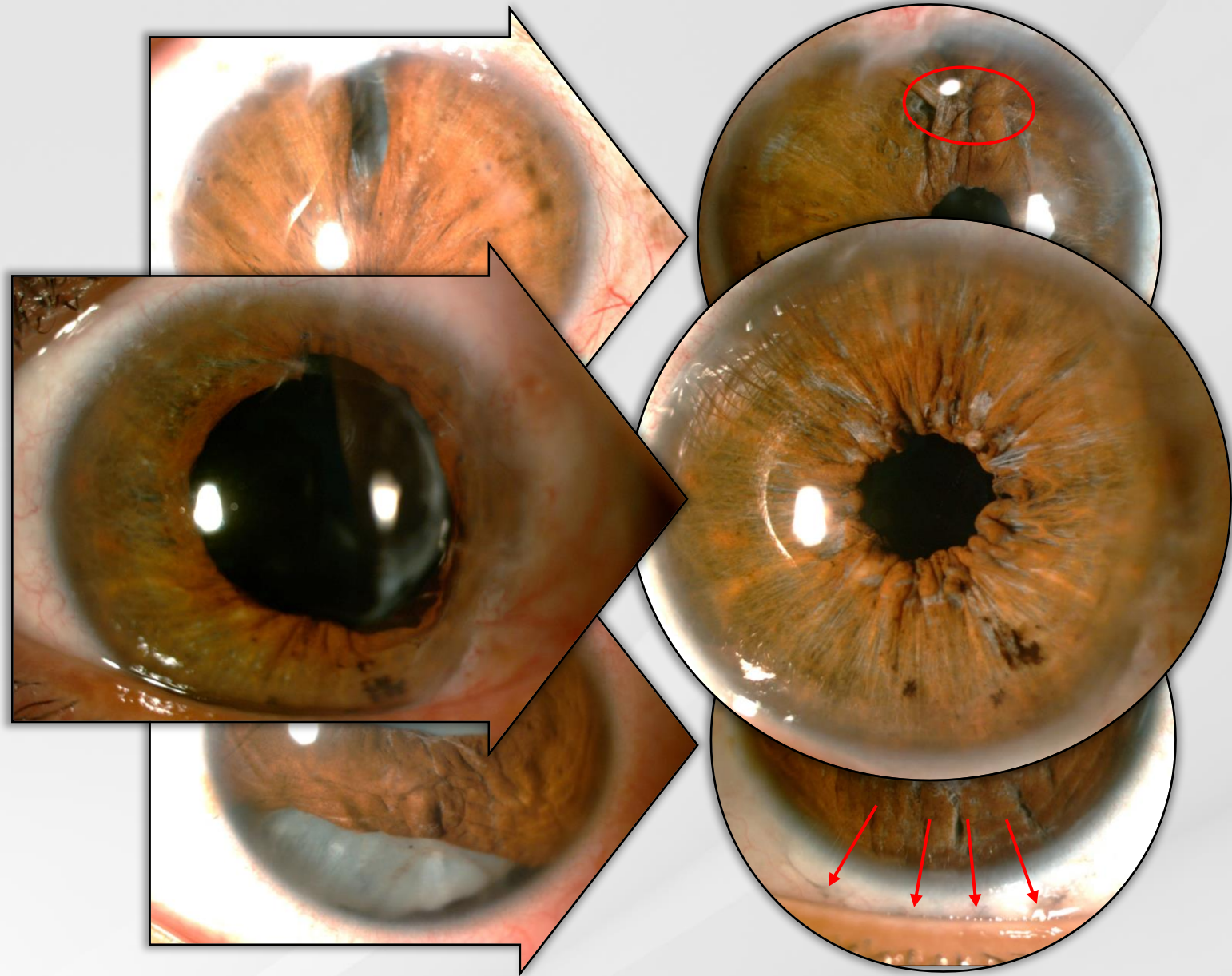
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What?

- Repair:
 - Sutures
 - Vitrector
 - Endocautery



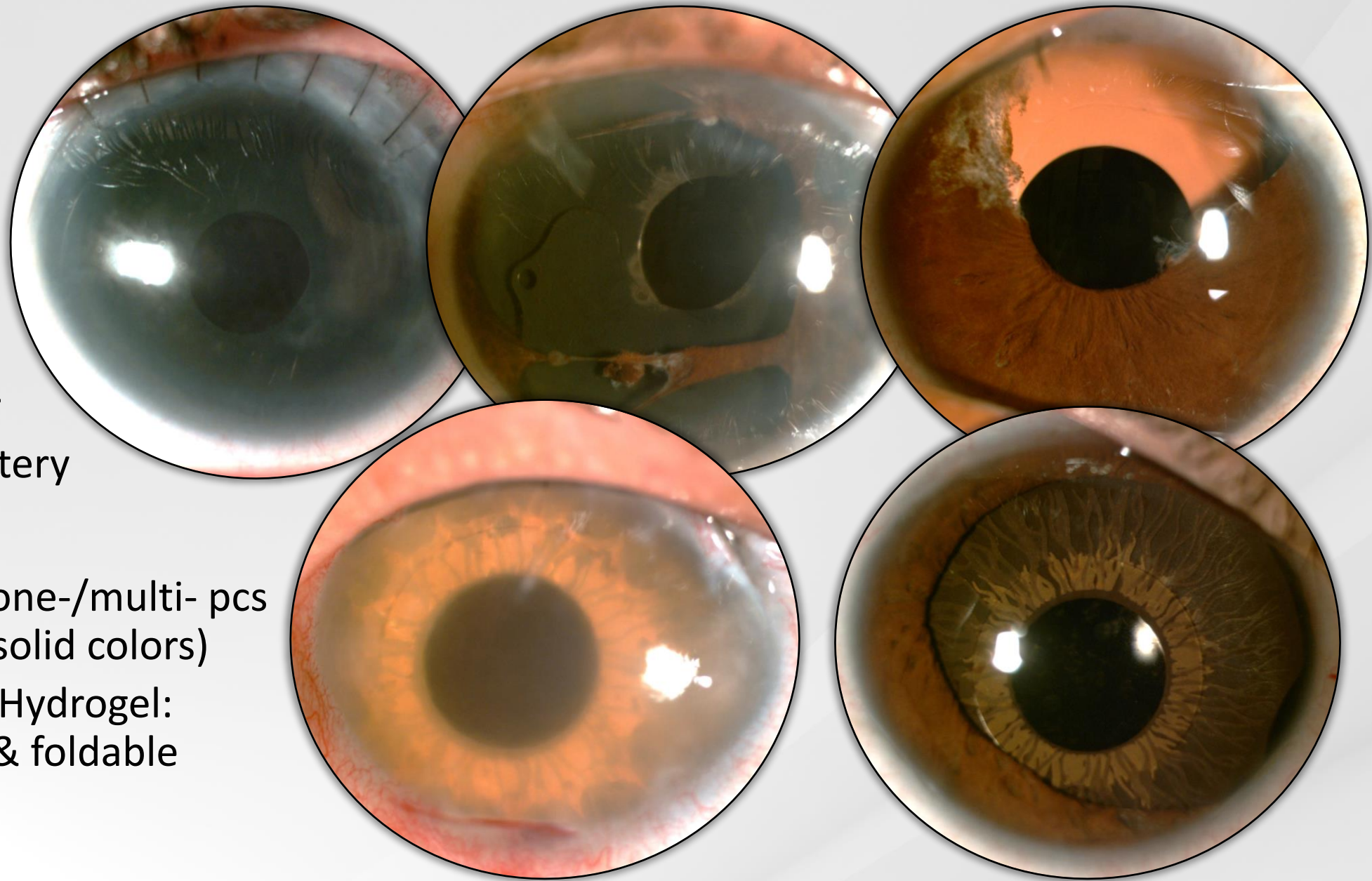
What?

- Repair:

- Sutures
- Vitrector
- Endocautery

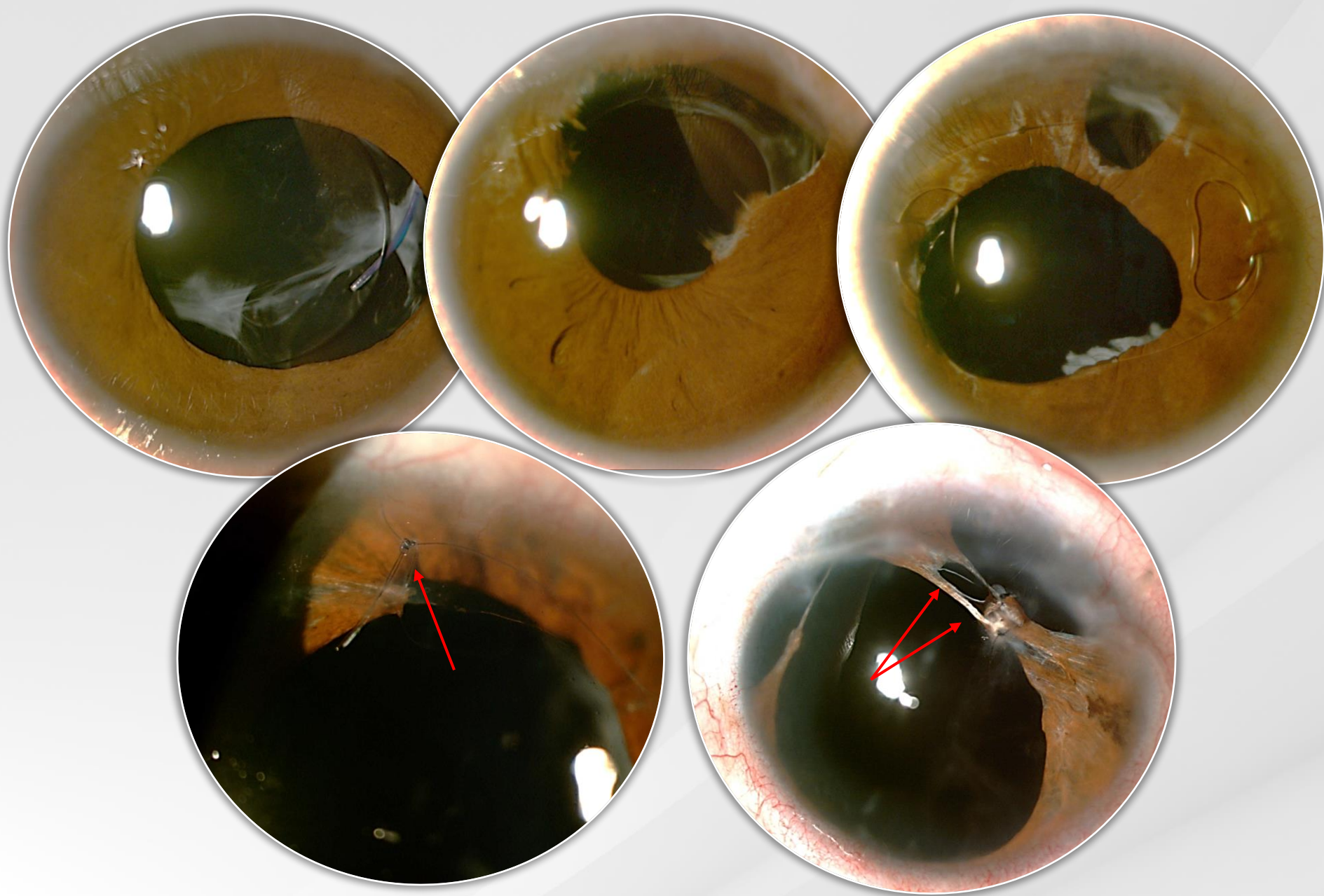
- Prosthesis:

- PMMA: one-/multi- pcs (limited solid colors)
- Silicone/Hydrogel: colorful & foldable



Why?

- Underdoing

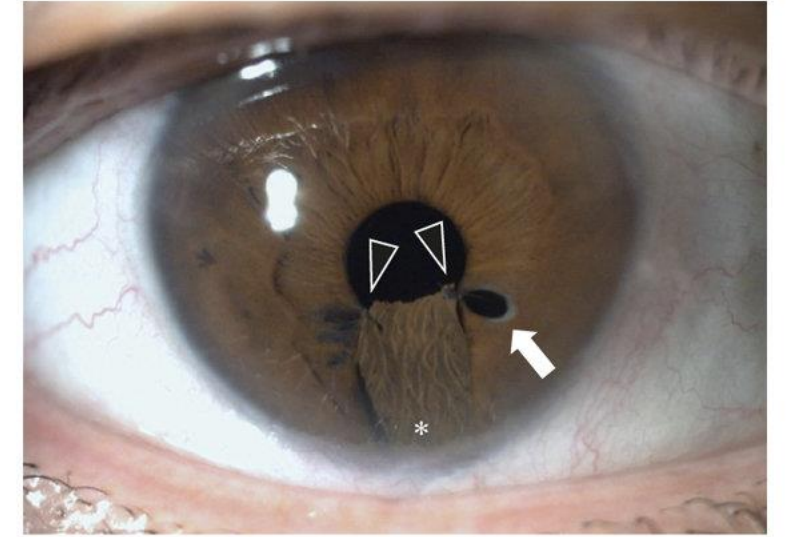
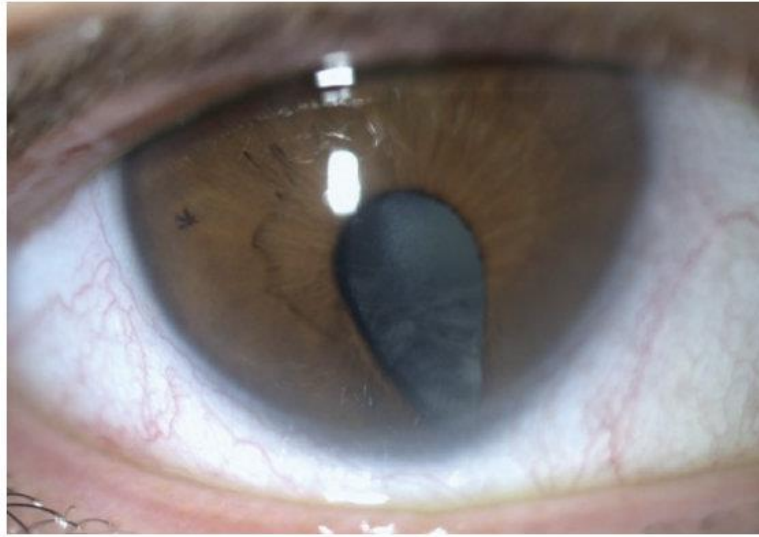


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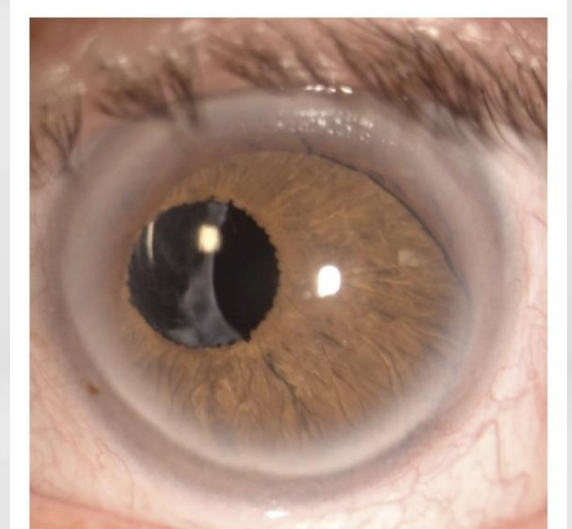
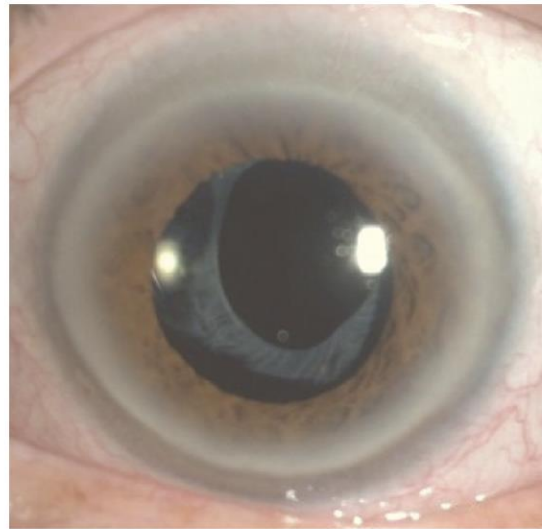


Why?

- Underdoing
- Overdoing



Mayer C et al., J Cataract Refract Surg, 2017.



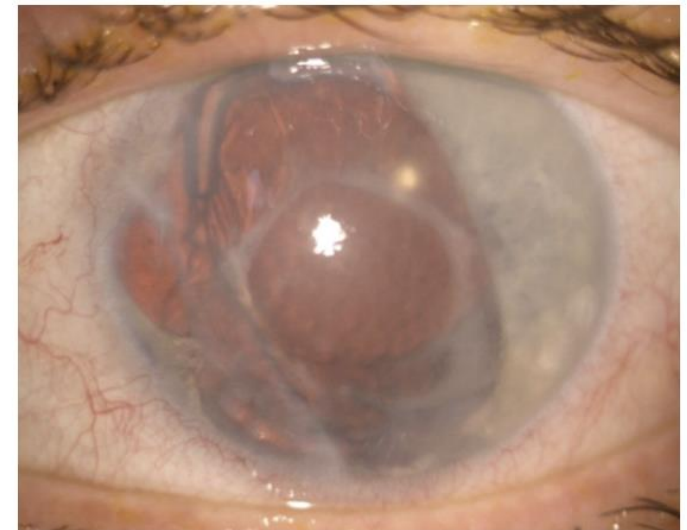
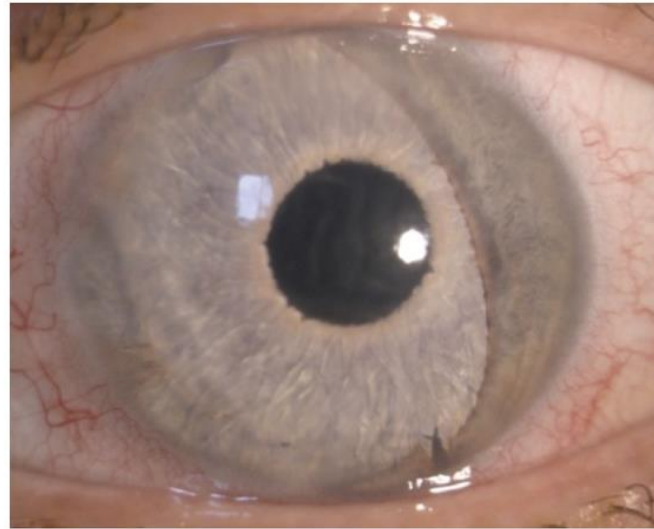
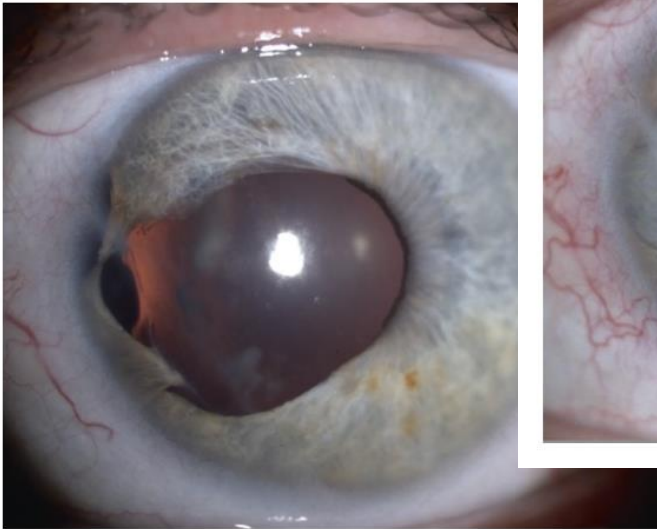
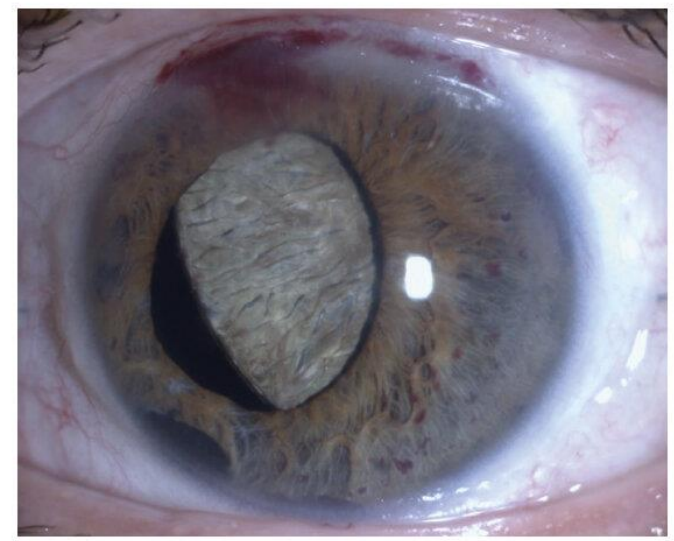
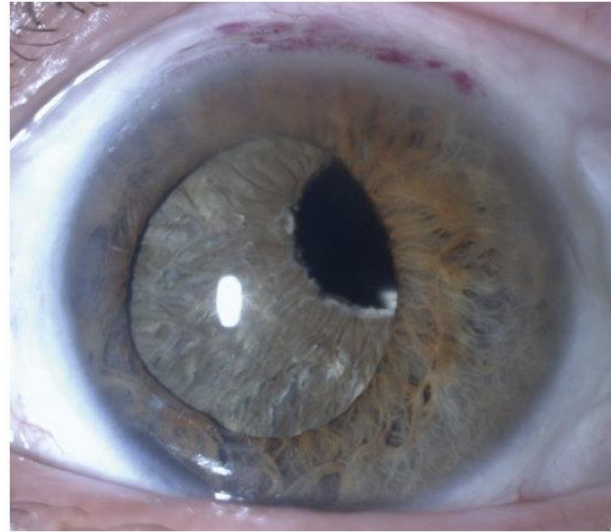
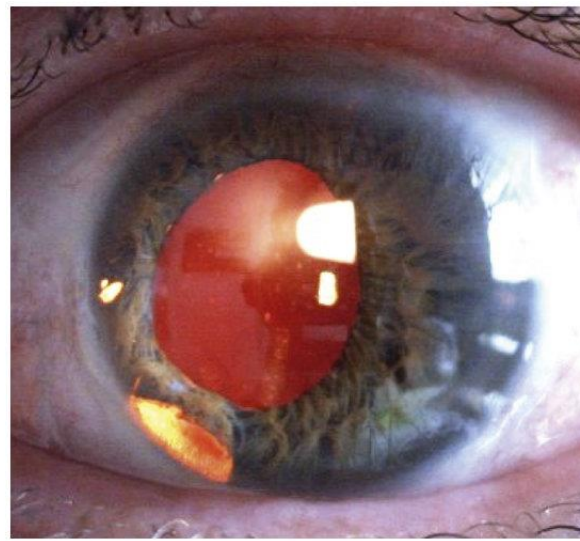
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Mayer CS et al., J Ophthalmol, 2018.



Why?

- Underdoing
- Overdoing



Results

- **Surgical Duration and Complexity:** Varied surgical times were observed based on the specific procedure. Iris repair surgeries generally exhibited shorter durations compared to iris prosthesis implantation, except for certain procedures like pupil cerclage & some iris root reattachments with longer arcs.
- **Visual and Cosmetic Outcomes:** The vast majority of patients showed reduced glare sensitivity - this applies to both modalities. The enhancement in visual acuity could not be directly linked to iris surgery, as it is typically associated with other procedures such as phacoemulsification or secondary IOL implantation. "Before and after" photographs demonstrated enhanced symmetry and natural appearance in both modalities. Newer iris prosthesis implantations yielded superior cosmetic outcomes in cases requiring a complete iris replacement. However, for smaller defects where sufficient iris tissue remains for repair, iris repair procedures still excel.
- **Complications & subsequent procedures:** Repair had low complication rate, minor manageable issues like imperfect pupils or sometimes iris tissue contracture on the long run, then pupil deformity. Most repair patients didn't require more procedures. Prosthesis surgeries had slightly higher complications and a bit more difficult to treat, e.g., misplacement. Subset of prosthesis recipients needed adjustments for best results.
- **Recovery Times:** Repair patients had shorter, less discomforting recovery. Prosthesis recipients needed longer recovery in general.
- **Cost-Effectiveness:** Prosthesis surgeries had higher costs due to specialized devices and complexity. Repair procedures were more cost-effective.

Conclusion

In summary, the review examined various aspects of iris surgery outcomes, highlighting differences between repair and prosthesis procedures. Repair surgeries generally offered quicker recovery, lower complication rates, and greater cost-effectiveness for smaller defects. In contrast, prosthesis implantations yielded superior cosmetic results when replacing the entire iris. The choice between these approaches should consider factors such as iris tissue availability, defect extent, any associated pathology, and the desired cosmetic outcome.



My Advice

- Try to save & repair iris tissue investing as much time & effort as it takes
- Use modern iris prostheses only if repair is impossible: tissue loss is >30% or iris tissue is too much lacerated or dialysed
- DO NOT under- or over-do things!

