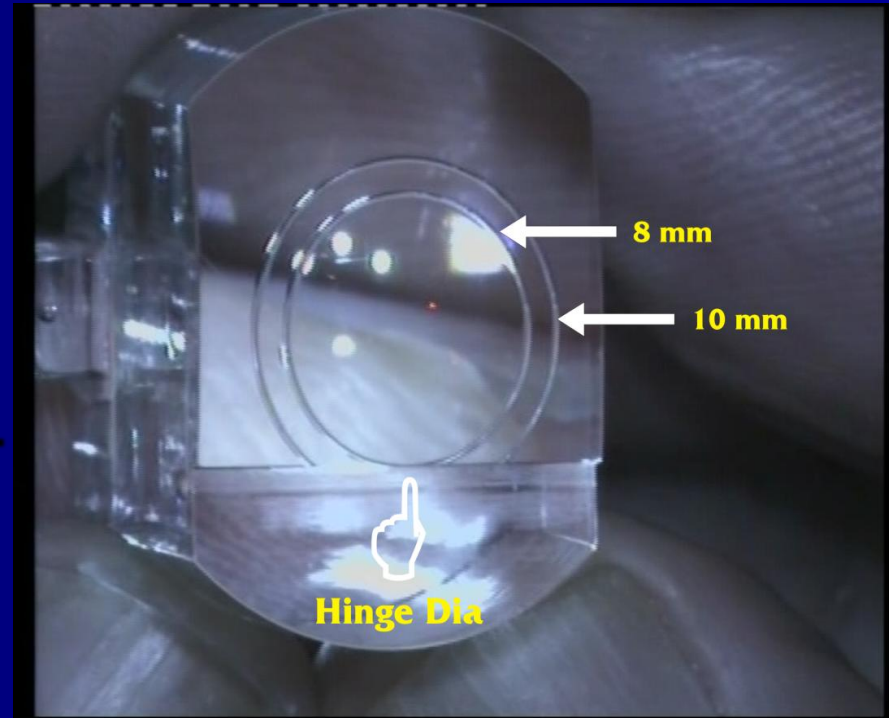


An Intra Operative Flap Predictor

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NO FINANCIAL INTEREST



Introduction

- Lasik flaps need to be customised for the horizontal and vertical diameters and hinge length to avoid complication as free flap ,too small diameter of the flap or hinge length and decentered flaps
- Especially in treatments of hyperopes, astigmatism, and patients with large transition zones and optical zones

- Patients with flat corneas such as post radial keratectomy and microcornea .
- Importance is to avoid the overlapping of the ablation with the flap edge at the periphery.

- Hinge length to prevent too small hinges which makes flaps very flimsy and difficult to manage.
- Also cases of contact lens wearers with pannus could prevent intraoperative bleeding by flap customization.

Purpose

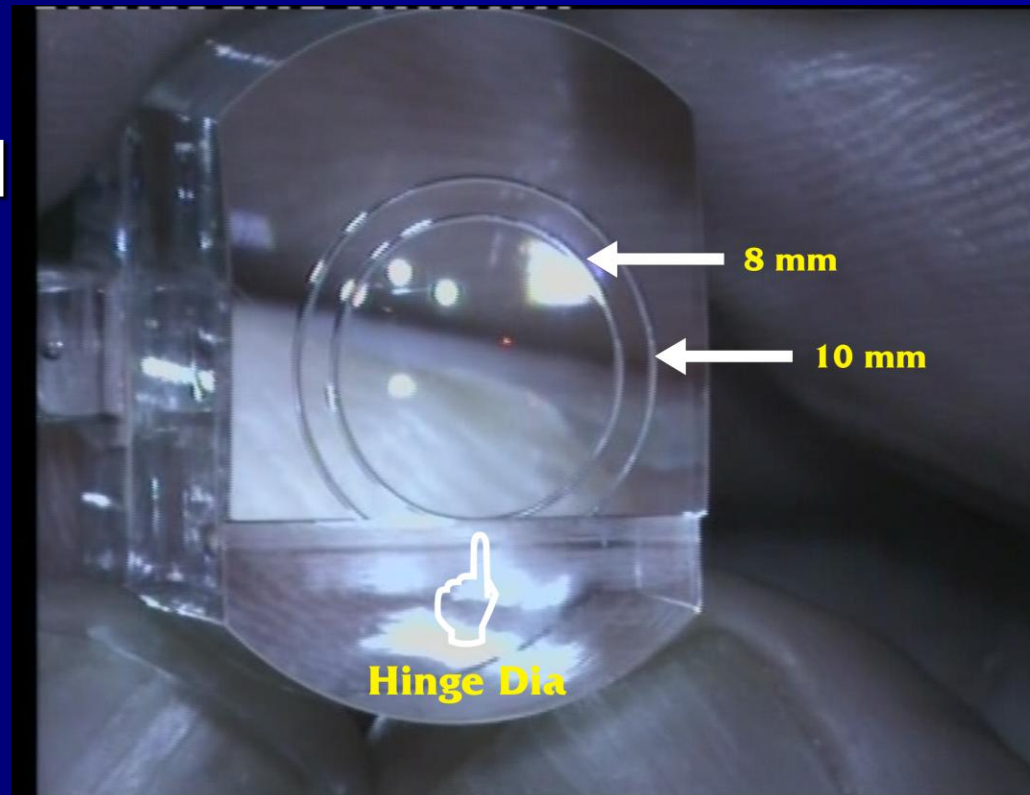
- Investigate an APPLANATION Lens
MADE OF PMMA
- To Be Able To Predict FLAP diameter
And HINGE diameter intraoperatively
before the pass of the microkeratome.

- Using AMARIS Schwind Laser , C P Microkeratome ,130 micron head.
- 25 pts Myopic, Myopic Astigmatism ,Hyperopic.
- K readings 41-45 D.
- 21 F , 4 M

APPLANATION LENS

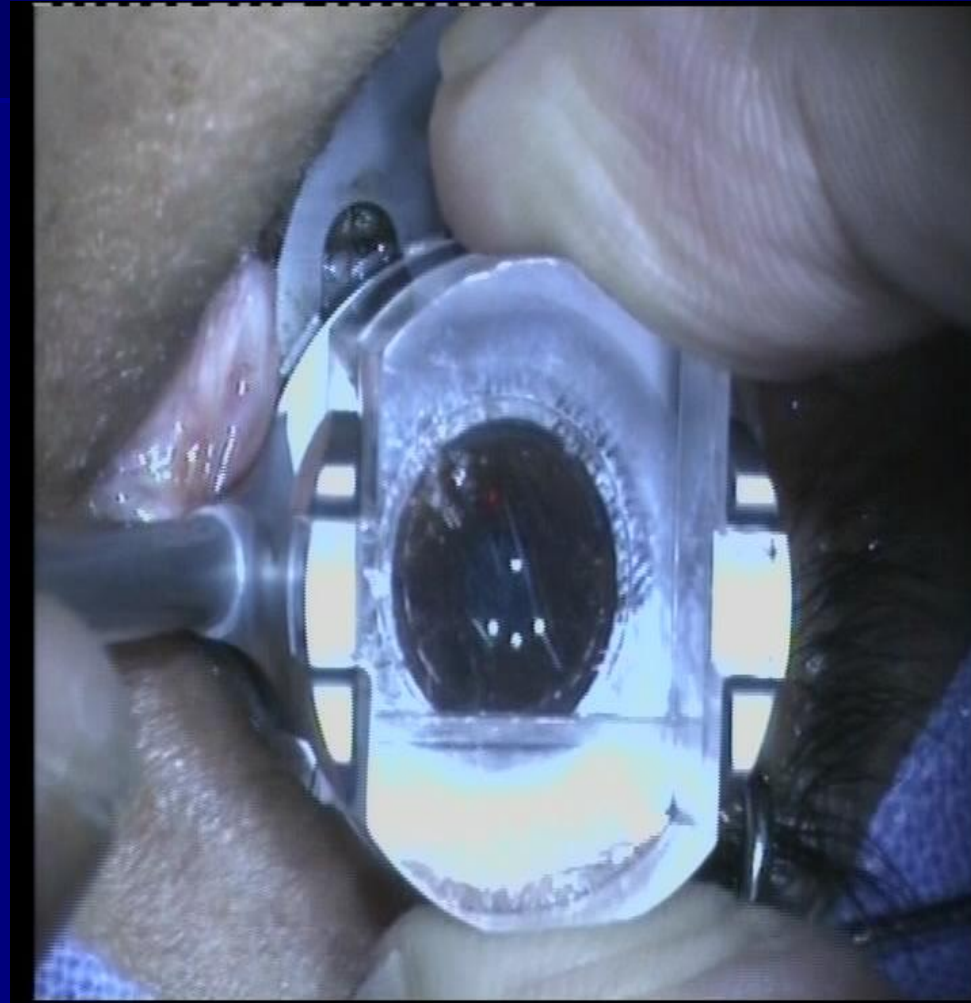
- PMMA BLOCK
- Hinge Is Marked And 2 Rings Marked

Dia 8.00 mm & 10 mm
Designed by IOC

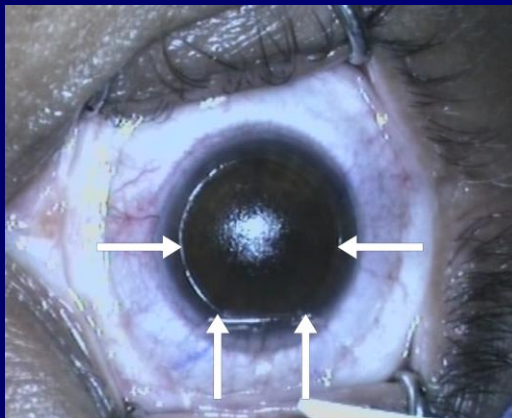
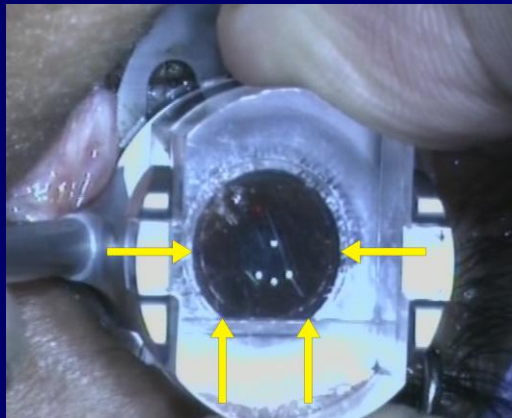


Method

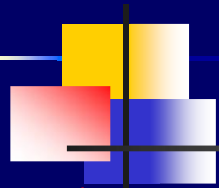
- Apply Suction & Place The Applanation Lens
- Note The Amount Of Applanated Area
- Flap Created And Lifted
- The Size Of the Flap & Hinge Dia Noted
- Images Super Imposed and Matched



Results



- With the help of the caliper the diameter of the flap & the size of the hinge was measured in each case.
- The image superimposed at the same magnification of the microscope



Result : Flap Diameters

A Vertical 9.05 ± 0.25 mm

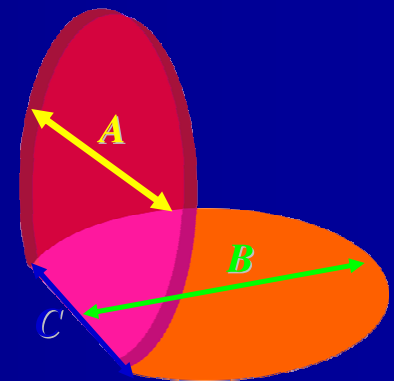
B Horizontal 8.46 ± 0.23 mm

C Hinge 5.35 ± 0.39 mm

M2 SU 90 :

B 8.9 ± 0.2 mm (8.6~9.2)

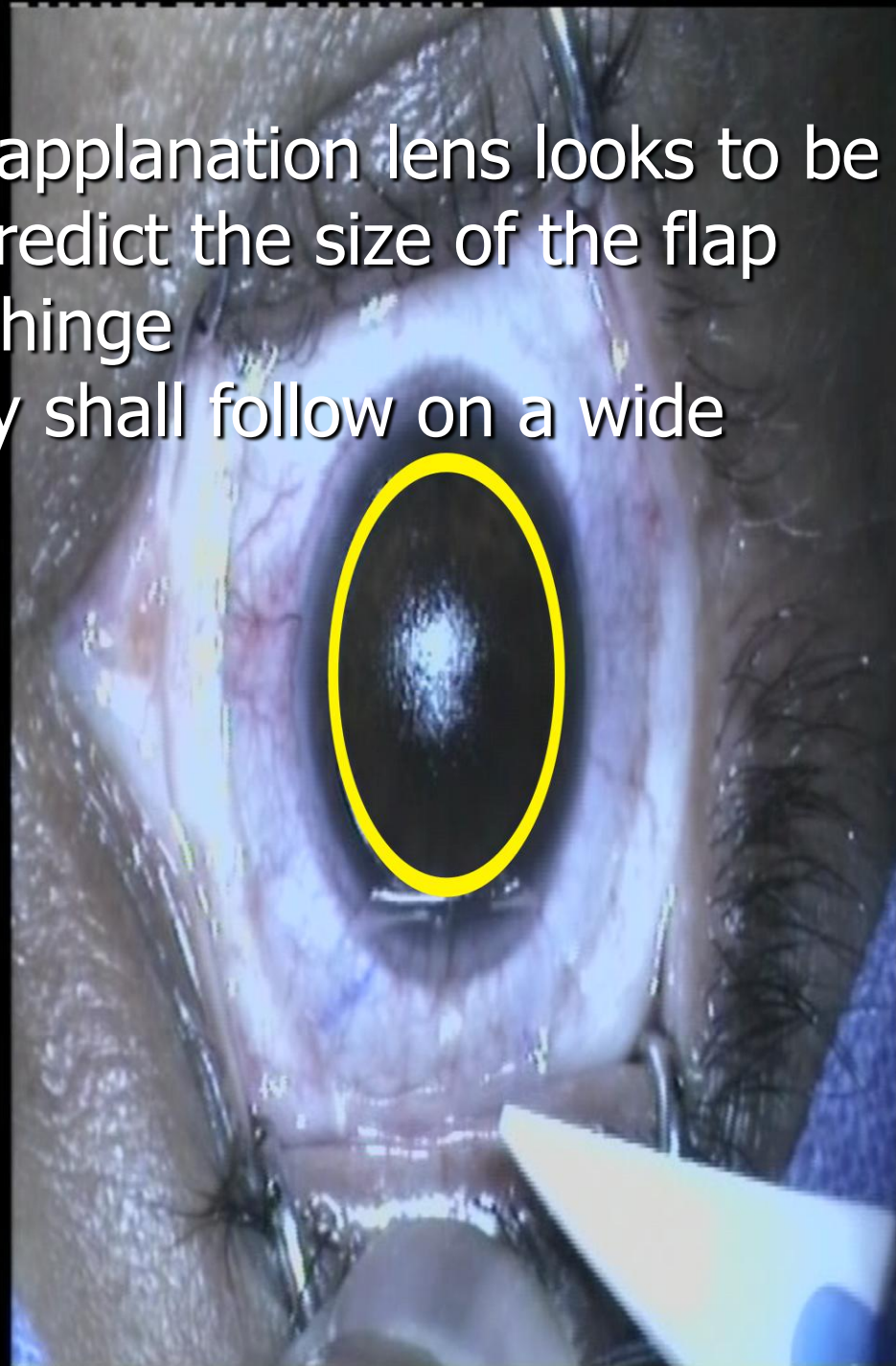
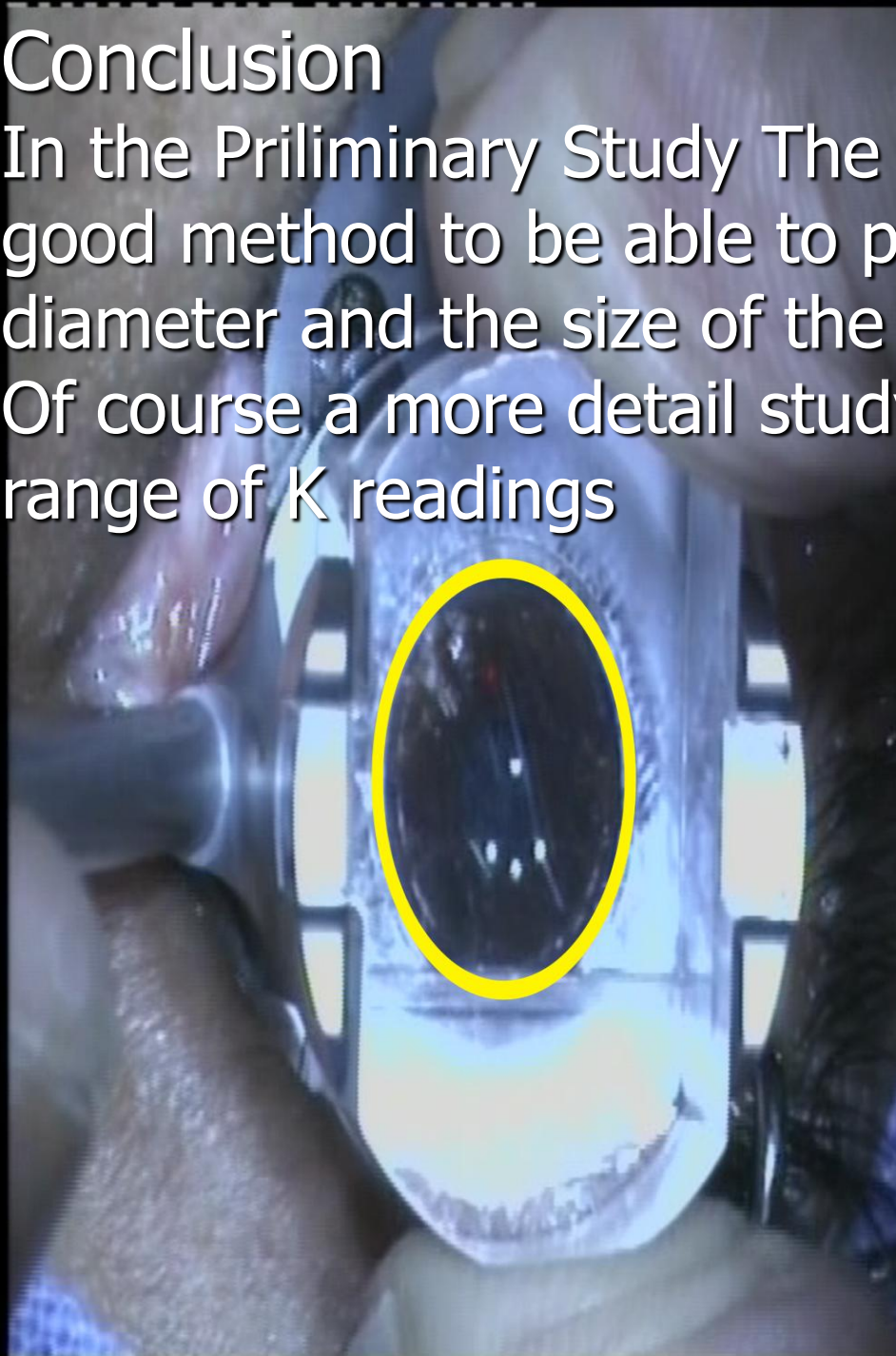
C 5.0 ± 0.3 mm (4.5~5.6)



Conclusion

In the Preliminary Study The applanation lens looks to be good method to be able to predict the size of the flap diameter and the size of the hinge

Of course a more detail study shall follow on a wide range of K readings



Conclusion

- ✦ Each case can be customized for their flap thickness along with their dimensions .
- ✦ Operative surprises could be prevented with this tool
- ✦ Better surgical and post operative results could be expected