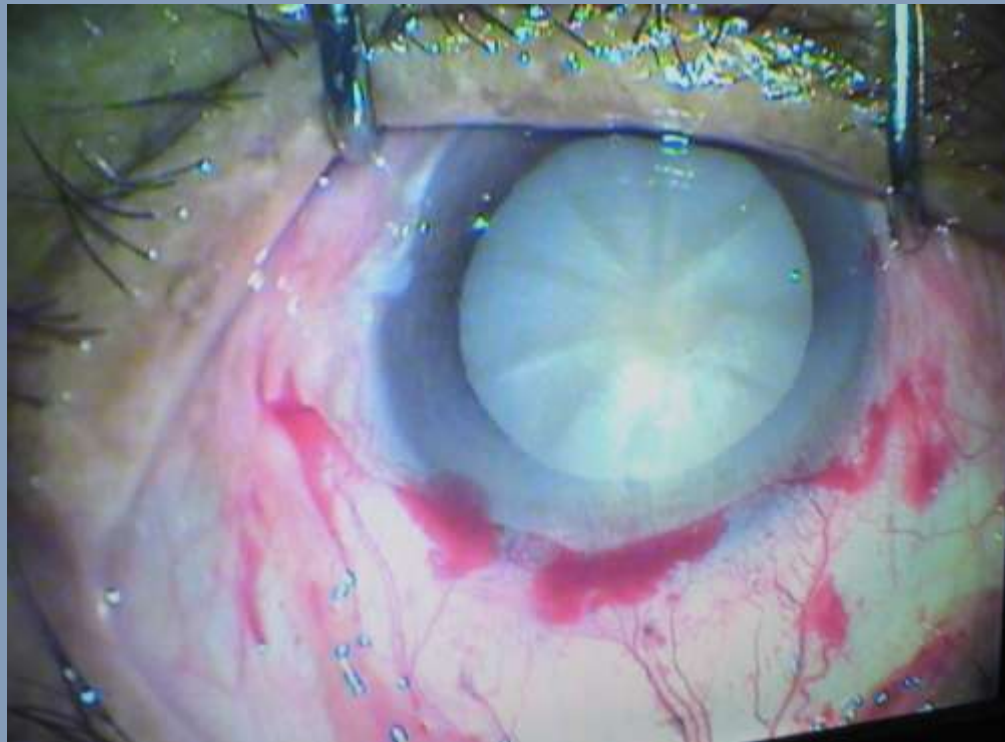
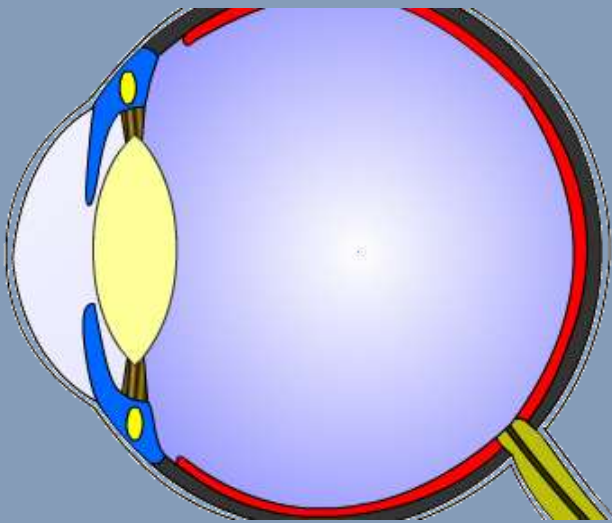


Cataract Surgery on the Thai/Burma Border Evolving Methods

Dr. Frank D Green

Cataract

A Clouding of the lens of the eye



Causes of Cataract

Ageing



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Causes of Cataract

Congenital



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Causes of Cataract

Trauma



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Symptoms of Cataract

Blurred vision

Progressing to Total Blindness

Glare from sun

35,000,000 blind from cataract in the world

1990 Invitation

- Request from General Bo Mya for Eye Doctors
- Advert placed in the Christian Medical Fellowship journal
- Dr. Phillip and I respond



Thanks to my family



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1990 First visit to Kawthoolei



Detection of Cataract : Training medics



Training medics



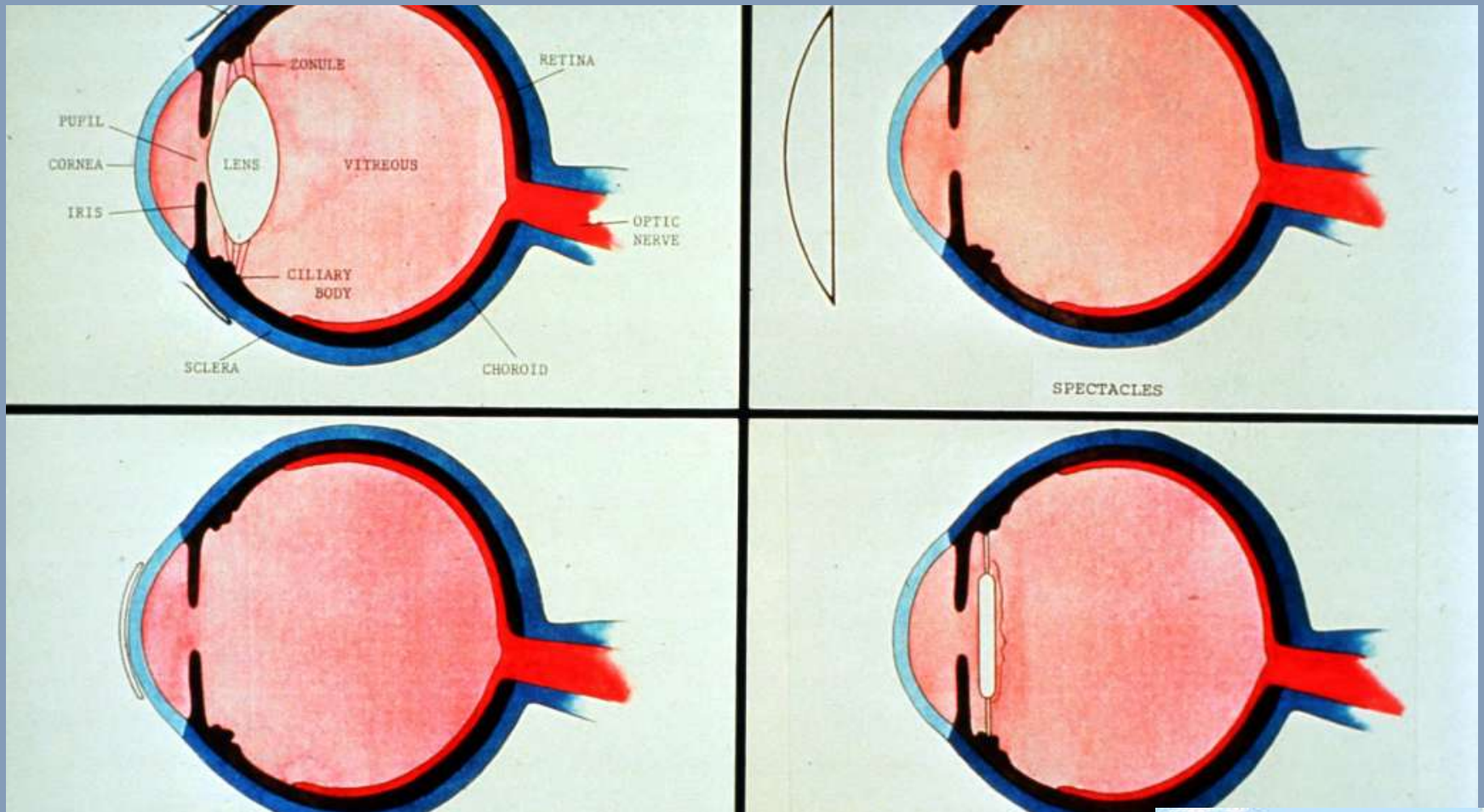
Assessing Visual Acuity



Finding Cases

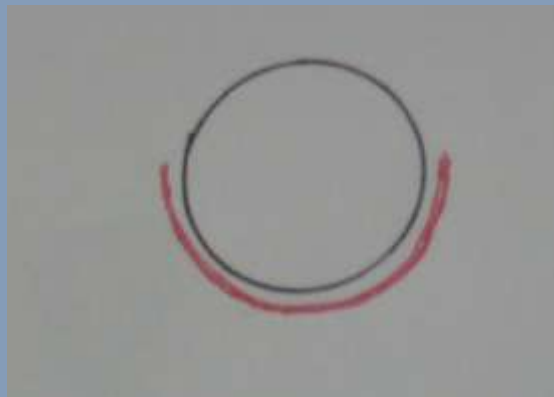


Treatment of Cataract Intracapsular Extraction



Intracapsular surgery

- Need strong glasses
- 30% magnification
- Jack in the box
- May loose or damage glasses
- Large wound causes a lot of astigmatism



Aphakic glasses



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Intracapsular surgery 1991



Intracapsular surgery 1991



Can I have my other eye done?



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Training medic in Cataract surgery 1993



1995 The fall of Mannerplaw

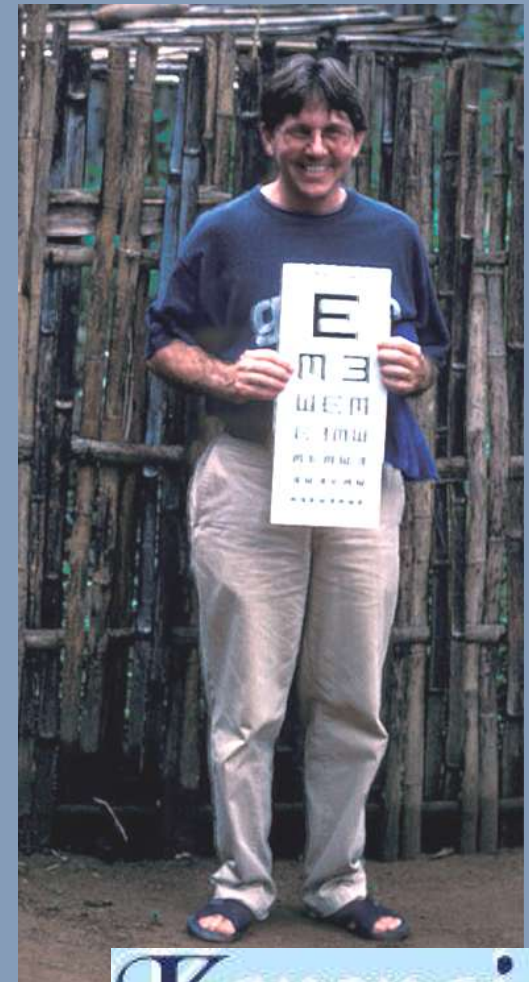


1995 Refugee camps swell



1995 Start of IRC Border Eye Program

- Meeting with Jerry Vincent
- Start of ongoing co operation
- Medics trained to detect cataract
- Facilitate our surgical visits
- Our team operates



Ongoing training by IRC Program



1995

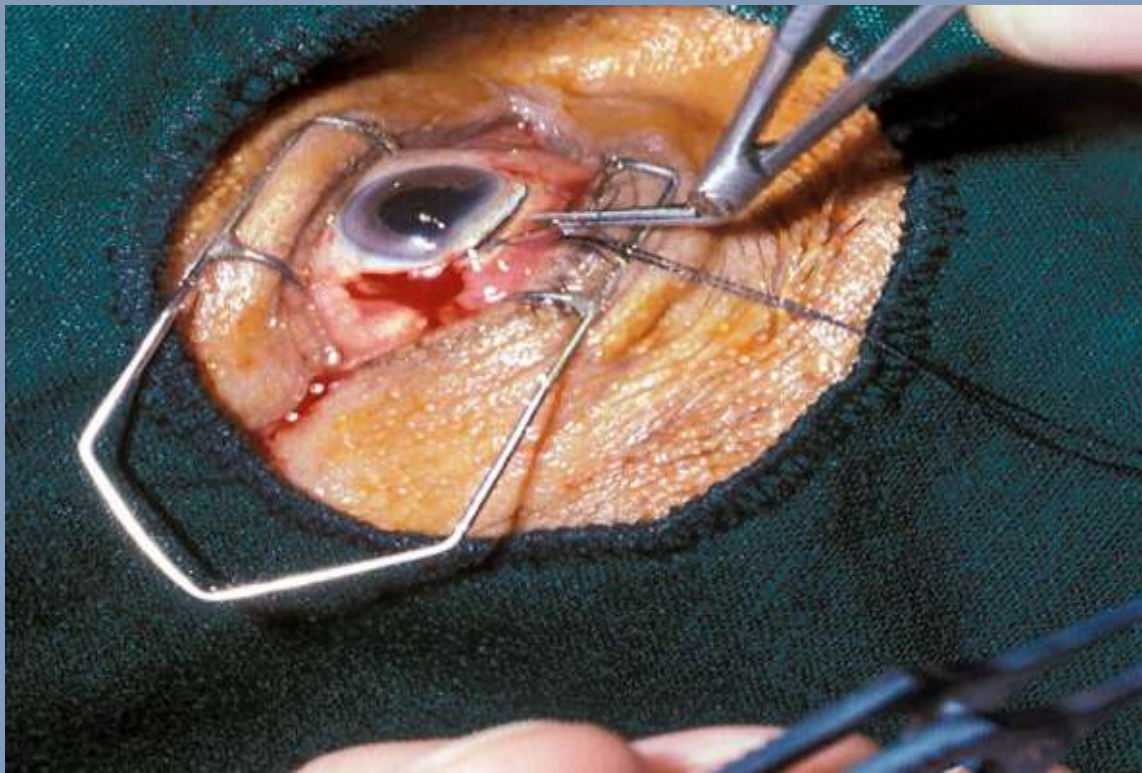
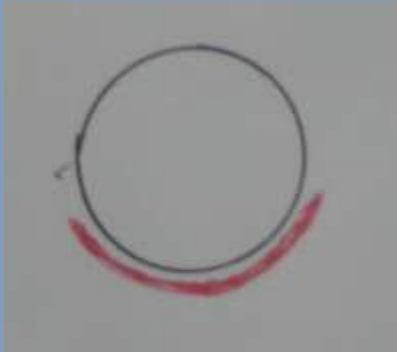
- Purchase of Portable Operating Microscope
- Extracapsular surgery
- Insertion of IOL's
- Travel to the growing refugee camps



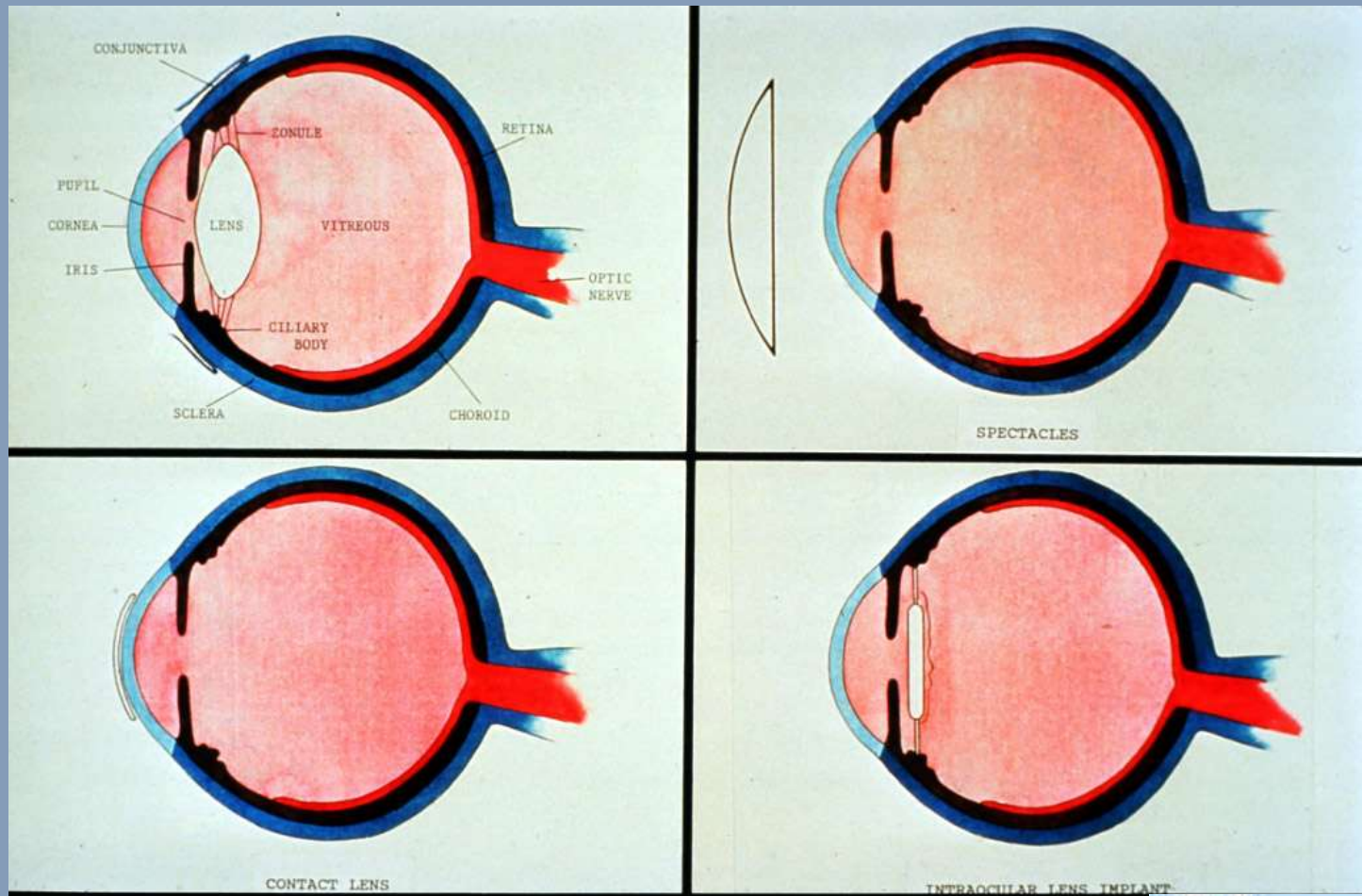
Extracapsular Cataract Extraction

- Enabled by microscope
- Smaller incision – less astigmatism
- Back wall of cataract left in place
- Intraocular lens placed onto the back wall
- No need for thick glasses
- Much better visual result

Extracapsular Extraction



Extracapsular extraction



Travel to the camps on a regular basis





• CHIANG RAI

• MAE HONG SON

• PHAYAO

• CHIANG MAI

• NAN

• LAMPHUN

• LAMPANG

• PHRAE

VIENTIANE

• NONG KHAI

• UTTARADIT

• LOEI

• UDON THANI

• SUKHOTHAI

• NONG BUA
LAMPHU

• SAKHON
NAKHON

• TAK

• PHITSANULOK

• PHETCHABUN

• KHON
KAEN

MUKDAHAN

• (Blue dot)

• KALASIN

• (Blue dot)

• KAMPHAENG PHET

• PHICHIT

• CHAIYAPHUM

• MAHA
SARAKHAM

AMN
CHARO

• (Blue dot)

THAILAND

• ROI ET

• NAKHON SAWAN

• NAKHON
RATCHASIMA

• UTHAI THANI

• CHAINAT

• SING BURI

• LOP BURI

• ANG THONG

• SARABURI

• SUPHUN BURI

• NAKHON NAYOK

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Equipment all portable



Medics have screened out the patients



Sterilisation!



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Local Anaesthesia



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A Short Prayer



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Surgery begins



Operating in Maela camp courtesy of SMRU



Even in the rainy season



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The patients arrive and leave



1998 Biometry started

- Each patient measured before surgery
- Curve of cornea measured
- Length of eyeball measured by ultrasound
- Correct power implant selected by the computer



Corneal curvature measured



Length of eye measured



Intraocular Lens Chosen

- With the data from the corneal curvature and the length of the eye from the ultrasound the computer works out the best lens power for the patient
- The best power of lens is selected from our lens bank
- The patient will then only need a pair of glasses for reading

The beginning of our work at Mae Tao clinic 1995



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2000 Increasing workload at MaeTao clinic



Developing Facilities at Mae Tao Clinic

- Large number of migrant patients from Mae Sot and from within Burma
- Well trained staff
- High level of equipment
- Ongoing training of staff
- Continuous audit

Large number of patients



Why did you come to Mae Tao to see the eye doctor?

Good quality	29.5%
Not expensive	25%
Not afraid of poor results	27.3%
Close to relatives	2.3%
Had surgery on one eye at Mae Tao already	9.1%
Other	6.8%

Survey of patients coming to MTC

Why didn't you go to the eye doctor in Burma?

Too expensive	49.2%
No eye doctor near township	4.5%
Afraid of poor results	17.9%
Don't speak Burmese (language barrier)	1.5%
Did go to Burmese eye doctor	11.9%
Other	14.9%

Time spent traveling to Mae Tao Clinic

- Under 4 hours (1/2 Day) 54%
- 5-8 hours (1 Day) 24%
- 9-16 hours (2 Day) 10%
- Over 16 hours. (3 Day) 12%

Well equipped and spacious clinic



Well Trained Staff



Assessment of cataract by Staff

- Visual acuity
- Light projection
- Pupil responses
- Complicating factors



- **CATARACT PATIENTS ALWAYS HAVE NORMAL PUPIL RESPONSES AND CAN ALWAYS SEE LIGHT**

Pre op Assessment of Patients



New microscope donated by IRC



Routine Maintenance



Training of Medics



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Surgical Training

- Training of Nay Sher in cataract surgery by Prof John Forrester
- Nay Sher has now done >350 cataract operations



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Trainee and Trainer



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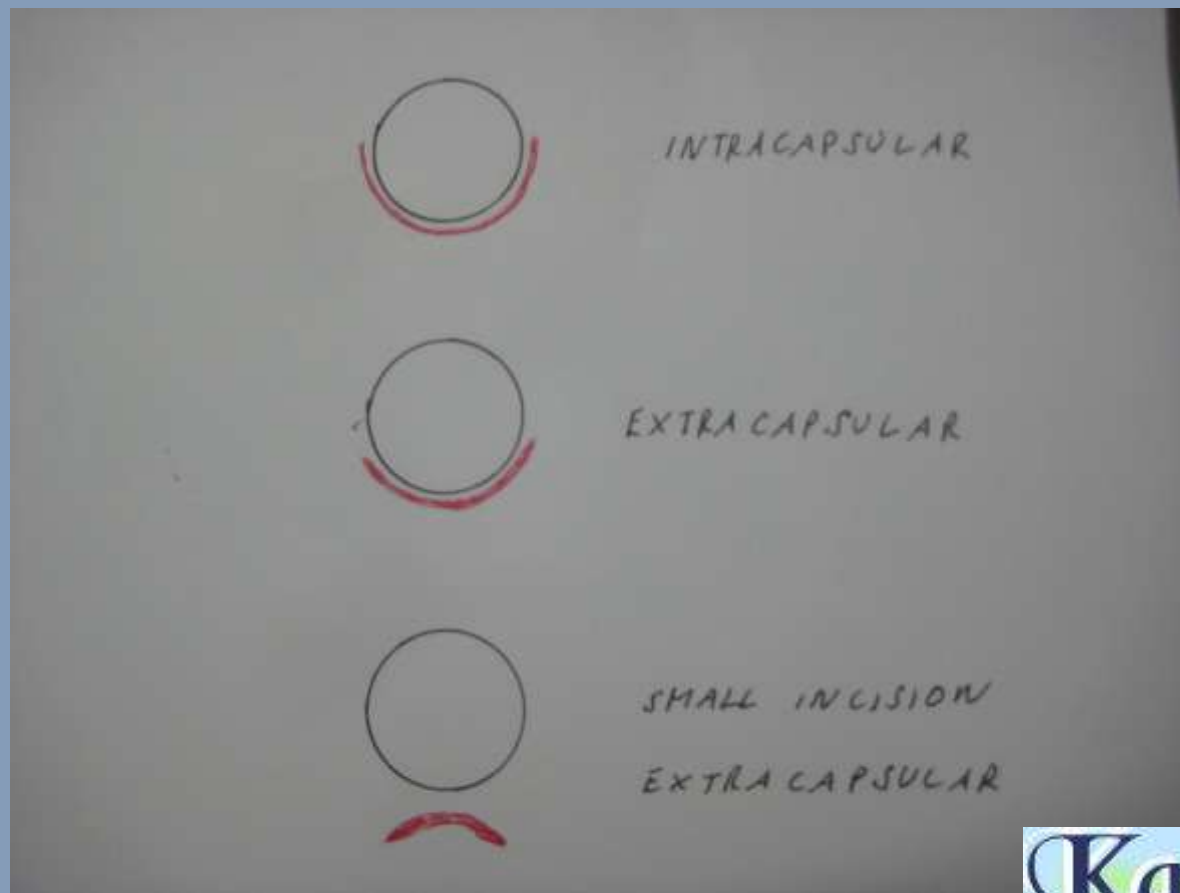
Double Operating Room

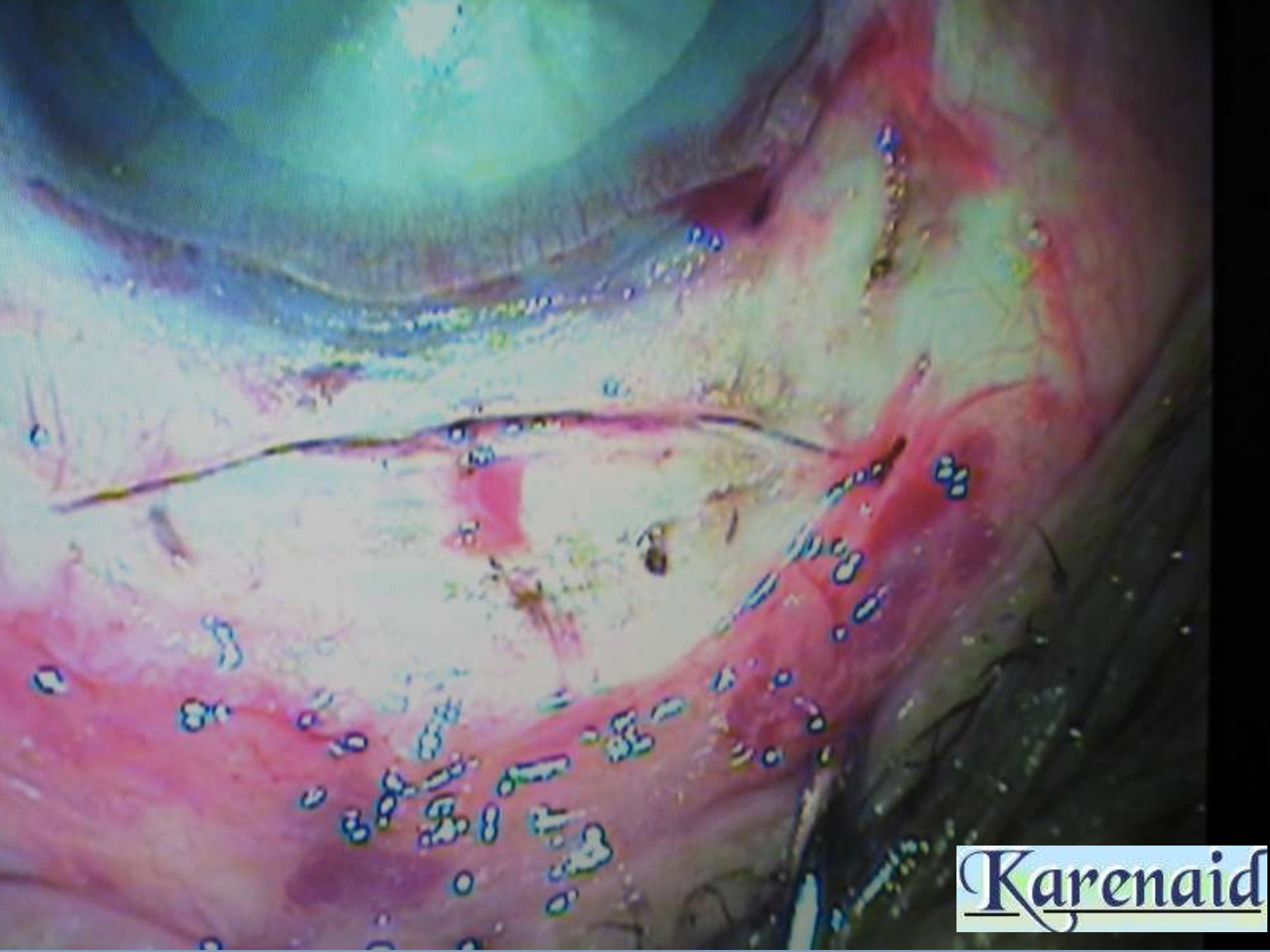


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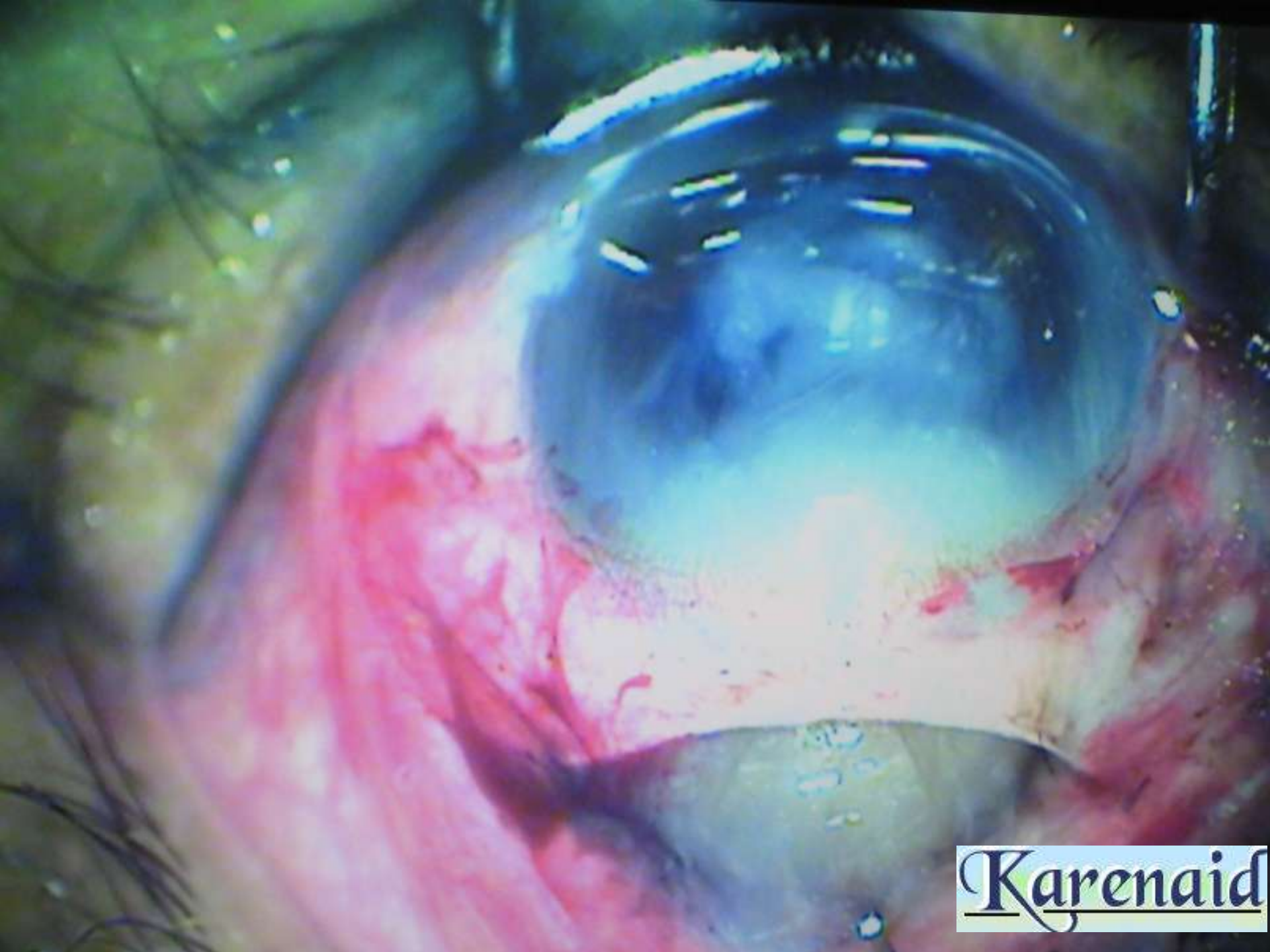
2008 Small Incision Extracapsular Extraction

Different wound design improves results

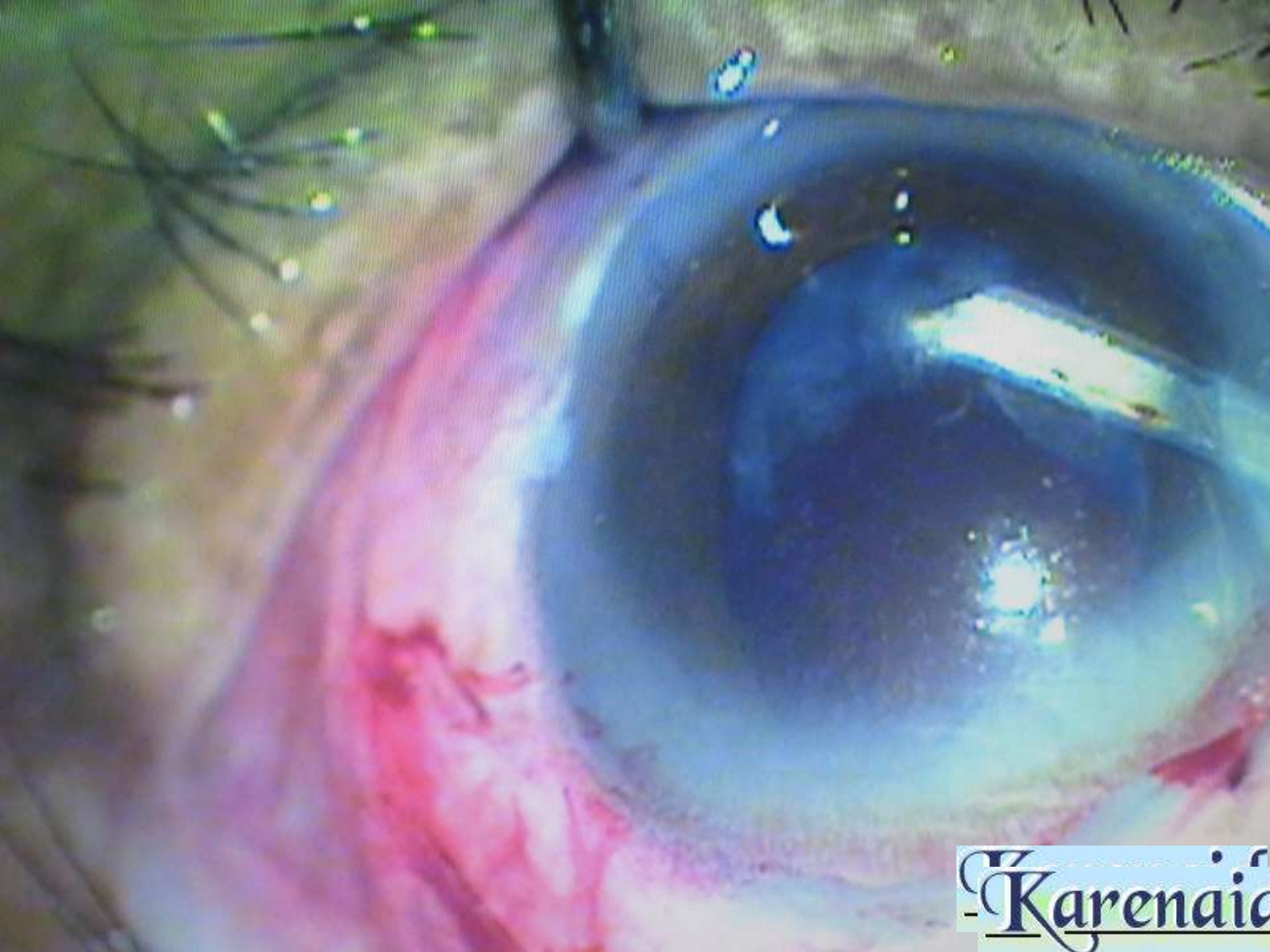




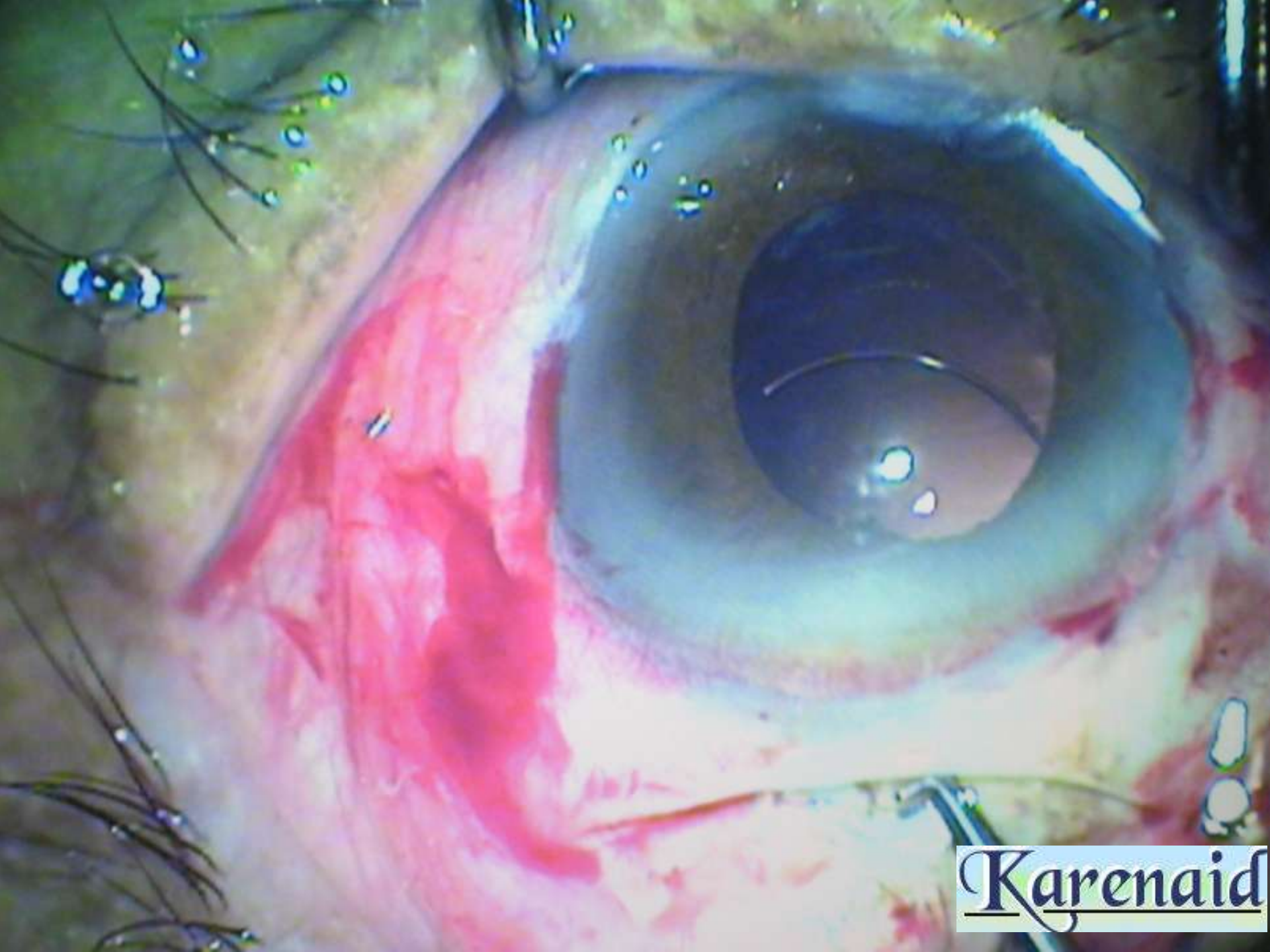
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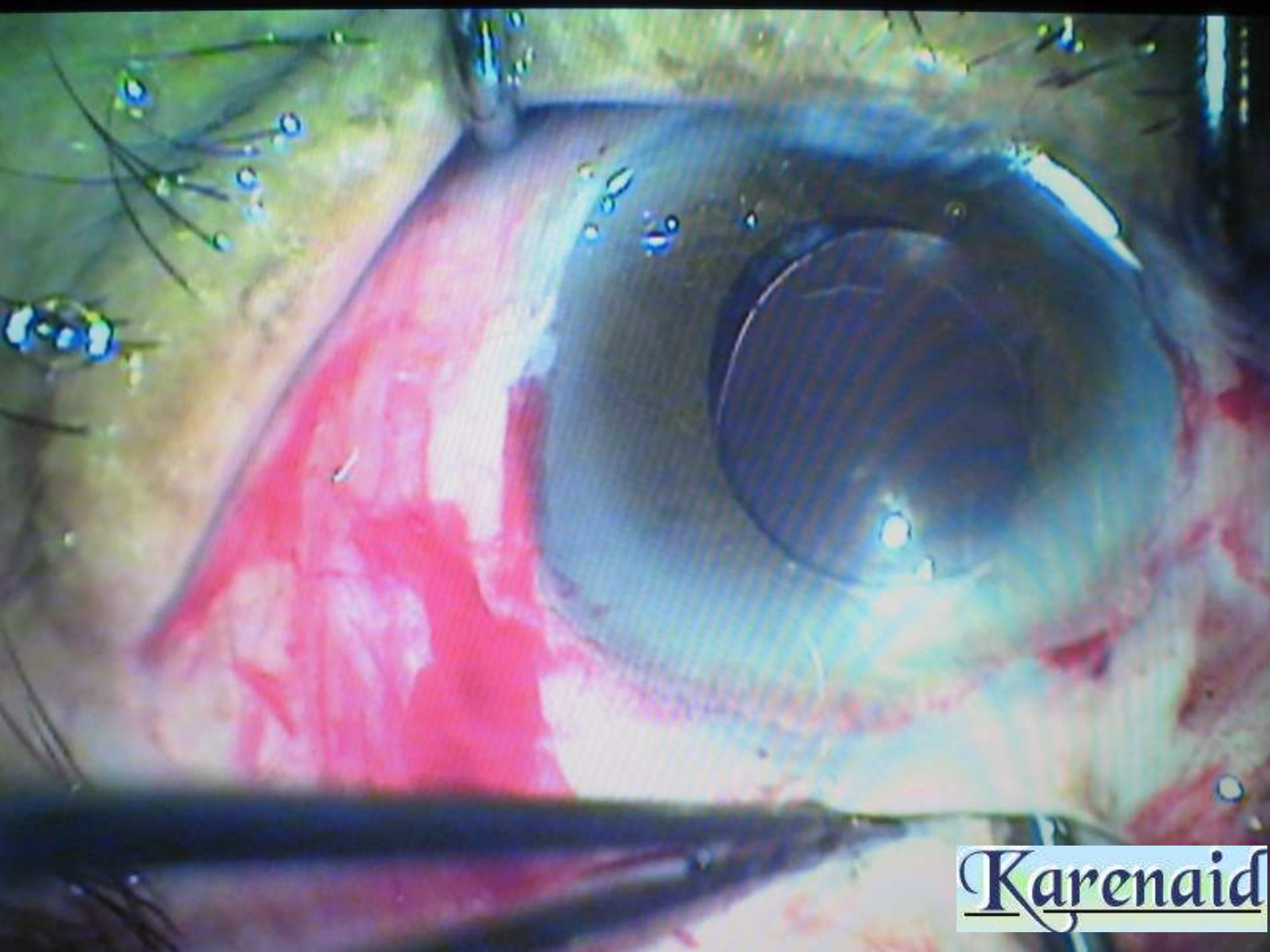
Karenaid



-Karenaid



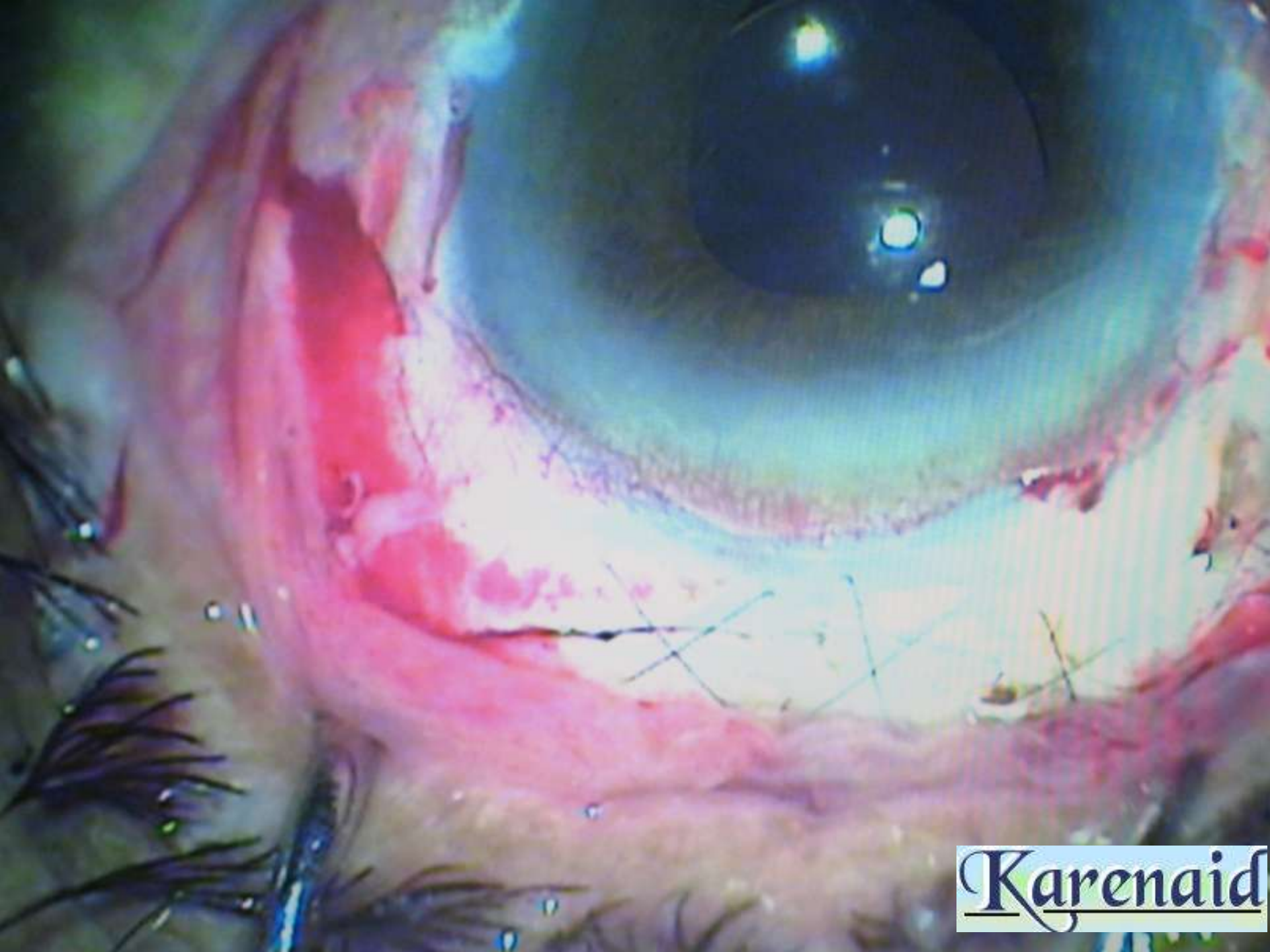
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Karenaid



Karenaid



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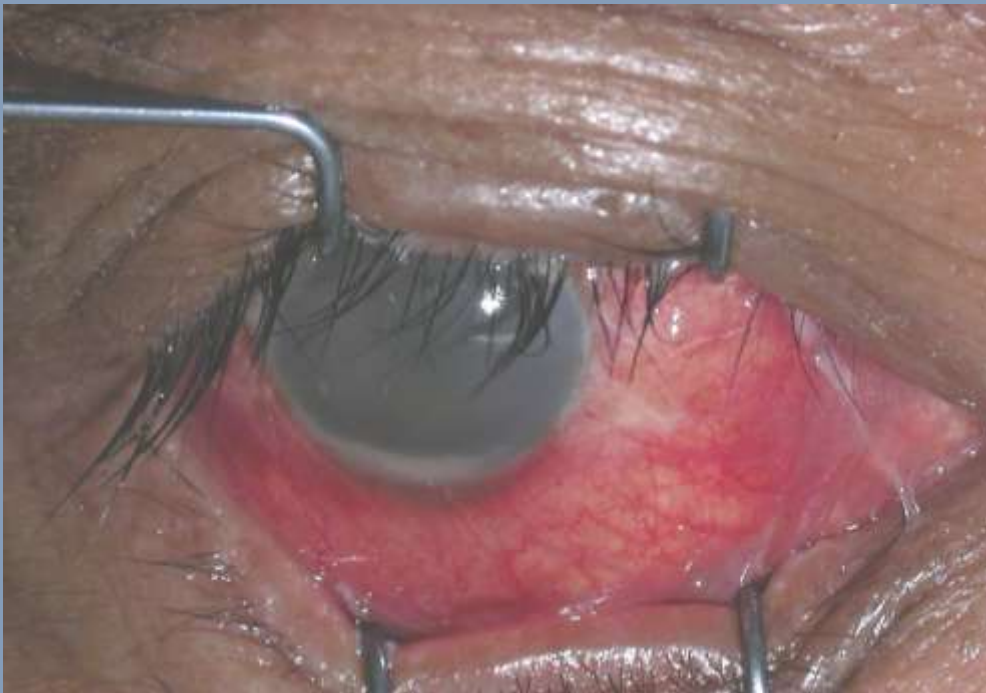
Some Complications

- Posterior Capsule Rupture and Vitreous Loss
- Post op infection – Endophthalmitis
- Posterior Capsule Thickening

- **Some Patients may loose all vision as a result of Surgery**

Post op infection

Greatly reduced since introduction of Cefuroxime into the eye at end of surgery



I.C. CEFUROXINE

Make up Cefuroxime before start of list:

750mg vial of Cefuroxime made up with 7.5mls of water (mark with *)

ITEMS REQUIRED

1ml Syringe
Use green needle from BSS
Use recroft already on create

PROCEDURE

Draw up 0.1ml of Cefuroxime into 1 ml syringe

Add to this 0.9ml of BSS (total of 1ml)

Remove 0.8ml down to 0.2ml

Add rycroft to 0.2ml of Cefuroxime

This makes 2ml

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Need for informed consent



Do you understand that there is no guarantee that vision will be 100% after eye surgery?

Yes 56%

No 34%

Not sure 10%

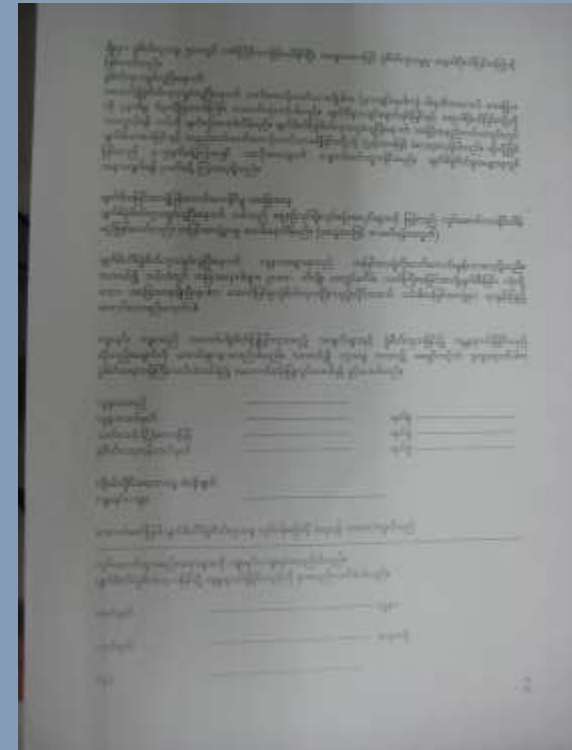
Do you understand that there is a very small chance that your eye can be blind after eye surgery?

Yes 46%

No 46%

Not sure 8%

Taking Consent



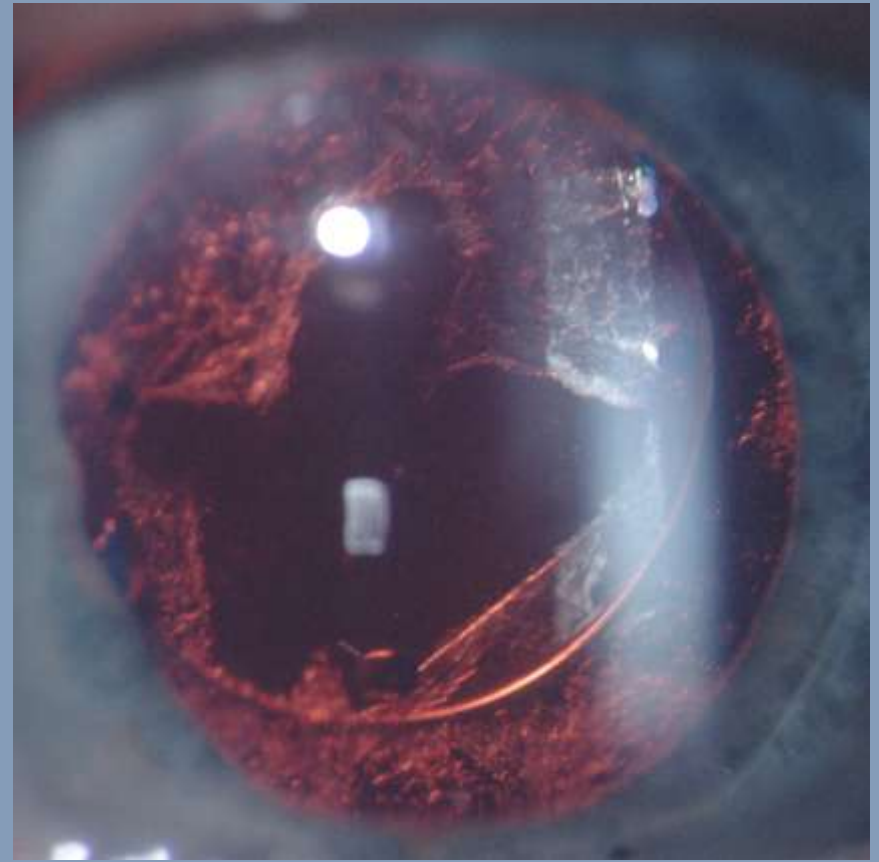
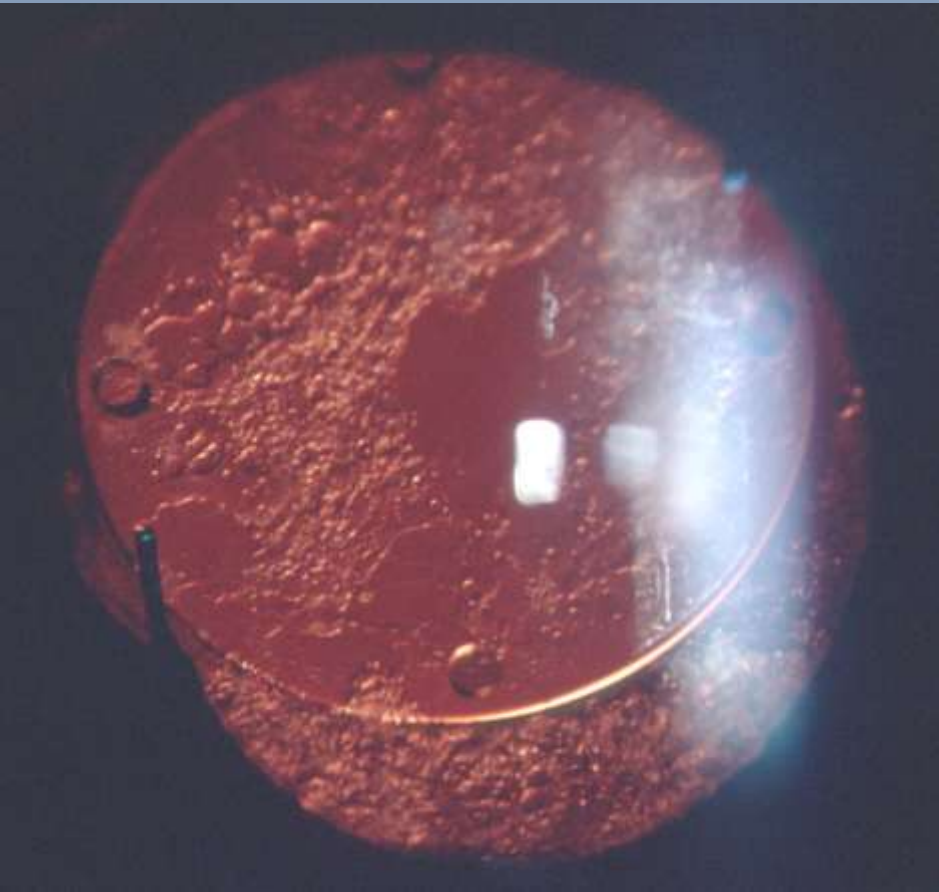
A less serious complication: Posterior Capsular Thickening



2011 YAG laser



YAG Laser Capsulotomy



Audit: Maela Post op Survey



Maela Camp Post op Survey

- Detailed survey of 27 patients 3 months post cataract extraction
- Mean Pre op Visual Acuity = CF
- Mean Post op Visual Acuity = 20/40
- 25/27 patients 20/50 or better
- 2 patients CF due to macular degeneration
- Mean spherical equivalent = - 0.83D
- Mean cylinder = 0.93D

Maela: Post Cataract Results of 27 Patients



Audit

3 Day and 6 week Autorefraction Visual acuity results



3 Day Results on 264 Patients

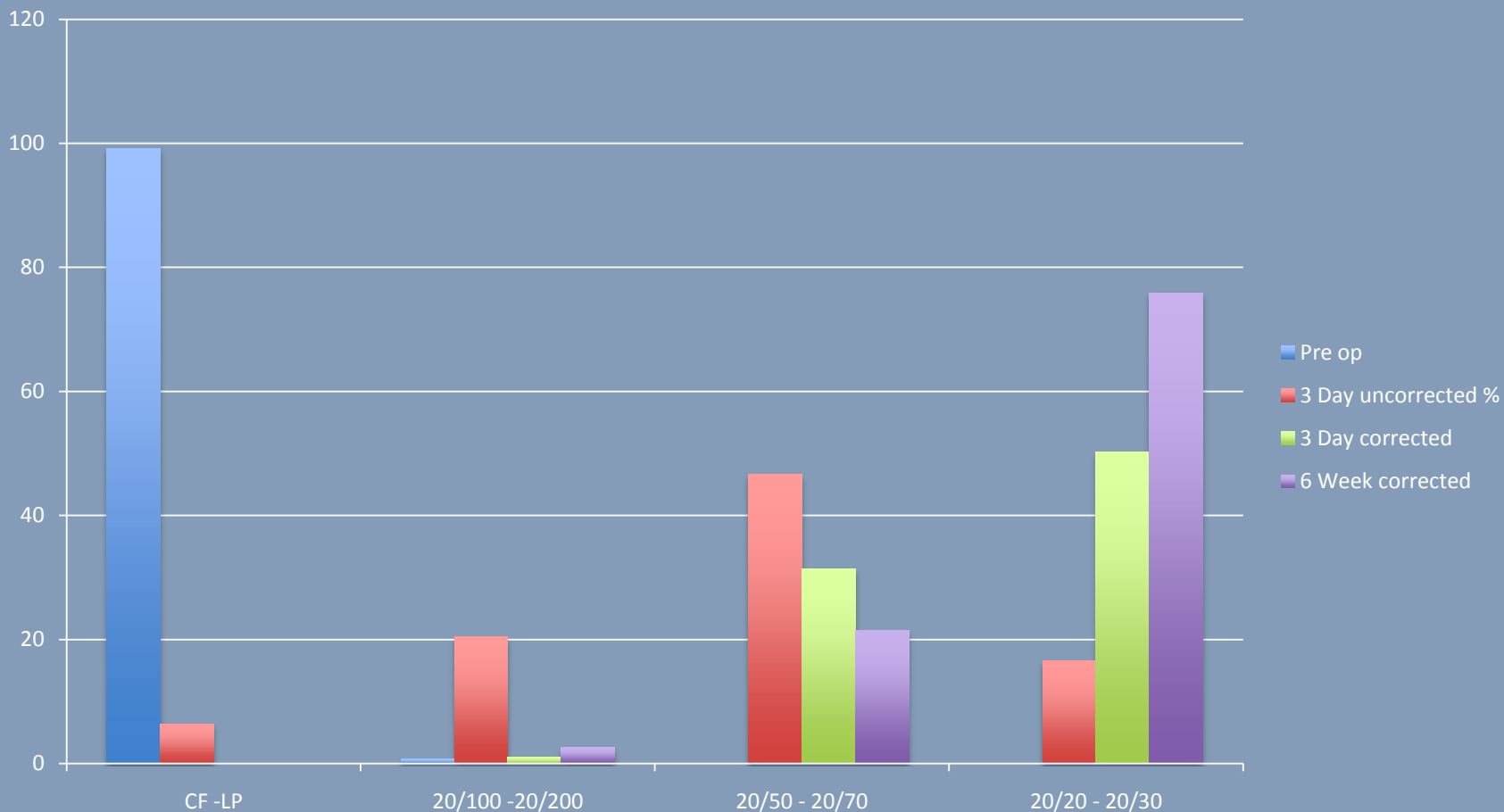
	Pre op		Post op uncorrected		Post op corrected		
	No	%	No	%	No	%	
20/20 - 20/30	0		0	44	16.6	133	50.3
20/50 - 20/70	0		0	123	46.5	83	31.4
20/100 - 20/200	2	0.8	54	20.4	3	1.1	
CF - LP	262	99.2	17	6.4	0	0	
Not recorded	0		26	9.8	45	17	
Mean Spherical equivalent = -1.4D							
Mean Cylinder = 2.8D							

6 Week Results on 79 Patients

	No	%
20/20 - 20/30	60	75.9
20/50 - 20/70	17	21.5
20/100 - 20/200	2	2.6
Mean Spherical equivalent = -1.0		
Mean Cylinder = 1.1D		

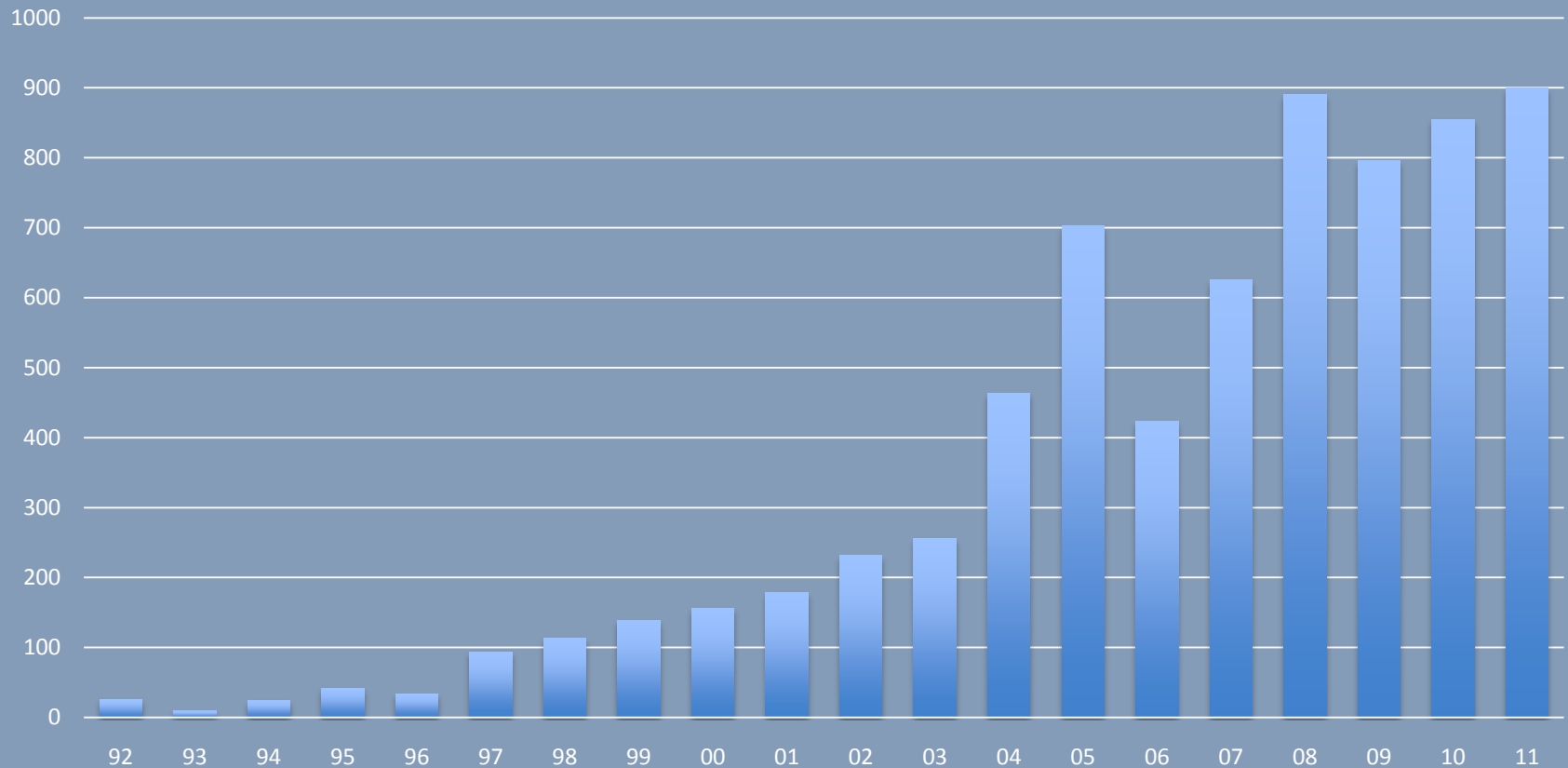


Results of 3 Day and 6 Week Cataract Surgery



Surgical Activity From 1992 - 2011

Eye Surgical Activity



1997 Formation of Karenaid

- Started by small number of trustees in U.K.
- Supports Eye Program and other charitable projects in Thailand
- Donations come mainly from Private Individuals and churches
- Supplemented by begging Supply companies for donations of supplies



The Future

- Continue training medics in all locations
- Continue delivering eye care in all the refugee camps
- Develop Mae Tao clinic as a centre of excellence
- Address the problems of glaucoma and other common pathologies
- Encourage trainees from other countries to spend periods at Mae Tao clinic

Grateful thanks to: Without whom none of this would be possible

- Dr Cynthia
- Dr Weeraphan
- Prof Francois Nosten of SMRU
- Jerry Vincent and Goong of IRC
- My surgical assistant Nay Sher
- Jerry Ramos our optician
- All the medics at MTC and the camps
- The patients

Thank you

Karenaid