



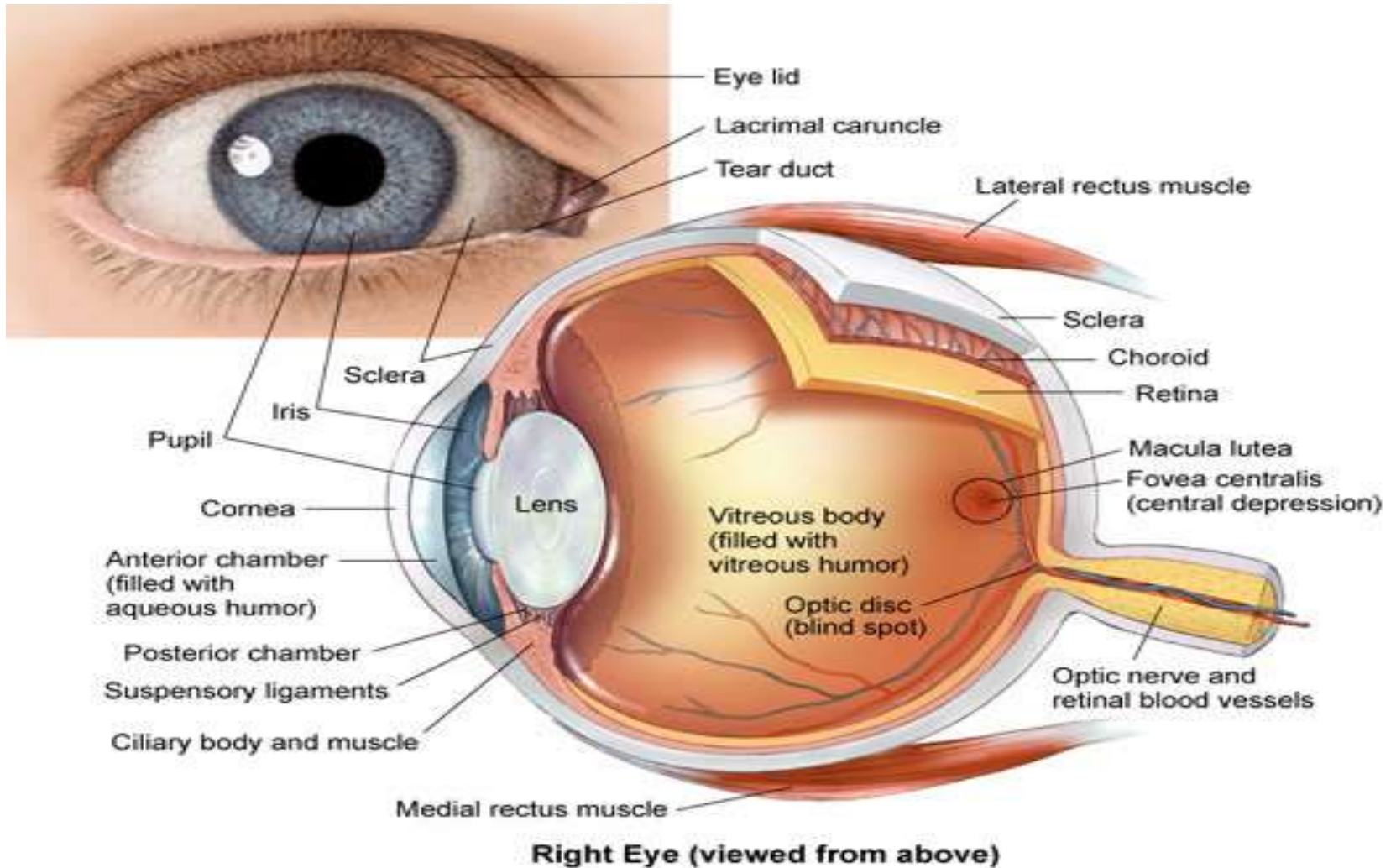
# Surgical Outcome Of Different Placement Of Intraocular Lenses In Cataract Surgery In HSNZ In 2015

Ophthalmology Department  
Hospital Sultanah Nur Zahirah  
Kuala Terengganu

# **INTRODUCTION**

- Cataract is the most leading cause of reversible blindness worldwide.
- The World Heart Report, estimated that there were 19.34 million bilaterally blind (visual acuity less than 3/60) from age related cataract.
- Cataract is define as a clouding or loss of transparency of the lens as a result of tissue breakdown and protein clumping/aggregates.

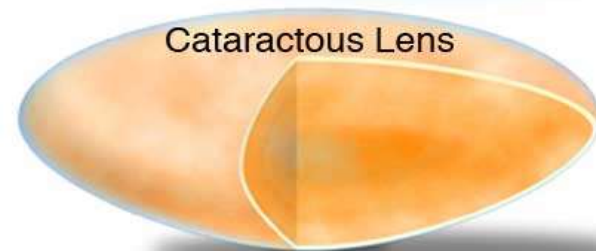
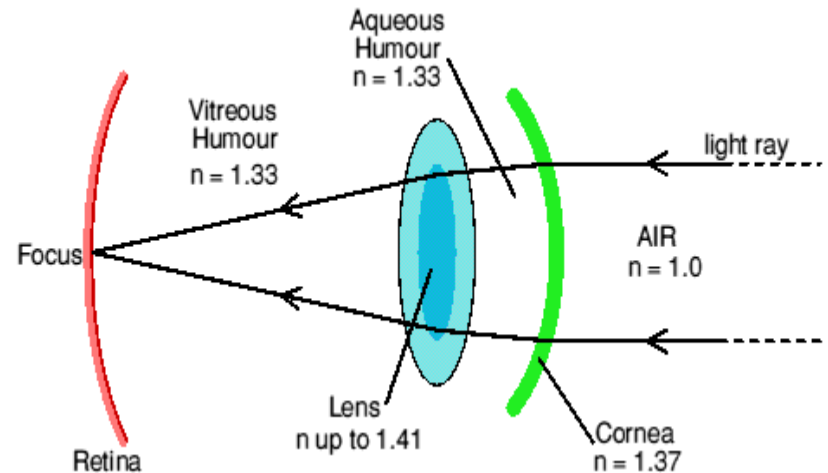
# Anatomy of Eye



# Lens

Lens along with the cornea, helps to refract light to be focused on the retina.

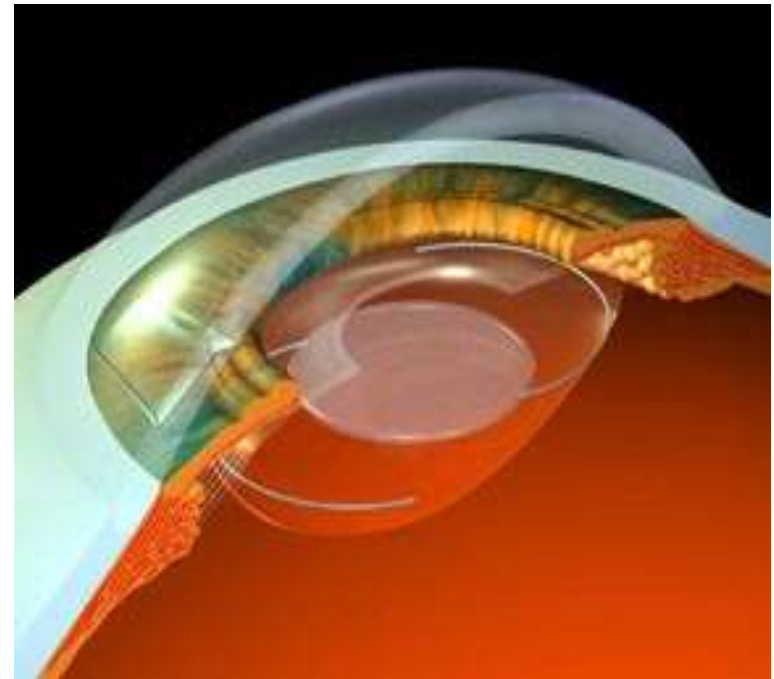
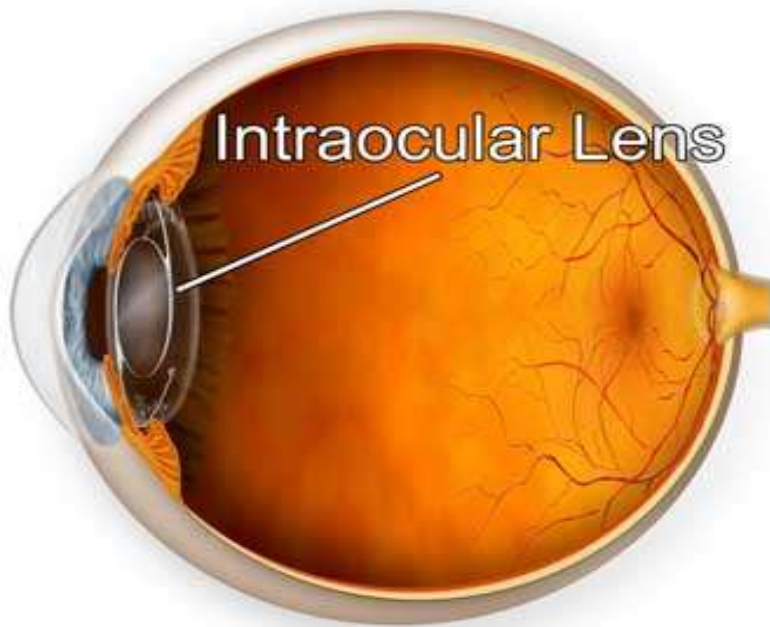
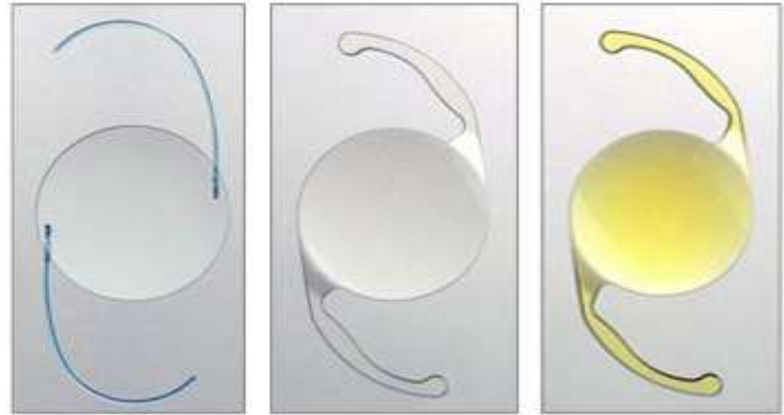
It carries the refractive index of 25.0 dioptre



- Cataract surgery is indicated when :
  - significant visual impairment cause difficulty in daily activities.
  - cataract induced complications such as phacolytic or phacomorphic glaucoma.
  - for fundal monitoring or treatment purposes as in diabetic retinopathy.

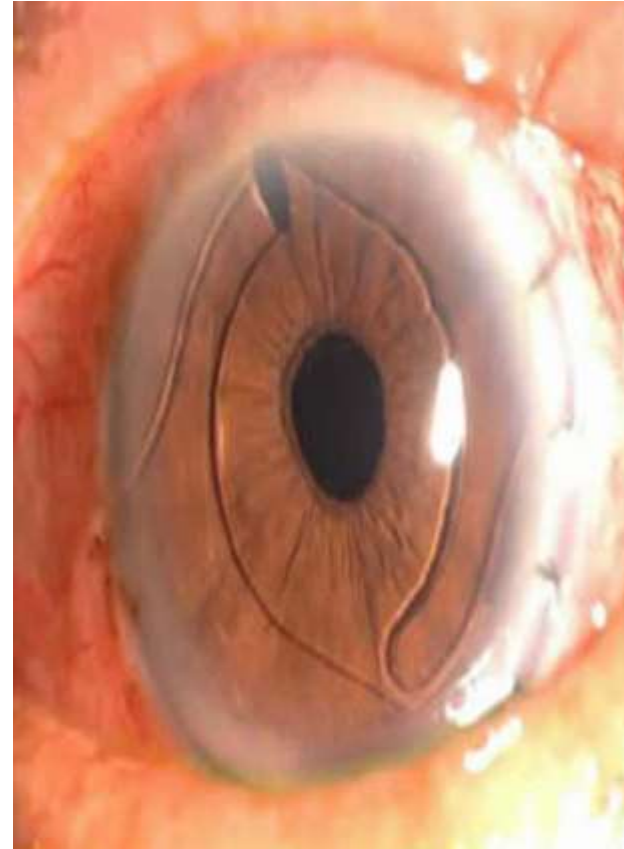
- Phacoemulsification has become the preferred method of cataract extraction over the last 15 years, however Extra Capsular Cataract Extraction (ECCE) is still method of choice in certain cases.
- Intraocular lens (IOL) will be implanted after a cataract surgery and there are few ways of IOL placement such as posterior chamber, anterior chamber, sulcus and scleral fixated depending on the presence and integrity of capsular support.

**Posterior Chamber  
IOL : IOL is placed  
in the capsular bag**

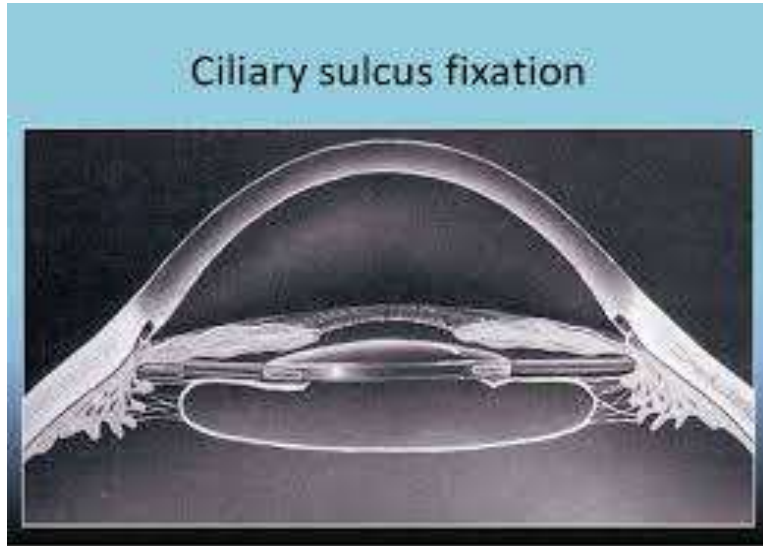




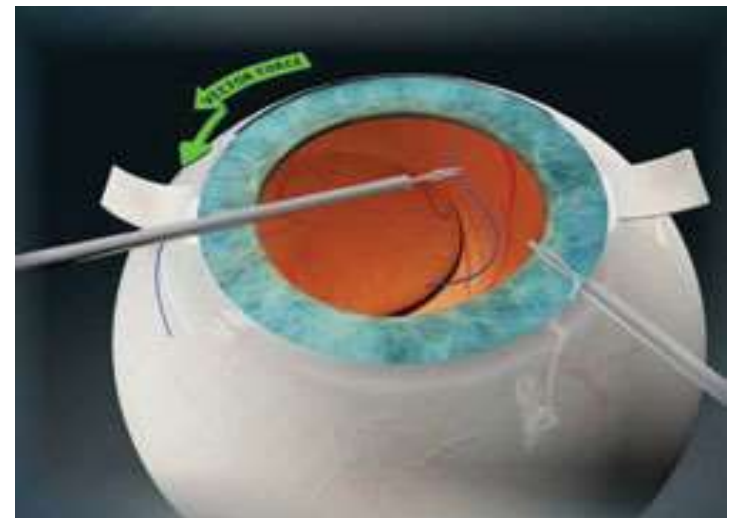
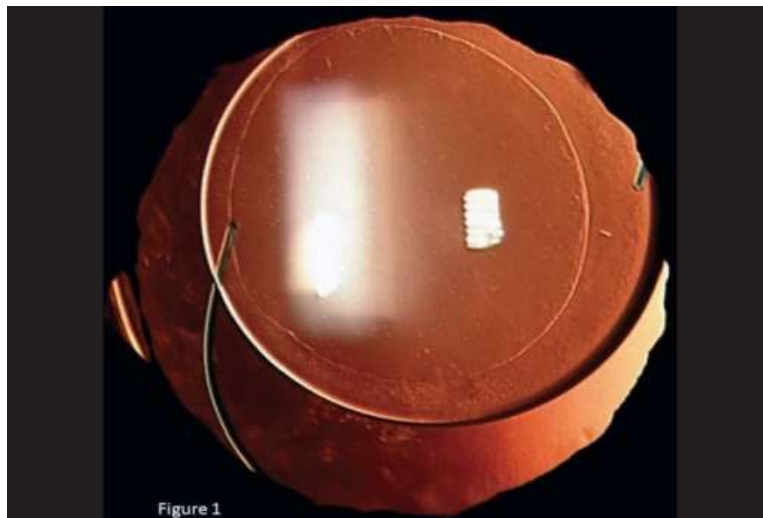
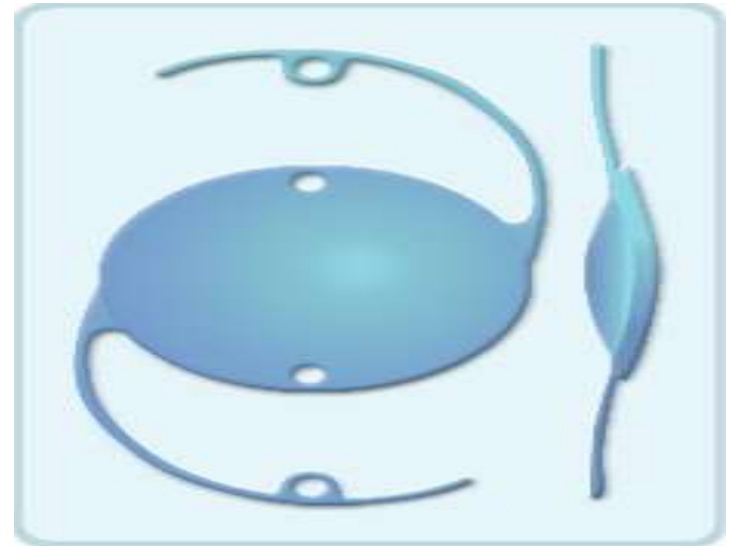
**Anterior Chamber IOL : IOL is placed in the anterior chamber on the iris**



# IOI in the sulcus



# Scleral fixated IOI



**OBJECTIVE**

# **General Objective**

To review the surgical outcomes of different placement of intraocular lenses in cataract surgery carried out in Hospital Sultanah Nur Zahirah, Kuala Terengganu.

# Specific Objective

1. to determine which method of intraocular placement had better visual acuity postoperatively
2. to determine the common cause of non improvement of visual acuity post cataract surgery
3. to determine the common complications of cataract surgery which subsequently affect postoperative visual outcome.

**MATERIALS**

**&**

**METHODS**

# Materials and Methods

- A retrospective records review and data were collected and analysed from Cataract Surgery Registry, National Eye Database of patients who underwent cataract surgery in Hospital Sultanah Nur Zahirah in year 2015.
- Inclusion criteria :
  - Cataract surgery done between January 2015 until December 2015.
  - All types of cataract
  - All methods of cataract surgery

# Materials and Methods

## Exclusion criteria

- Patient with ocular comorbidity
- Loss to follow up
- Incomplete data/missing notes



# Materials and Methods

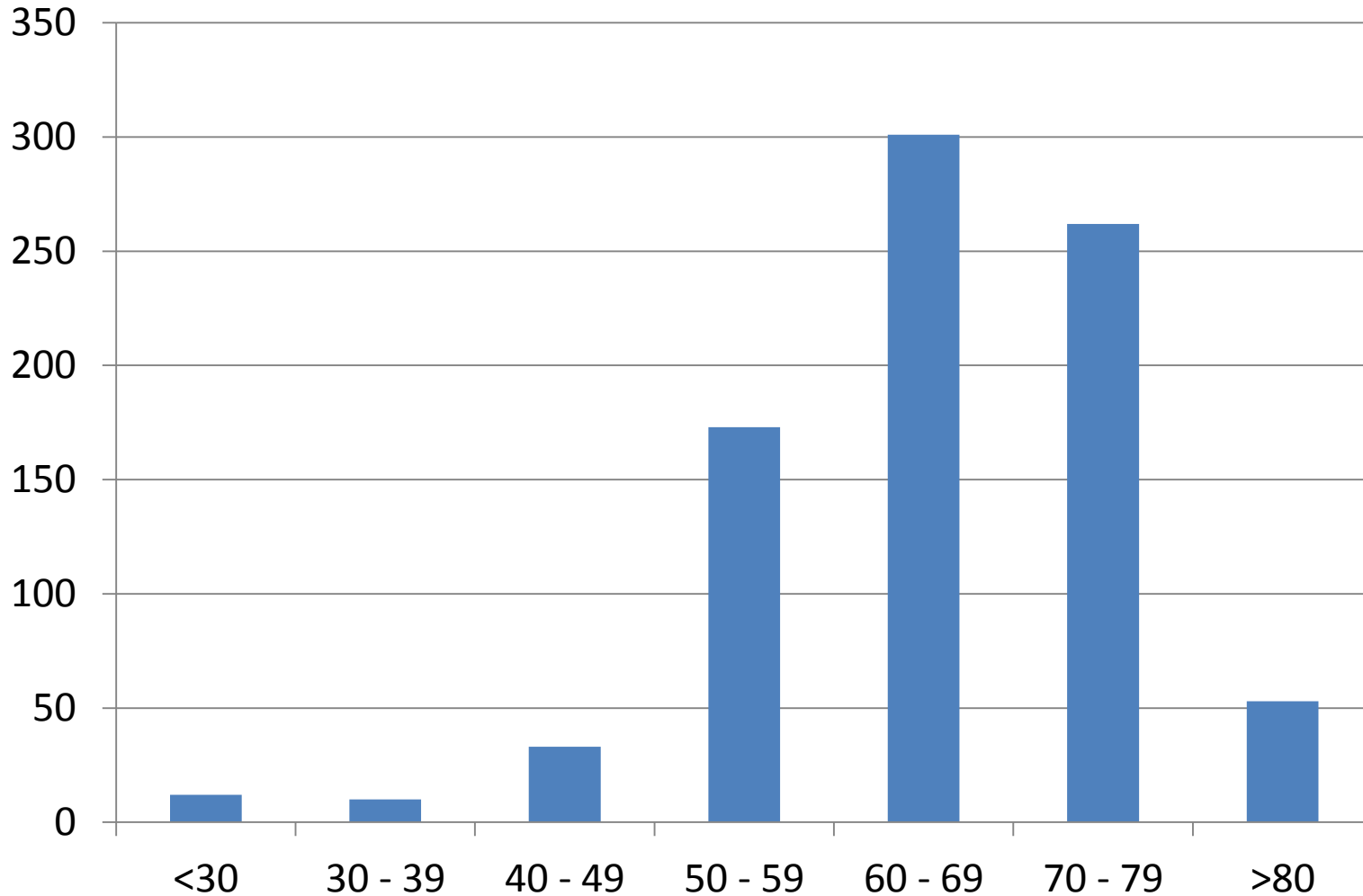
- Total of 894 patients who underwent cataract surgery in 2015 were identified through the Cataract Surgery Registry, National Eye Database.
- However 45 patients were excluded from the study due to the presence of ocular comorbidity, incomplete data and loss to follow up.
- Thus total of patients (849) that meets inclusion and exclusion criteria were reviewed in this study (n=849).

# Materials and Methods

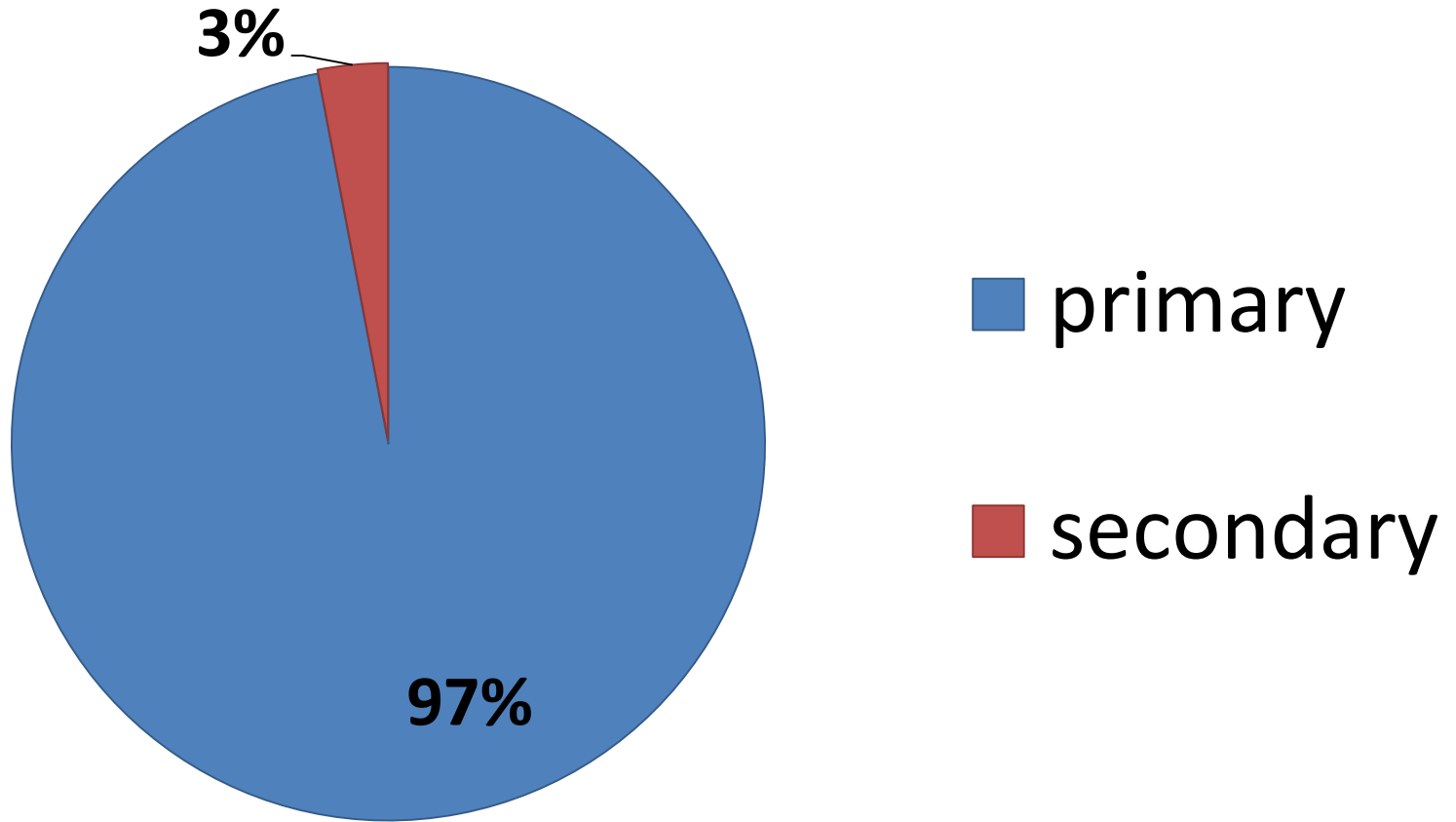
- Data collected and recorded includes sociodemographic data include age of patient at time of surgery.
  - Type of cataract
  - Postoperative best corrected visual acuity
  - Postoperative astigmatism
  - Complications of surgery

# RESULTS

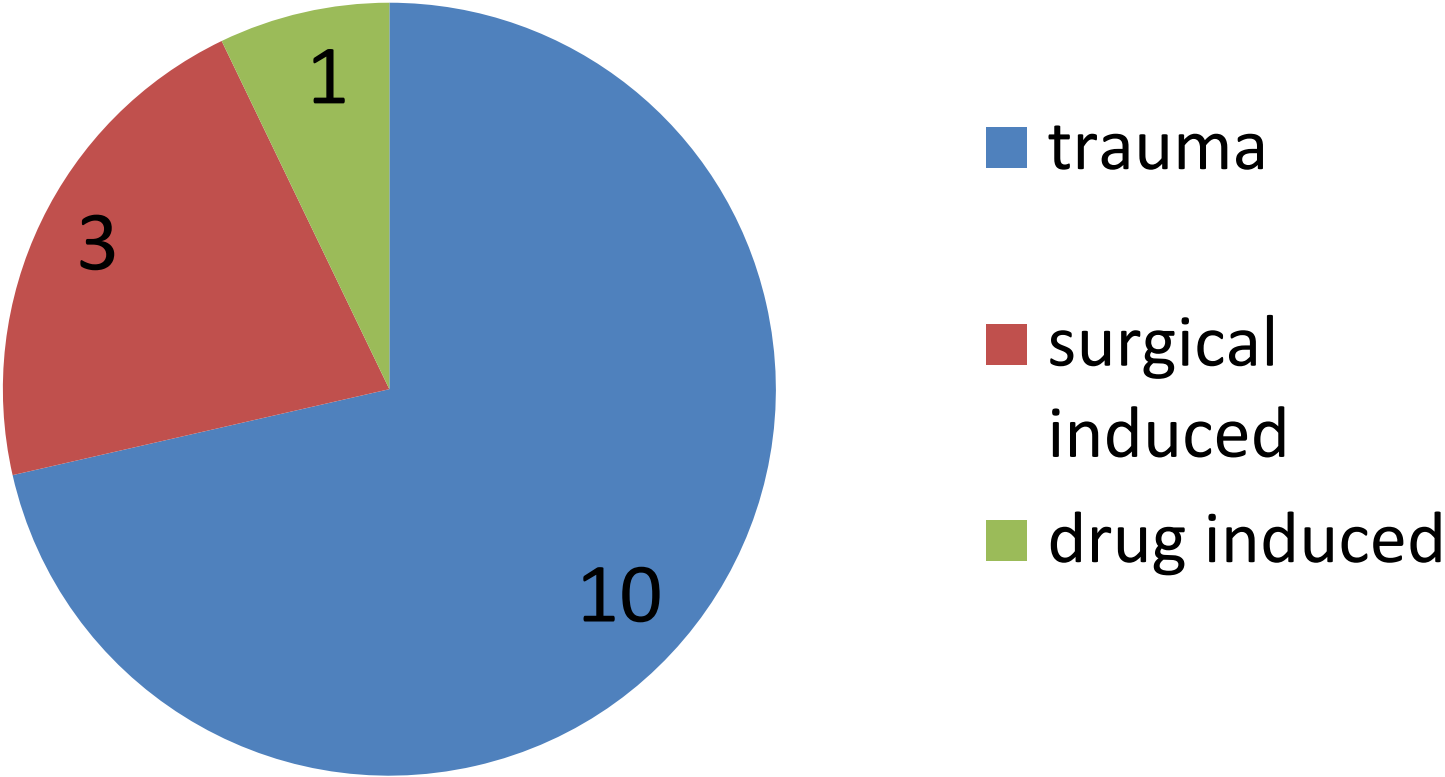
# Distribution Of Patients According To Age



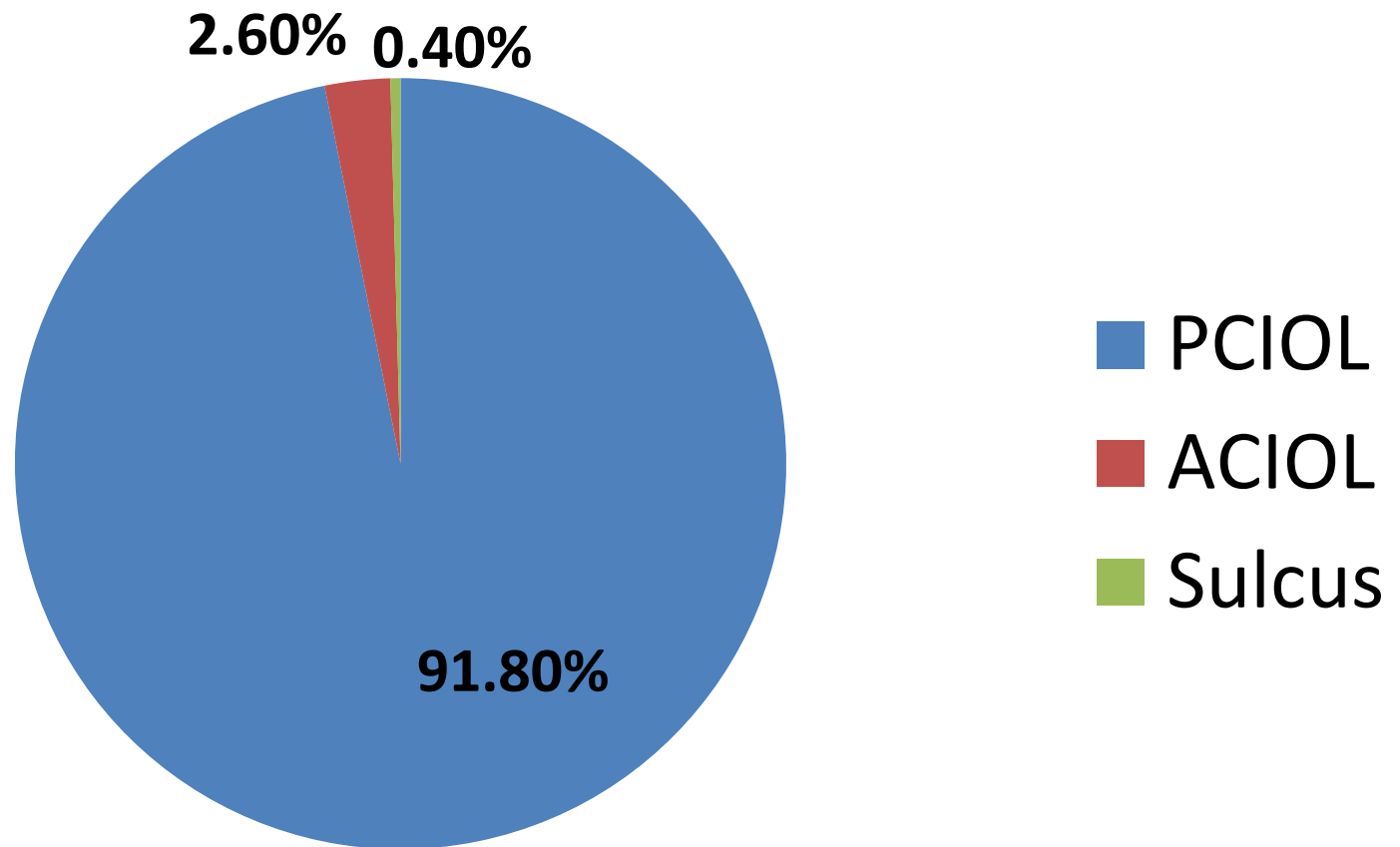
# Types of Cataract



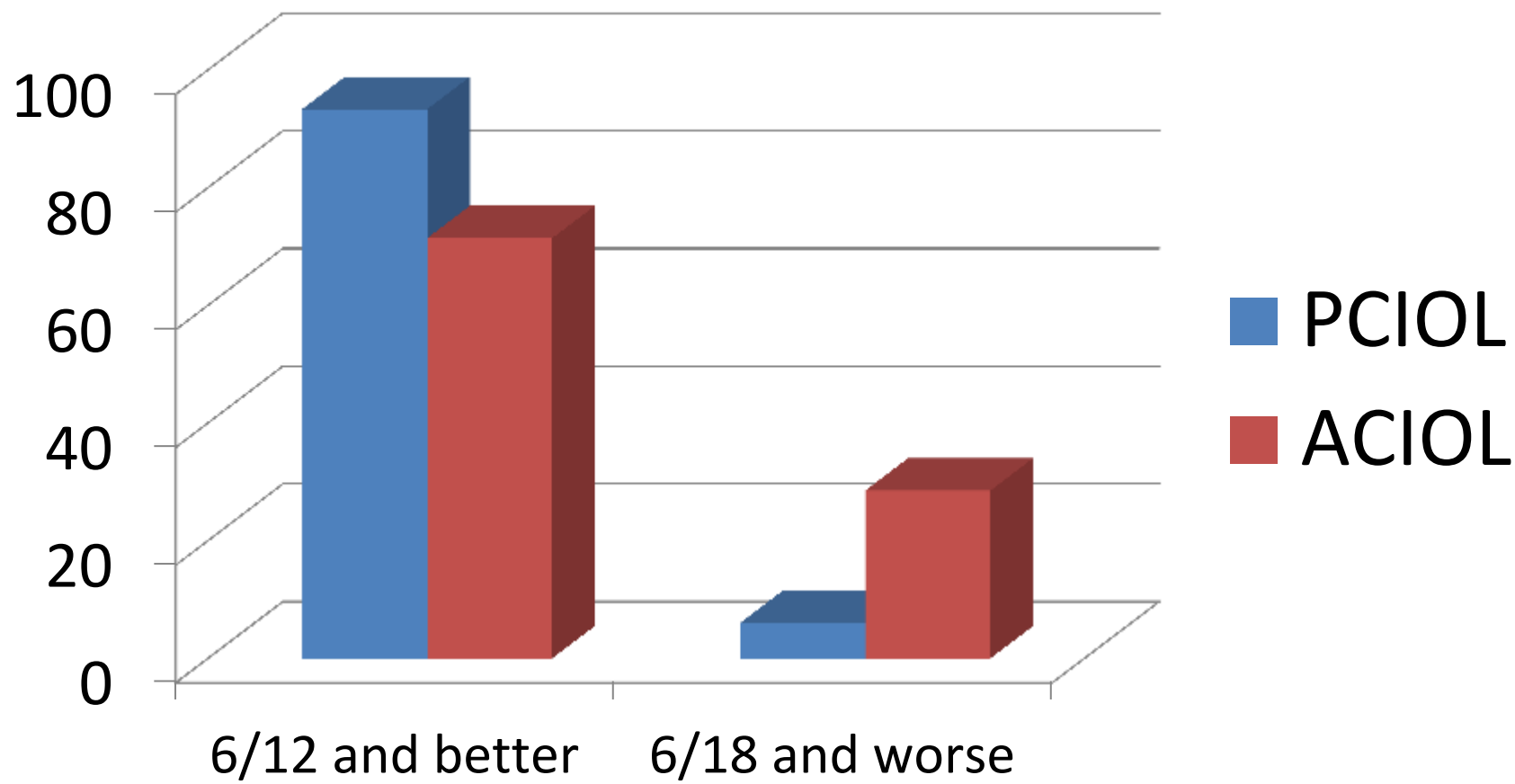
# Causes of Secondary Cataract



# Placement of Intraocular Lens Following Cataract Surgery

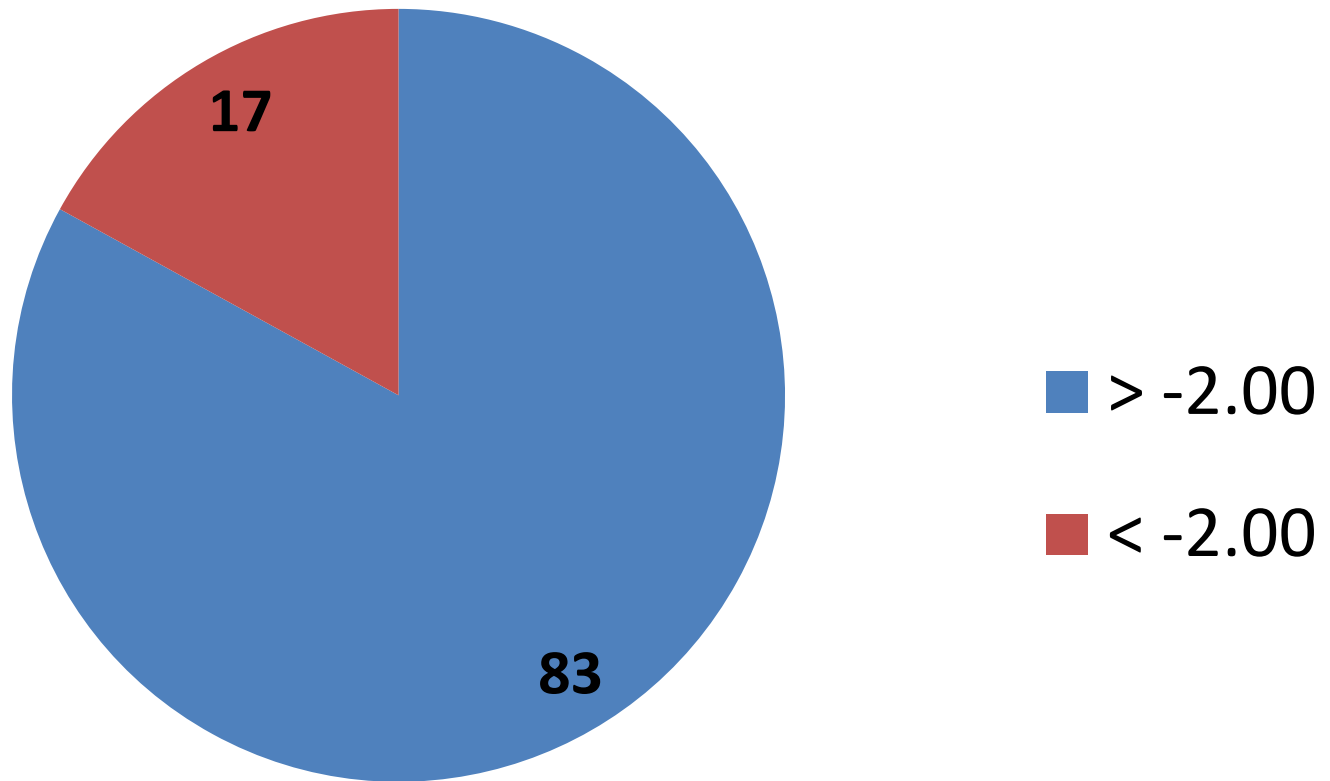


# Postoperative Best Corrected Visual Acuity (BCVA)

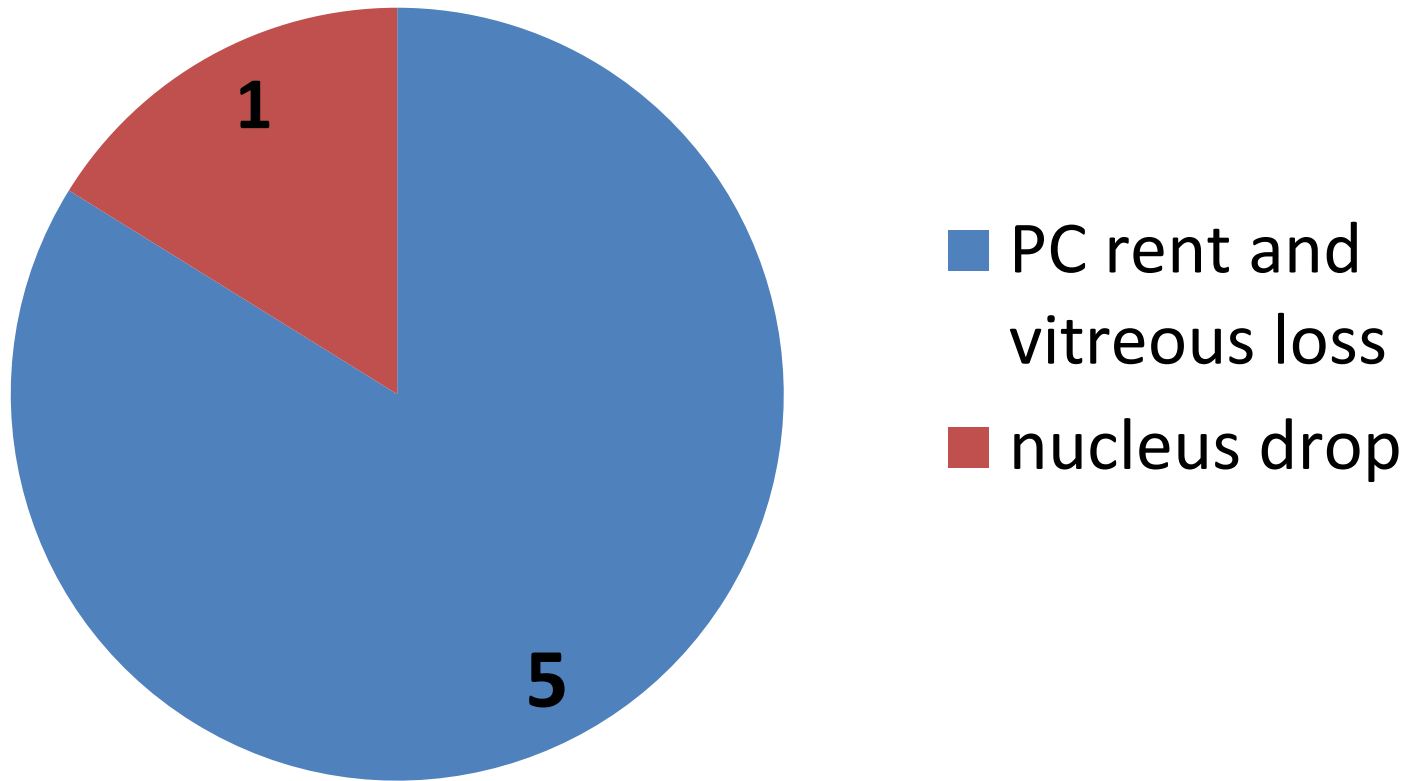




# Postoperative Astigmatism in ACIOL



# Complications Related To Poor Visual Outcome In ACIOL Placement



# **DISCUSSION**

- There are few ways of intraocular lenses placement in cataract operation such as posterior chamber, anterior chamber, sulcus and scleral fixated.
- The decision made pre-operative and intra-operatively depending on the presence and integrity of capsular support.
- The PCIOL is the most commonly method used in recent years due to less complications and better postoperative visual outcome.

- Those patient with intraoperative complications such as posterior capsular rupture, vitreous loss and zonular dehiscence, the ACIOL is implanted due to the absence of capsular support.
- The high percentage of BCVA not achieve 6/12 and better in ACIOL, mostly contributed by postoperative high astigmatism.

# CONCLUSION

- PCIOL placement in cataract surgery had achieve good postoperative BCVA as compared to ACIOL.
- Enhancement of pre operative assessment, may contribute to minimize the intraoperative complications.
- Despite optimal preoperative assessment, the complications can be reduced through good training and careful surgical technique.

# References



- A comparison of anterior chamber and posterior chamber lenses after cataract extraction in Rural Africa : a within patient randomised trial. K M Wadwell, B C Reeves, G J Johnson.
- Henning A Johnson GJ, Evan JR et al, long term clinical outcome of randomised control trial of anterior chamber lenses after high volume intracapsular cataract surgery.
- Auffarth GU Wesendahi TA Brown SJ. Are there acceptable anterior chamber intraocular lenses for clinical use in 1990s?