The course highlights various intraoperative cataract complications like broken capsule, loss of zonular integrity, vitreous prolapse and vitreous loss through the incision, retained lens material and provides an update of techniques for handling complications.

The course description includes:

- The surgeon dependent variables to counteract surge include good wound construction with minimal leakage, and selection of appropriate machine parameters depending on the stage of the surgery. An anterior chamber maintainer has also been described in literature to prevent surge, but an extra side port makes it an inconvenient procedure.

- The maintenance of intraocular pressure (steady-state IOP) during the entire procedure depends on the equilibrium between the fluid inflow and outflow. The steady state pressure level is the mean pressure equilibrium between inflow and outflow volumes. In most phacoemulsification machines, fluid inflow is provided by gravitational flow of the fluid from the balanced salt solution (BSS) bottle through the tubing to the anterior chamber. This is determined by the bottle height relative to the patient’s eye, the diameter of the tubing and most importantly by the outflow of fluid from the eye through the aspiration tube and leakage from the wounds.
The inflow volume can be increased by either increasing the bottle height or by enlarging the diameter of the inflow tube. The intraocular pressure increases by 10 mm Hg for every 15 centimeters increase in bottle height above the eye. High steady-state IOPs increase phaco safety by raising the mean IOP level up and away from zero, i.e. by delaying surge related anterior chamber collapse. Air pump increases the amount of fluid inflow thus making the steady-state IOP high. This deepens the anterior chamber, increasing the surgical space available for manoeuvring and thus prevents complications like posterior capsular tears and corneal endothelial damage. The phenomenon of surge is neutralized by rapid inflow of fluid at the time of occlusion break. The recovery to steady-state IOP is so prompt that no surge occurs and this enables the surgeon to remain in foot position 3 through the occlusion break.

PRINCIPLES OF VITRECTOMY-
• Highest cut rates for vitreous
• Low suction
• Lower cut rates and higher suction for lens fragments

PEARLS –
• Cutter port should always face vitreous/lens material
• Cutter tip should always be in view
• Do not enter the eye with cutter ‘ON’ so as to avoid inadvertently cutting the iris tissue
• Do not hesitate to take suture after vitrectomy. Ensure proper wound closure.
GLUED IOL SCAFFOLD -

It is performed in cases of broken posterior capsule with inadequate sulcus support. Glued IOL is performed first followed by IOL scaffold.

After creation of scleral flaps, a 3 piece foldable IOL is injected beneath the nuclear fragments and Glued IOL surgery is performed. The IOL placed now acts as a scaffold. Nuclear chunks being emulsified.

PUPILLOPLASTY

PUPIL RECONSTRUCTION IN IRIS COLOBOMA

PUPIL SYMMETRY ACHIEVED

MANAGING DROPPED NUCLEUS
HANDLING CORNEAL DECOMPENSATION

Pseudophakic bullous keratopathy is a known corneal complication following a cataract surgery. Various endothelial keratoplasty techniques have been explained in the past including DMEK, DSEK, DMAEK, Ultra thin DSEK .......

WE INTRODUCE A NEW VARIANT IN TO THE ARENA----

PDEK: PRE-DESCEMET’S ENDOTHELIAL KERATOPLASTY


In this procedure, the pre-descemets layer (Dua’s layer) along with DM-endothelial complex is transplanted. The initial results are very promising and it also allows easy handling of the graft due to the splinting effect of pre-Descemet’s layer.

CREATION OF TYPE- 1 BUBBLE IS THE KEY TO SUCCESS FOR THIS PROCEDURE
IOL SCAFFOLD FOR IOL EXCHANGE

The offending IOL is levitated in to the anterior chamber and a fresh IOL is injected beneath it. The levitated IOL is transected and is then explanted out of the eye.


SUMMARY

• Proper management of vitreous is very essential. Cellulose sponges, sweeping the wound, inadequate vitreous cutting with scissors causes further anterior movement of the vitreous which leads to traction which may result in retinal tears and detachment. Dropped lens fragments and IOLs should never be fished for in the vitreous cavity.

• The latest techniques showcased for complicated scenarios in cataract surgery can be taken advantage of and the benefits can be passed on to the patients in the form of good visual output.

SUGGESTED READING


SUGGESTED READING


WELCOME YOU ALL TO THE NIGHTMARE COURSE