

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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Phaco Basic Course  
***Incisions***

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I haven't financial disclosure

## The phaco incisions

**Main incision**

**Side incision (paracentesis)**

## Side incisions (paracentesis).

- Performed with sharp blade in the clear cornea.
- extended 1mm in the clear cornea then parallel to the iris plane.
- The site about 2-3 clock-hours away from the main incision.



- One paracentesis. Those surgeons use coaxial I/A to the left in right handed surgeon and to the right in left handed surgeon.

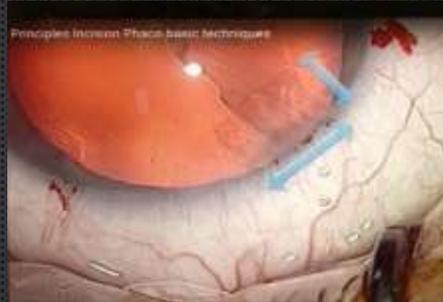
- Two paracentesis. Some surgeons prefer 2 paracentesis for the second hand instruments and for I/A ports.

## The criteria of ideal phaco incision

Self sealing.

Suturless.

Neutral (no astigmatism).



## Incision parameters.

\*Location

\*Architecture

### \* Incision Location .

#### Radial

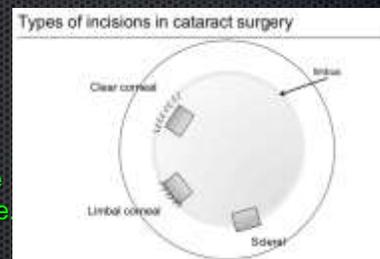
1-Clear Corneal Incision (CCI) In which the incision begins in just anterior to the vascular arcade.

2-near clear corneal incision In which the incision begins within the vascular arcade.

3- limbal

#### Circumferential

(superior or temporal) or better at the steep meridian.



## Incision Architecture (size)

\*width 3 mm or less (2.8 - 2.4mm)

\*length 1.5-2.0 mm

\*internal counter

- one plane (one step)
- Two planes (two steps) or
- Three planes (three steps).



*The ideal length of the incision 1.5mm – 2.0mm*



## Architecture of the incision interior contour of the incision .



One step

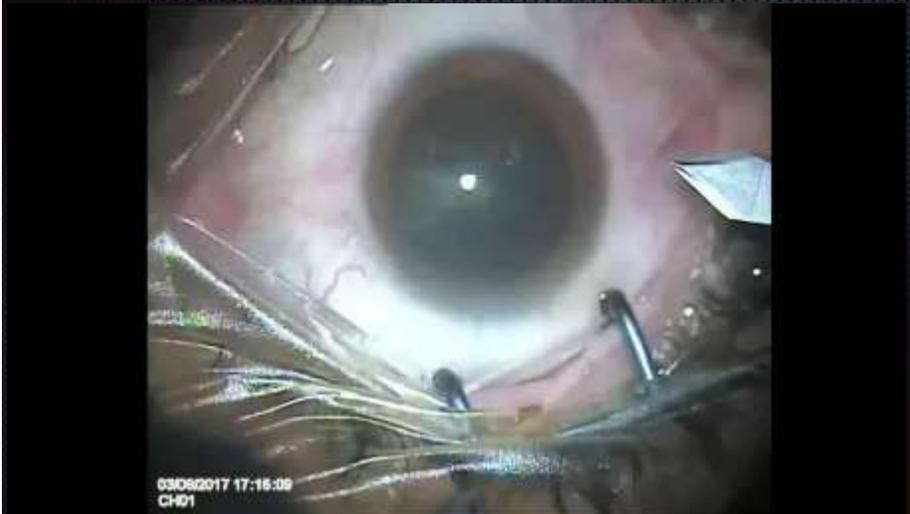


Two steps



Three steps

## One step corneal incision



## three steps incision



## Too tight phaco incision

- Collapse of the sleeve leading to decrease the irrigating fluid
- Increase the possibility of corneal burn
- Induce fish mouthing of the wound
- Increase the need of suture
- My leads to postoperative astigmatism

## Too large phaco incision

- Increase wound leakage leads to shallow A. Ch.
- Dangerous to posterior capsule
- Affect visualization due to excess fluid leakage
- My needs suture
- Increase incidence of postoperative astigmatism

## Astigmatism treatment Options with cataract surgery

- Placement of surgical incision at the steep meridian
- Relaxing incision (CRI or LRI)
- Toric intraocular lenses
- Combination of more than one option during surgery.
- 2nd-stage procedure with excimer laser ablation

## Advantages of temporal clear corneal incision

- 1) Creates a self-sealing incision that does not usually require sutures.
- 2) Offers better accessibility especially in sunken glob.
- 3) Offers an excellent red reflex.
- 4) Spares the superior conjunctiva for subsequent surgery
- 5) Avoid the need of a traction suture.

## Disadvantages of temporal clear incision

- 1) Need the surgeon to adapt to a different surgical position.
- 2) Difficulty in converting to a manual expression ECCE technique.
- 3) Possible corneal thermal burns.
- 4) Higher incidence of endophthalmitis in some studies.

## Near clear corneal incision

In which the incision begins within the vascular arcade

Better closure  
Reduced incidence of postoperative astigmatism.

## Limbal incision

- Slight bleeding may occur during surgery.
- Conjunctival ballooning may occur.
- Subconjunctival hemorrhage

## Incision in different situations.

- thin cornea ,irregular cornea and scared cornea.
- associated with glaucoma surgery.
- previous refractive corneal surgery .

Be ready with suture to manage the fishmouthing effect in this situation



## Incision in different situations.



- **Combind phaco and glaucoma surgery**

## Important Points for ideal phaco incision

- 1-Good preoperative preparation and investigation to show the corneal steep meridian (eg topography and pachymetry) .
- 2-Use blades of good type with sharp tip and sides.
- 3-Eye fixation is important for creating desire incision.
- 4-The incision 3mm width and at least 1.5 mm length in the clear cornea is ideal for make selfsealing, nutral and suturless incision.
- 5-Use suitable size phaco tips and sleeves to prevent fish-mouthing effect due to too tight incision.



*Thank you*