



OPHTHALMIC VISCO-ELASTIC DEVICES

By

Hisham Samy, MD

Lecturer of Ophthalmology, Ain Shams Medical School

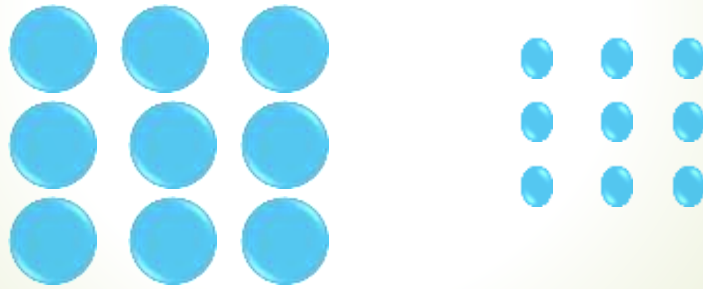
The author declares that there is no conflict of interest regarding the publication of this presentation

Cohesion:

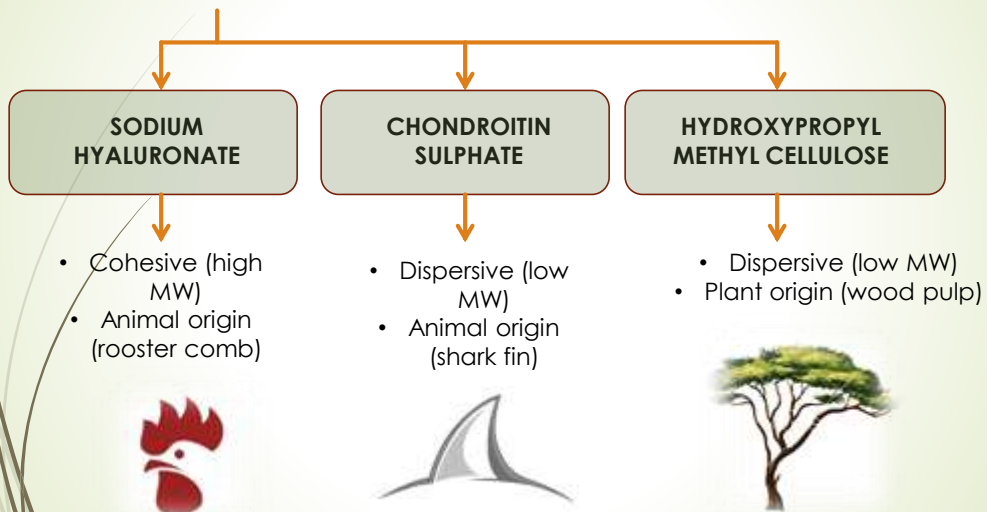
Tendency for similar molecules to stay together.

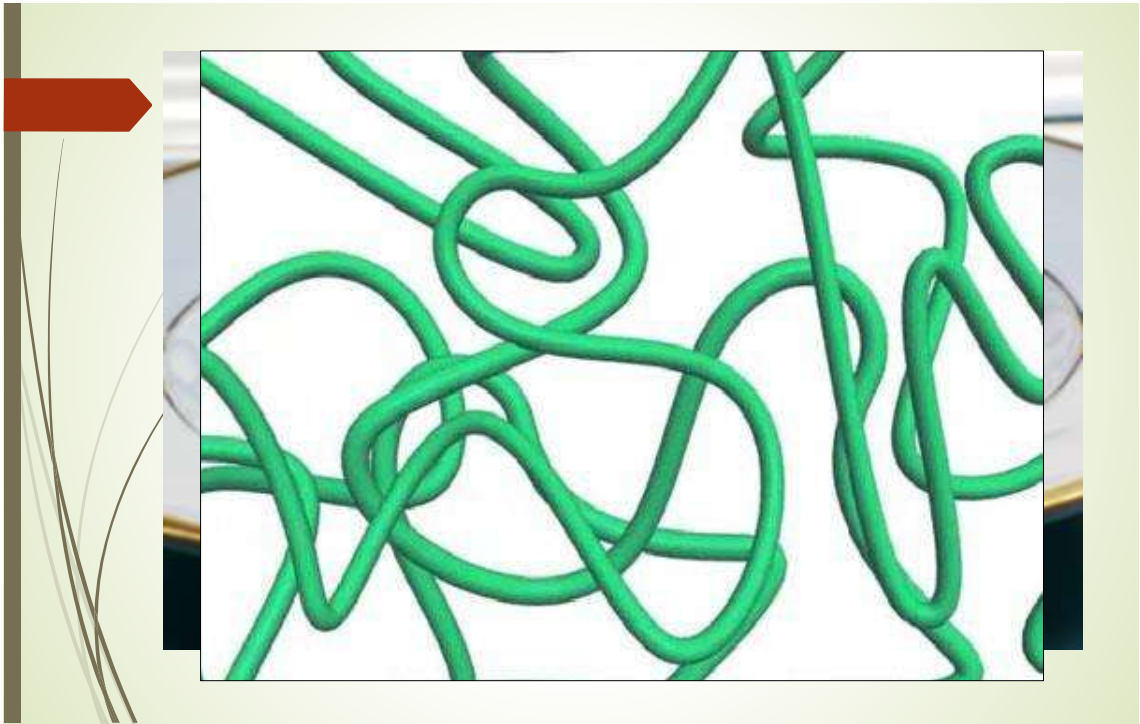
↑ in long chain (large) molecule solutions → *COHESIVE*

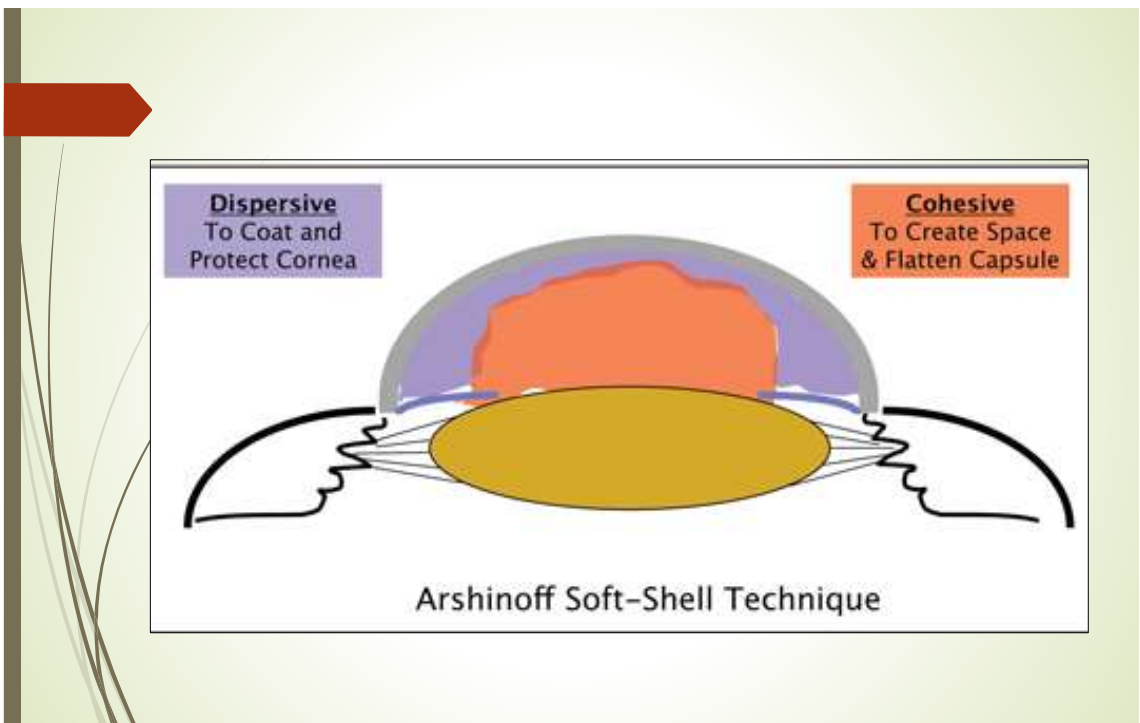
↓ in short chain (small) molecule solutions → *DISPERSIVE*

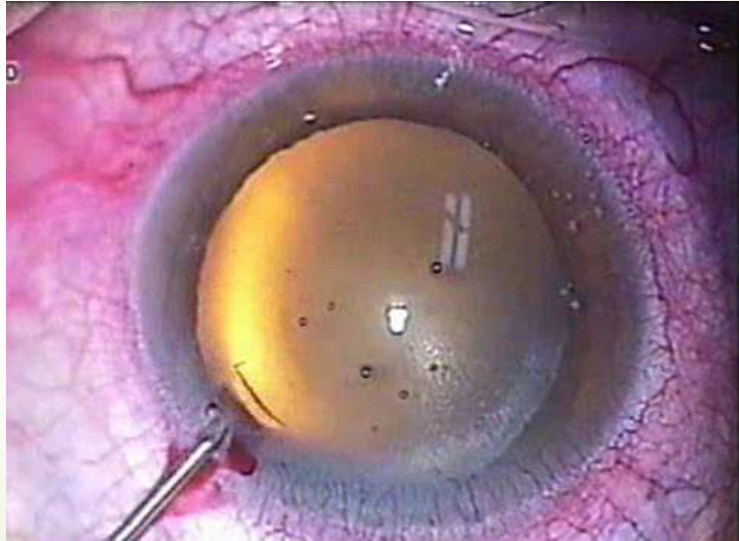
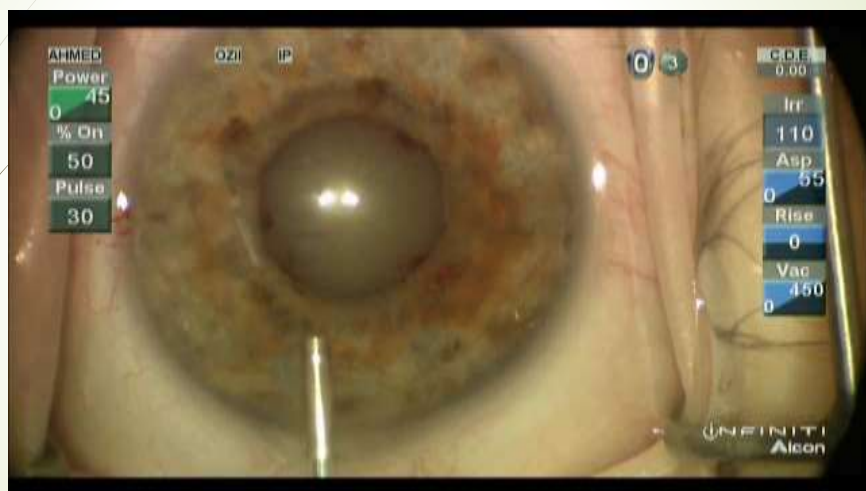


Composition



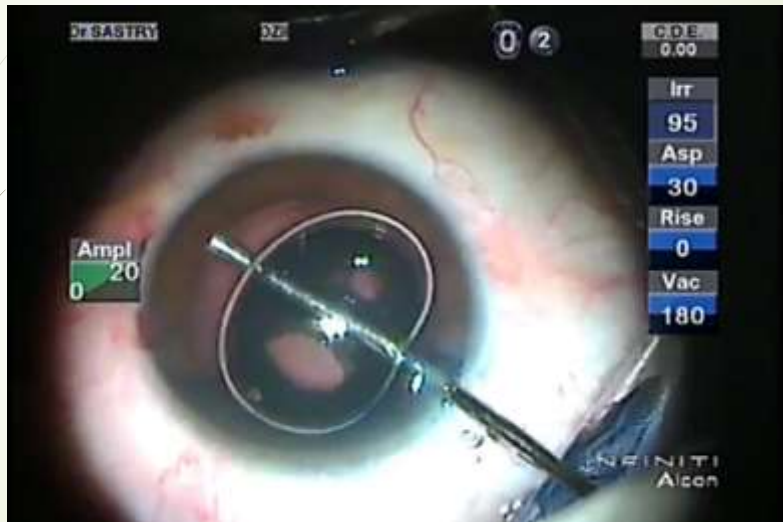




Intraocular uses:**1. Coating & protecting corneal endothelium:****Intraocular uses:****2. Pupillary dilation:**

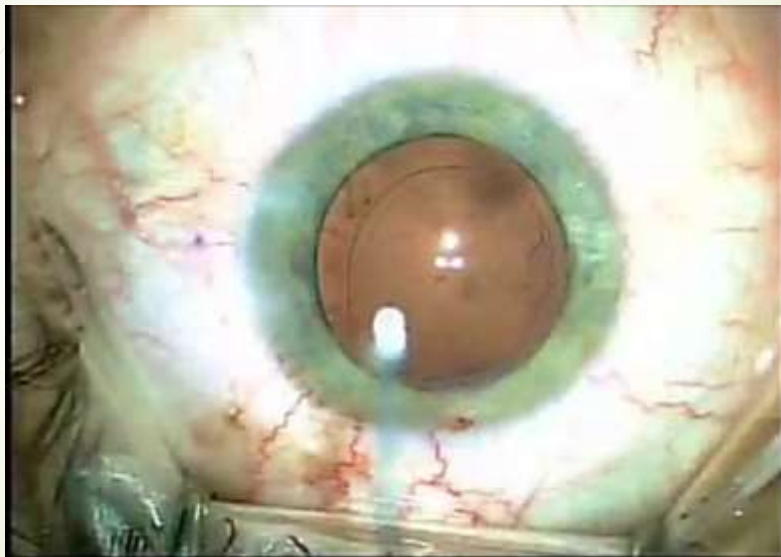
Intraocular uses:

3. Maintaining & forming space (eg: during capsulorhexis):



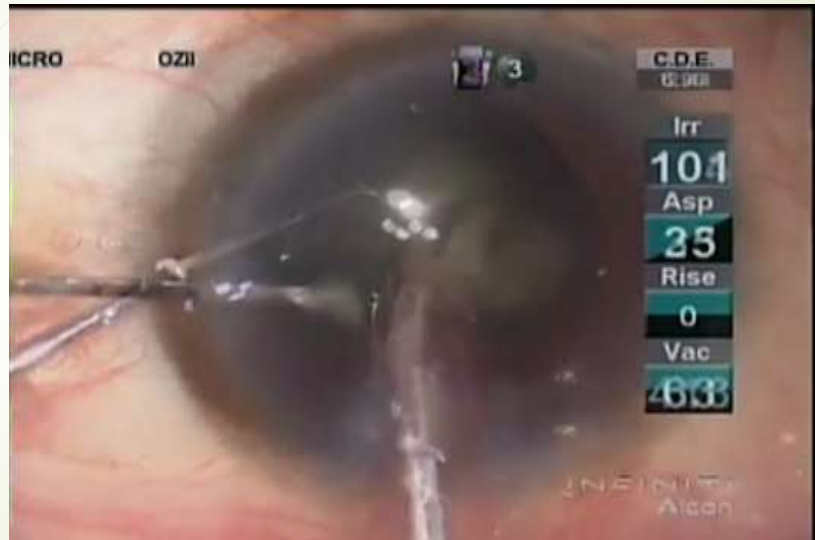
Intraocular uses:

3. Maintaining & forming space (eg: during IOL implantation):



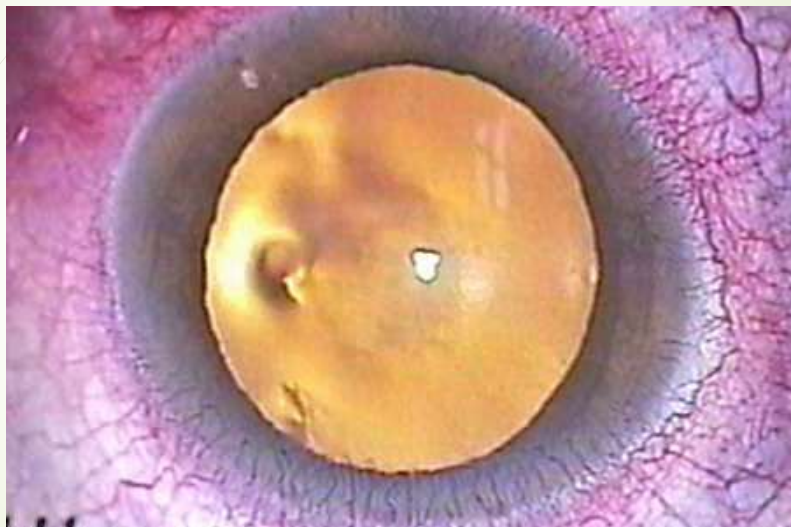
Intraocular uses:

4. Compartmentalization (eg: during vitreous loss):



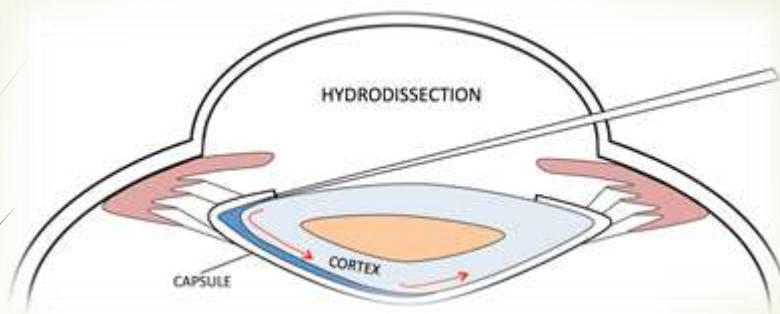
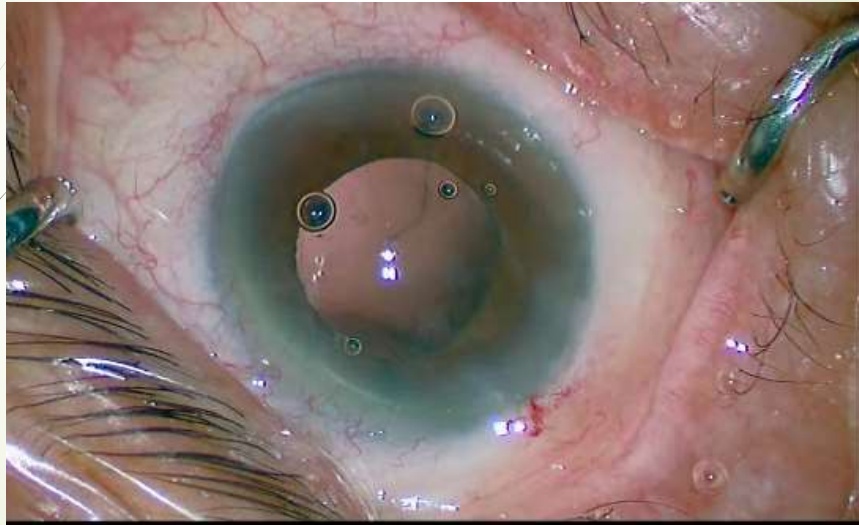
Extraocular uses:

1. Coating corneal epithelium:



Extraocular uses:

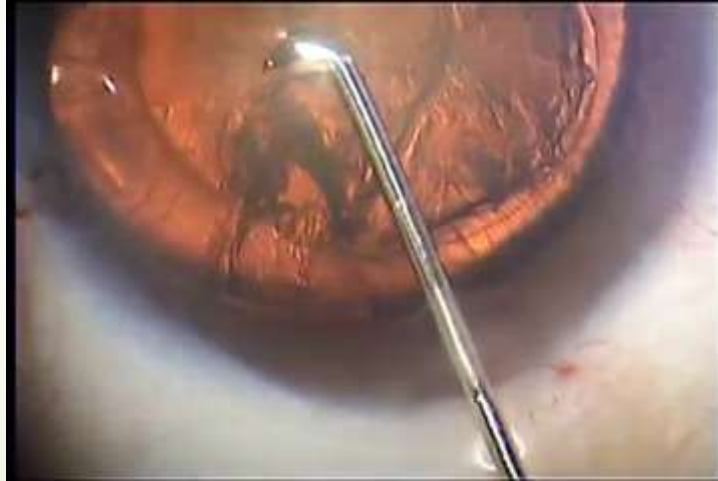
2. Filling the dead space of the IOL injector:



HYDRO-DISSECTION

Why do we hydro-dissect?

- ▶ ALL PHACO TECHNIQUES DEPEND ON NUCLEAR ROTATION.



Instrumentation for hydrodissection



24-30 gage cannula



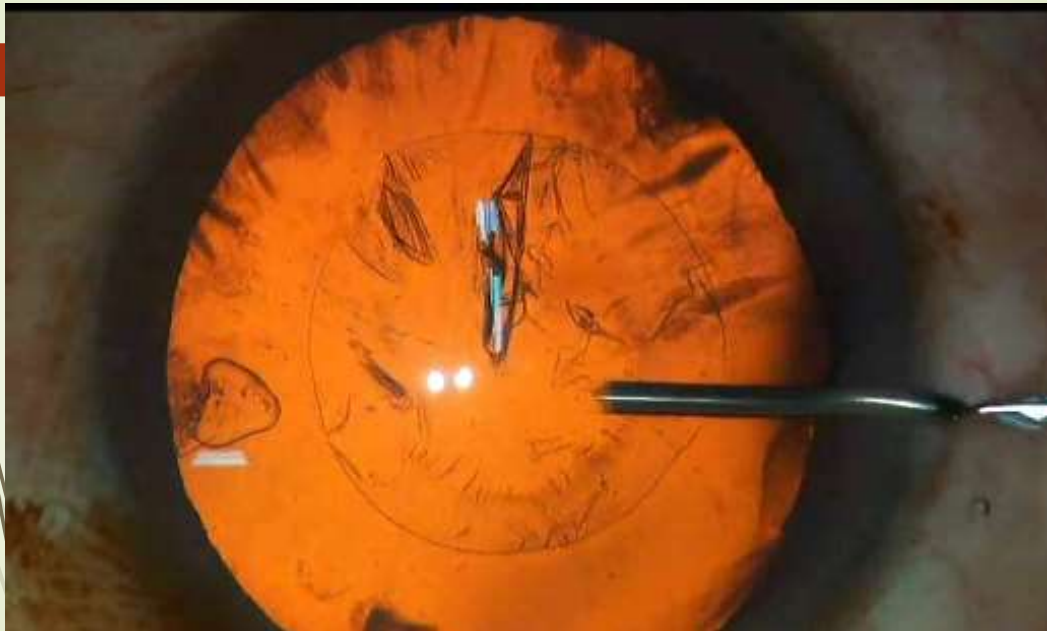
Plastic syringe

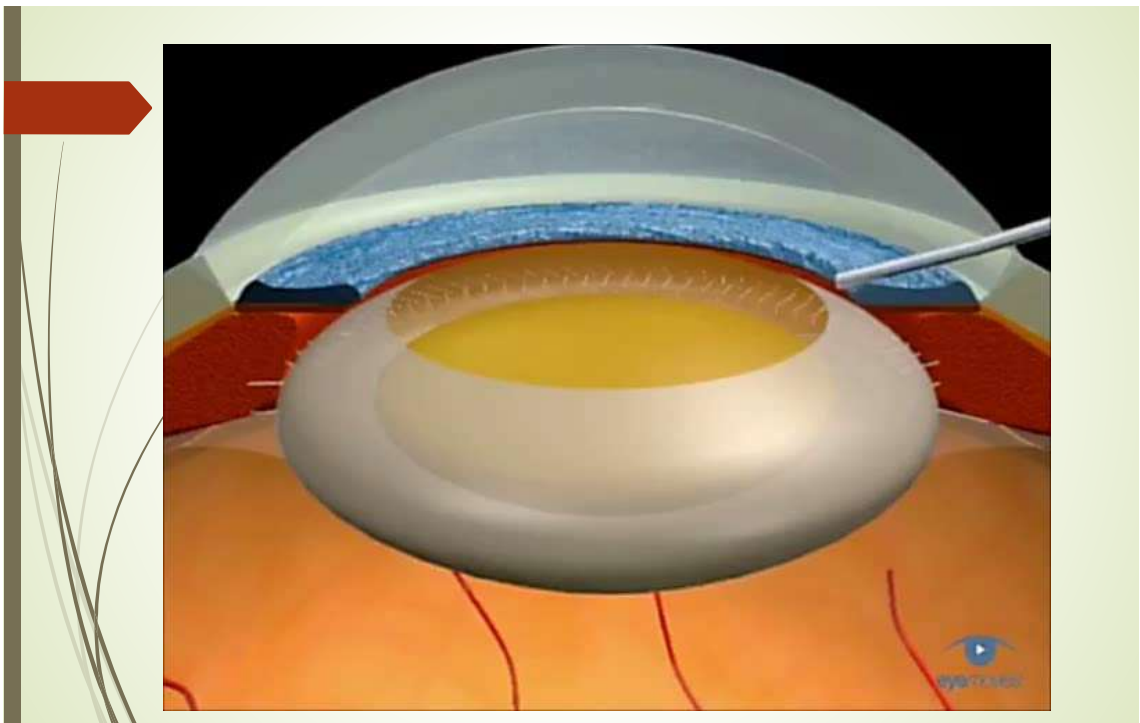
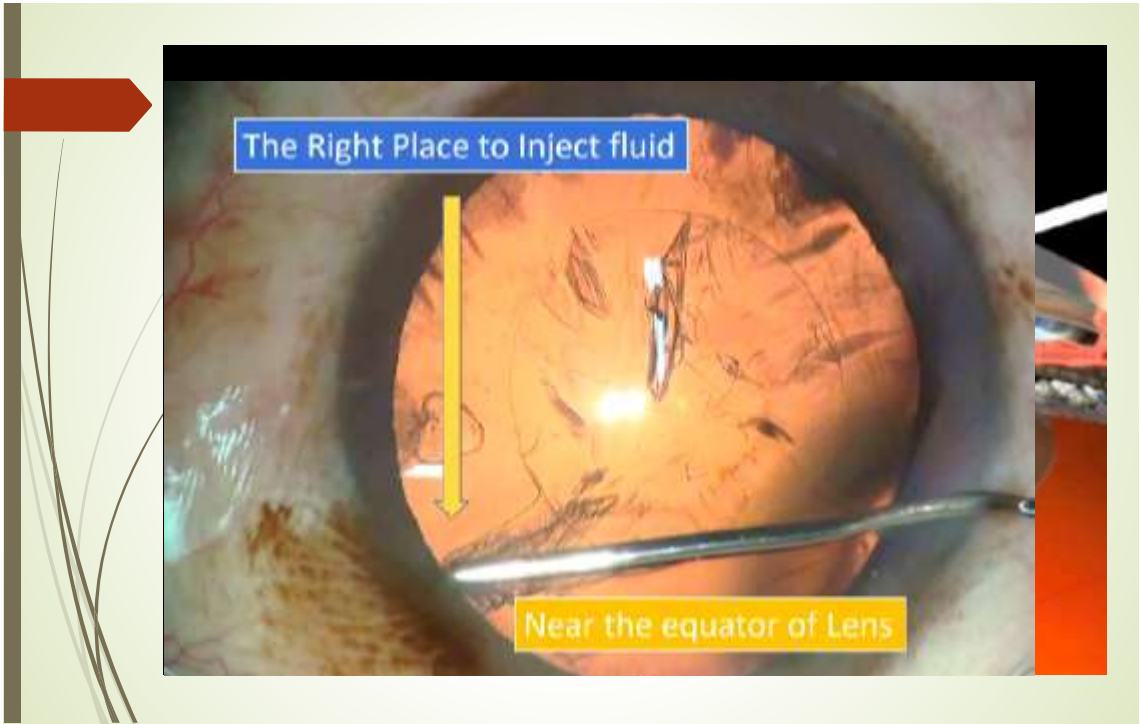
Technique

Ensure the ccc is adequate in size

Remove viscoelastic from AC

Place tip of cannula near equator and lift up anterior capsule







Stop injection when the wave reaches opposite side

Tap on the nucleus to allow trapped fluid to escape

Multiquadrant dissection



Multiquadrant Hydrodissection

CECC

When not to hydrodissect?

Posterior
polar
cataract

White
cataract

BEWARE!!!



Hydrodilation (optional)

