Patient Selection

Contraindications

- small pupil
- uncooperative patient
- advanced glaucomatous optic neuropathy
- very shallow AC
- significant corneal scars
- large pterygium
- tight palpebral aperture

Patient Selection

You must believe in the technology, doctor!

I offer this to almost every patient opting for cataract surgery

Patients I discourage

1. Advanced glaucomatous optic neuropathy
2. Financial concerns
3. Very anxious, uncooperative – likely to have suction breaks
4. Media opacities
5. Corneal issues e.g. large pterygium
6. Impossible to dock
7. Tight PA
8. Postural issues
9. Patient on Warfarin
10. Some subluxated/PXF

Difficulty docking

Bony anatomy – nose bridge, orbital rim, sunken orbit, spinal problems
Soft tissue – small PA, tight lids, puffy lids
Fixation issues
Uncooperative including
pediatric patient
Squint
Advanced cataract

Size Counts!

Patient Flow Issues

FS Laser Suit and Operating Room Setup
Multi-user
FS Laser suite a long distance from OR
FS Laser suite a short distance from OR
Single-user
FS Laser in OR

FS Laser suite a long distance from OR
Patient receives laser treatment
Walks/cabs to OR in different building
Only for surgeons who do few cases at a time

Laser treatment of 2-3 cases altogether

Surgeon operates on them consecutively

FS Laser suite a short distance from OR

Typical situation in group practice or institution

To optimize use of laser, single or multiple users’ cases are packed into operating list which feeds the ORs with separate operating lists

High volume surgeon does 2 cases to start, then 1 case femto thereafter, spaced apart by phaco of pretreated eye

Low volume surgeon does single case or a pair of cases at a time

When timing clashes for femto room, high volume surgeon already as a ‘spare’ case ready for phaco and his flow is not compromised. The next time, he does 2 femto cases and restores the balance

FS Laser in OR

Greatest luxury which increases efficiency for the single user surgeon

FS Laser located within OR

Operating bed either part of FS Laser system (Victus) or separate (LenSx)

Surgeon may gown first then do laser followed by phaco by swinging operating microscope over operating bed with patient cleaned and draped throughout consecutive procedures

Alternatively, surgeon does laser first. Operating bed is swung out or patient transfers from laser bed to operating bed and microscope is swung over patient for phaco. The patient is then clean and draped for the phaco whilst surgeon gowns

Nucleus issues

Nuclear Fragmentation

Depending on nuclear density and technique

4-8 segments/rings / cubes

Maximize diameter
Maximize depth - safety margin 500-1000µm (700µm)

Cubes minimize ultrasound energy used but take time to segment and aspirate. May need a larger phaco needle.

Studies show a reduction in the effective phaco time cf manual

Phaco technique
Your preference
To get the most of this technology, with denser cataracts
Increase number of cuts with density
Maximize cut length and depth
Increase energy with density
Advocate ‘divide and conquer’ without the sculpting
Impale and separate
4Q for soft cataract
6 segments for Moderate Nucleus

Complex Cataracts
Brunescent Cataract
Femto-Cataract
  ▪ Larger capsulotomy
  ▪ ↑Fragmentation
Capsular Dye
Dispersive OVD
Good phaco machine
  ▪ high vacuum
  ▪ moderate energy
  ▪ minimal surge
Intumescent White on Black

IV mannitol

Femtophaco

- Flat docking
- Increase capsulotomy E
- Increase fragmentation E
- Increase capsulotomy treatment band

Stain capsule

Fibrotic Capsule

Increase capsulotomy E

Increase fragmentation E

Increase number of nuclear segments

Labrador Dystrophy

Increase capsulotomy E

Increase fragmentation E

Stain with capsular dye

Soft Posterior Polar Cataract

Perfectly sized, centered, circular enables optic capture during PCR

Mark posterior capsule above polar opacity

4 cuts avoids rotation

Uveitic Cataract

Synechiolysis and membraniectomy

Insert Malyugin ring

Wash out dispersive OVD and suture
Perform femto treatment, increasing energy for capsulotomy and nucleus fragmentation

Acute Angle Closure Glaucoma

Loose lens displaced inferior temporally, equator visible

Decentre and shrink capsulotomy (4.5mm) size

Increase capsulotomy band width treatment

Interesting Last Case

- Increase capsulotomy and nucleus fragmentation energy because of vitreous in AC
- Vitrectomy with Triamcinolone acetonide staining

If nucleus tilts posteriorly, capsular bag hooks can be effectively used to support the bag and avoid losing it to posterior segment

Conclusions

Minimize sculpting and use the cracks created to create nuclear fragments which keep the ultrasound energy usage low

A variety of complex cataracts can be more easily managed with femtosecond laser treatment than with manual means