



MANAGEMENT OF NARROW PUPIL IN PHACO

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Introduction

- A well dilated pupil is the gateway to smooth , easy and rewarding cataract surgery.
- Sometimes the door looks narrow and uninviting even for the best surgeon
- A miotic pupil is a common problem that every surgeon faces at some time

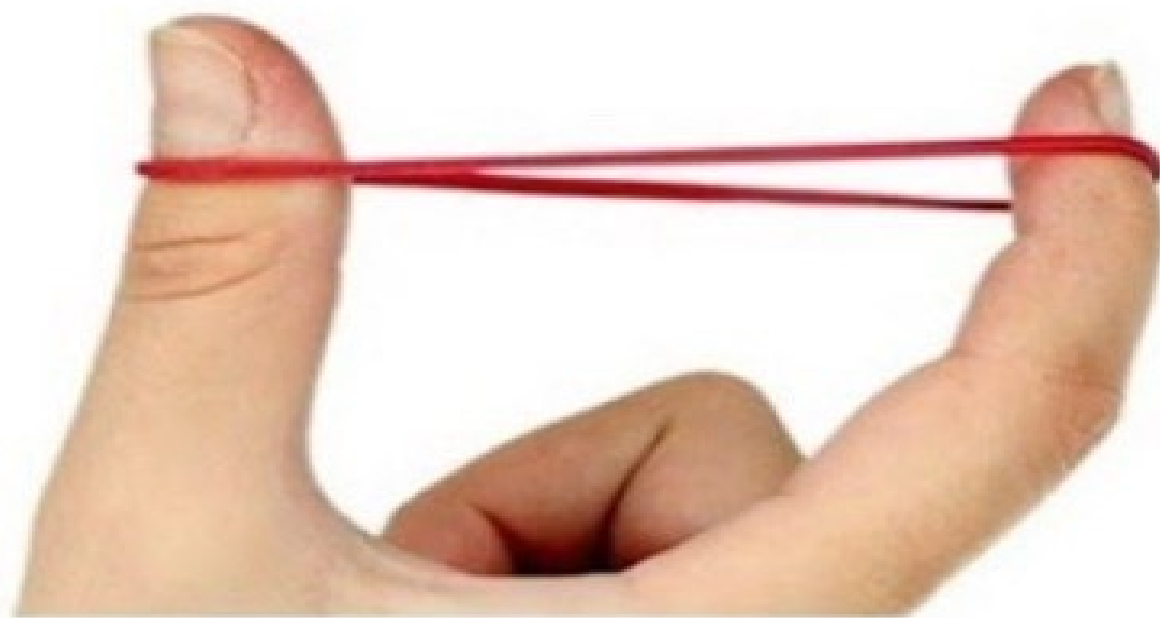


Definition

Small or narrow pupil means poorly or undilated pupil with diameter $< 6\text{mm}$ during phaco surgery.

Types

Elastic small pupil



Stretchable

Rigid small pupil



Not Stretchable

Tearable/ Breakable

Common causes

- Pseudoexfoliation Syndrome
- Diabetes
- Long term use of miotics
- Old age , Mature Cataract & High Hypermetropia
- Chronic anterior Uveitis : with posterior synechiae
- Previous trauma
- IFIS : with use of alpha 1 antagosit , and characterized by triad
(iris billowing , iris prolapse towards main and side port incisions & progressive intraoperative miosis)

Challenges

- All steps become difficult due to difficulty in visualization
- Smaller rhexis
- Hydrodissection wave not clearly visible
- Decreased red reflex with difficulty in judging the depth during phaco increasing chance of PCR
- Difficulty in maneuvering leading to iris damage , sphincter tear , iridodialysis , bleeding
- Incomplete cortex aspiration
- Displaced IOL
- Prolonged surgical time complication as endothelial damage , AC inflammation , 2ry glaucoma ,



Management strategies

Pre-operative :

- careful examination with good history for detecting underlying aetiology & observe maximum possible mydriatics & good anaesthesia

Intra-operative:

- Intracameral epinephrine (1:10000)
- Viscomydriasis using OVD
- Pupil stretching
- Multiple microsphincterotomy
- Iris hooks
- Pupil expansion rings as Malyugin ring

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Pupil Stretching

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Never pupil stretching in IFIS

07-22-2024 05:30:46 (S)

SPHINCTEROTOMIES

royal eye center

12-08-2023 Fri 06:34:20

Iris Hooks

Camera 01

A surgical procedure is shown, likely a minimally invasive approach to a joint. A large, circular, orange-colored Malyugin ring is positioned over a surgical site. A metal surgical instrument, possibly a retractor or a guide, is visible, extending from the ring towards the surgical site. The background shows the surgical field with various tissues and structures.

Malyugin ring

05-23-2023 Tue 13:43:30

SYNECHIOLYSIS

Cancer 01

Synechiolysis + Iris Hooks



Take home message

- ❑ Safe surgery is always the priority.
- ❑ Outcome depends on type of the small pupil, surgeon experience and density of cataract.
- ❑ Don't hesitate to use devices when needed.

Thank you

