


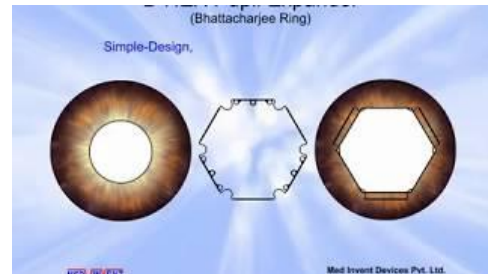
## The B-HEX Pupil Expander has a deceptively simple design!


This is what very experienced phaco surgeons who used the device without watching the videos have said. When the same surgeons went back and saw some videos on YouTube and then used the B-HEX, they said, “Ah! I wish I had seen the YouTube videos before using”.

Please watch these  videos on YouTube and Usage Tips before you use your first B-HEX

In this  video: [https://youtu.be/nU-WEQGG\\_wQ](https://youtu.be/nU-WEQGG_wQ)

1. Tips on B-HEX usage with 23 g forceps
2. Synechiolysis & Pupillary membrane removal
3. Rigid Pupils & limited stretching
4. Strategic use of viscoelastic
5. Hexagon advantage
6. Relevance of Injectors for Pupil expanders




**B-HEX 23 gauge Forceps:**  This video shows the features of the B-HEX Forceps at 45 Secs.

It is a 23 Gauge forceps with a short curved stalk and serrated jaws (18-20 mm max including the jaws). The jaws open in a plane perpendicular to the squeeze handle. You may use a DSEK forceps - if it is 18-20 mm long would be OK - usually they are much longer. The Capsulorhexis forceps is not suitable because the jaws open in the same plane as the squeeze handle - that could lead to difficult supination-pronation movements of the wrist & forearm during the engagement. With difficult movements and a sharp tip, the capsulorhexis forceps could be dangerous too. A Vitreo-retinal forceps stalk is too long and is unwieldy in the anterior chamber. The VR forceps stalk may even get bent with a few uses.

### The Rigid & Elastic Small Pupil:

Please note that there are 2 types of small pupils.

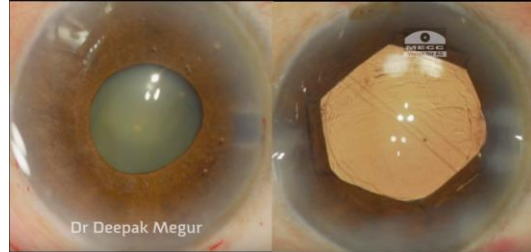
Uveitic & Senile miosis pupils are usually rigid and fibrotic. The IFIS pupil is typically elastic.

This  video at 5'30" demonstrates how to differentiate between a rigid and elastic pupil.

If we wish to use a Pupil Expander to expand a rigid pupil by causing sphincter tears, the device would be bulky and stiff. Moreover, the device is likely to cause uncontrolled and cosmetically disfiguring sphincter tears causing Post op glare etc. Hence it is recommended that in a rigid pupil, we use a bimanual stretch to cause multiple controlled small sphincter tears to stretch the pupil to about 4 - 5 mm before using a Pupil Expander. A simple way to distinguish between a rigid and elastic pupil is to inflate the AC with BSS/ RL after a paracentesis. If the pupil enlarges it is elastic and if it does not budge, it is a rigid pupil. The thinness/ flexibility of a device and its ability to tear a sphincter is inversely proportional. Just to give a comparison - the I-RING is about 1.5 mm thick at the corners, the Malyugin Ring is about 1.0 mm at the corners and the B-HEX is just 0.075 mm in thickness throughout. The B-HEX is less than one-tenth the thickness of Malyugin Ring. Now imagine if the central AC depth is 3 mm the mid-peripheral AC (where the corners of the device rests) would be about 1 - 1.5 mm. Even if the AC is inflated with OVD, the risk of endothelial touch remains with most devices.

**In this**  **video:** <https://youtu.be/x6lyF4rEGsU>

This film demonstrates a **standardized protocol for insertion of the B Hex Pupil expansion Device**, Aim of this film is to share few practical tips which will hasten the short learning curve. This film also highlights the importance of performing stretch Pupilloplasty before placing the B Hex ring in eyes with rigid Pupil.



**In this**  **video:** <https://www.youtube.com/watch?v=Alfz6f2Q7Yk>

**Hard Cataract - Intraoperative miosis** occurs during quadrant removal. Because of the uniplanar design, the gaps in the notches of the B-HEX Pupil Expander are directly visible throughout, enabling engagement to the pupil margin safely avoiding the capsulorhexis.



**In this**  **video:** <https://www.youtube.com/watch?v=m4P0GB-OnaM&t>

**A Rigid Pupil in a uveitic eye** is better stretched to 4 – 5 mm to facilitate placement of a Pupil Expander. This also helps preserve a round pupil. The B-HEX Pupil Expander is not mechanically designed to stretch a rigid pupil which often has a fibrotic band at the pupil margin. However the Elastic pupil typical of IFIS is easily expanded with the B-HEX Pupil Expander.

