



## **Letter to editor**

### **Trench, lollipop, lift and chop technique for mild to moderate cataracts**

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Dear Editor,

We describe a technique to manage cataracts of grade NO2-NO4 based on LOCS III (Chylack et al, 1993) classification using a minor modification of stop and chop technique (Koch et al, 1994) using a peristaltic phaco machine. After completing capsulorrhexis of 6.0 -7.0 mm diameter, nucleus is partially prolapsed during hydrodissection, into the anterior chamber filled with OVD. After dialling back the nucleus into the bag, a trench of up to 2/3 the thickness of the central nucleus is created. The phaco tip is then buried into one of the walls of trench, held under the vacuum and edge of the nucleus is lifted into anterior chamber. The nucleus is chopped through the trench into two halves, following which further phacoemulsification of each half is completed within the bag by holding the fragments and chopping them into smaller triangular sectoral pieces.

Minimal stress on zonules, protection of endothelium and minimal usage of ultrasound energy are the key factors for successful phacoemulsification surgery. We here describe a minor modification of standard stop and chop technique using a peristaltic phaco machine for mild to moderate cataracts.

#### **Surgical technique**

Under local anaesthesia, a temporal self-sealing clear corneal incision is created using a 3.2 keratome and two side ports are created 2 clock hours on either side of main incision with an MVR blade. Trypan blue with air is used to stain the anterior capsule. After washing out the dye, the anterior chamber is filled with Viscomet PF (2% w/v, Hydroxypropyl methylcellulose) - a dispersive ophthalmic viscosurgical device (OVD). Capsulorrhexis is completed by inserting a cystitome through the side port on right side of the main incision by creating a nick and extending it radially on anterior capsule and completing the rheixis of 6.0 – 7.0 mm in diameter. Hydrodissection followed by hydrodeleniation is performed during which nucleus is prolapsed partially into the anterior chamber. OVD is injected and the nucleus is dialled into the bag thereby assuring the completion of hydrodissection. After the initial cortical cleaning a trench is created upto 2/3 thickness of the central part of the nucleus. Following this the phaco tip is lollipopped with minimal use of phaco power into one of the walls of the nucleus and held under the vacuum and the nucleus is lifted so that the edge prolapses into the anterior chamber. Using a chopper the nucleus is chopped through the trench into two halves by positioning the chopper equatorially or just behind the equatorial edge and moving it centrally following which further phacoemulsification of each half of nucleus is completed within the bag by holding the fragment and chopping it into smaller triangular sectoral pieces. The phacoemulsification parameters are mentioned in table 1.

**Table 1**

**Phacoemulsification parameters**

|                       | <b>Power %</b> | <b>Flow rate(cc/min)</b> | <b>Vacuum limit (mmHg)</b> |
|-----------------------|----------------|--------------------------|----------------------------|
| <b>Trenching</b>      | 50             | 18                       | 60                         |
| <b>Chopping</b>       | 25             | 22                       | 120                        |
| <b>Emulsification</b> | 30             | 22                       | 180                        |

After the phacoemulsification is completed, a bimanual irrigation-aspiration tip is used to clean residual cortical material. The surgery is completed after implantation of a foldable intraocular lens in the bag.

This technique prevents additional stress on zonules, ensures protection of endothelium as there is minimal usage of ultrasound energy.

**References**

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