



**Figure 2.** *a*: The posterior capsule (hyperreflective line behind the posterior surface of the IOL) visualized on AS-OCT. *b*: The IOL separated from the posterior surface of the iris (IOL = intraocular lens).

Anterior or posterior capsulotomy<sup>7</sup> using the neodymium:YAG laser helps relieve capsular block by releasing the trapped liquid into the anterior chamber or vitreous cavity. However, laser application in a recently performed corneal transplant may cause graft failure. Needle revision of the capsular block described by Mardelli<sup>8</sup> cannot be performed accurately in a hazy cornea. Therefore, surgical intervention to reposition the IOL and release the trapped OVD was performed in our case. A high index of suspicion of CBS in a post-PKP shallow anterior chamber and AS-OCT imaging aided in early diagnosis, leading to prompt intervention and successful management of this condition.

## REFERENCES

1. Davison JA. Capsular bag distension after endophacoemulsification and posterior chamber intraocular lens implantation. *J Cataract Refract Surg* 1990; 16:99–108
2. Masket S. Postoperative complications of capsulorhexis. *J Cataract Refract Surg* 1993; 19:721–724
3. Miyake K, Ota I, Ichihashi S, Miyake S, Tanaka Y, Terasaki H. New classification of capsular block syndrome. *J Cataract Refract Surg* 1998; 24:1230–1234
4. Jain R, Grewal D, Gupta R, Grewal SPS. Scheimpflug imaging in late capsular bag distension syndrome after phacoemulsification. *Am J Ophthalmol* 2006; 142:1083–1085
5. Baikoff G, Rozot P, Lutun E, Wei J. Assessment of capsular block syndrome with anterior segment optical coherence tomography. *J Cataract Refract Surg* 2004; 30:2448–2450
6. Vélez M, Velásquez LF, Rojas S, Montoya L, Zuluaga K, Balparda K. Capsular block syndrome: a case report and literature review. *Clin Ophthalmol* 2014; 8:1507–1513
7. Durak İ, Özbek Z, Feriel ST, Öner FH, Söylev M. Early postoperative capsular block syndrome. *J Cataract Refract Surg* 2001; 27:555–559
8. Mardelli PG. Slitlamp needle revision of capsular block syndrome. *J Cataract Refract Surg* 2008; 34:1065–1069

## Phacoemulsification in patients unable to lie flat for cataract surgery: Face-to-face positioning with surgeon on the contralateral side



*Reza Moosavi, FRCOphth, Mykolas Pajaujis, MD, Chrysostomos Dimitriou, MD, FEBO, FEBOS-Glaucoma, Tom Eke, MD, FCRPhth*

The patient who cannot lie flat for cataract surgery presents a challenge.<sup>1</sup> We have described face-to-face upright seated positioning for these patients,<sup>2,3</sup> a technique we use most often for patients with fixed spinal deformity (kyphosis) and/or orthopnea. The surgeon sits or stands facing the erect or semi-recumbent patient and operates via an incision in the lower half of the cornea. The technique requires topical intracameral anesthesia, an adjustable surgical chair for the patient, and a microscope that rotates forward toward the horizontal. We recommend positioning the patient's face toward the microscope, which may require neck extension, face turn, or rotation of the whole patient. This should allow the surgeon to remain in a comfortable seated or standing position.

In exploring all options for patient and surgeon comfort, we found cases in which it was preferable for the surgeon to be positioned to the side of the patient opposite the cataract. This contralateral surgeon positioning is also useful for management of some cases of astigmatism. The cases are summarized in [Table 1](#). Case 1 was described in a previous paper (as case number 16).<sup>3</sup> For this patient, a “fixed face turned toward the right” meant that it was more ergonomic for the right-handed surgeon to sit at the patient's right side when operating on the left eye. For the other 4 cases, a contralateral approach was chosen to manage the astigmatism (by making the corneal incision on the steep axis) as well as to achieve a position that was

**Table 1.** Summary of case series.

Patient/ Age (Y)	Side of Cataract	Why Not Flat	Significant Ocular Morbidity	Astig (D, Steep Axis Angle [°])	Incision (°)	Surgeon Position
1*/79	L	PD, neck K, fixed face turned to R	Recurrent uveitis, small pupil	+2.75 × 0	270 (inf)	Seated R side of pat
2/82	R	Fixed cervical K, CCF, orthopnea	—	+1.20 × 10	0 (nasal)	Seated L side of pat
3/78	L	Vertigo	—	+1.75 × 81	270 (inf)	Seated R side of pat
4/87	R	Orthopnea	—	+1.40 × 10	0 (nasal)	Seated L side of pat
5/88	R	Fixed cervical K	Dense lens opacity, narrow AC angle	+2.42 × 172	0 (nasal)	Seated L side of pat

AC = anterior chamber; Astig = astigmatism; CCF = congestive cardiac failure; CS = comfort score; F = face; inf = inferior; IOL = intraocular lens; K = kyphosis; L = left; NR = not recorded; OCCI = opposite clear corneal incision; pat = patient; PD = Parkinson disease; R = right; UDVA = uncorrected distance visual acuity.

\*Case has been described.<sup>3</sup>

comfortable for both patient and surgeon. **Figure 1** shows the surgeon's positioning for Case 5.

Face-to-face cataract surgery is an option for patients who are unable to lie flat because of medical conditions such as kyphosis and/or orthopnea and in whom general anesthesia is considered a high risk. If a patient is seated in the erect or semirecumbent position for surgery, between 30 degrees and 80 degrees from the horizontal, the microscope must be tilted 45 to 60 degrees from the vertical to have the eye on axis and the surgeon must be seated or standing to face the patient. The more upright the patient, the easier it is for the surgeon to stand instead of sit because the surgeon's arms



**Figure 1.** Trainee surgeon completing surgery in Case 5. The surgeon is seated at the patient's left side for phacoemulsification in the right eye. Because of positioning difficulties and astigmatism, face-to-face positioning and a nasal approach were used. Other patients in this case series sat more upright.

are less outstretched. Topical intracameral anesthesia allows the eye to remain on axis, perpendicular to the microscope, for safer surgery.

Face-to-face positioning can be challenging, even for an experienced surgeon. Therefore, we think it is important to ensure that both patient and surgeon are comfortable before starting what may be a prolonged operation. In face-to-face positioning cases, the experienced surgeon is generally able to make a clear corneal incision along the steep axis of astigmatism,<sup>3</sup> aided by the patients' capacity to lift their chins and turn their faces. However, if the patient has major positioning difficulties, the axis of the incision is chosen for ease of access. It is not ergonomic to attempt a superior incision in these patients. When seated conventionally on the same side as the operated eye, the right-handed surgeon (phacoemulsification probe in right hand) finds an inferior (270 degrees) incision most comfortable for the right eye and a temporal (330 to 360/0 degrees) incision most comfortable for the left eye, particularly with more extreme positioning.<sup>4</sup> The opposite would apply for a left-handed surgeon. For a right-handed surgeon and a preferred on-axis incision horizontally (0 or 180 degrees) on a right eye or vertically (90 to 270 degrees) on a left eye, there are 2 options. One is for the surgeon to remain on the same side as the operated eye and transfer the phacoemulsification probe to his or her left (nondominant) hand<sup>5</sup> and operate on-axis. However, this raises the risk for intraoperative complications if the surgeon is inexperienced in operating with the nondominant hand. The other option is to use the technique described above, with the surgeon positioned on the side opposite the operated eye, thus operating across the patient's face. In our opinion, this contralateral approach minimizes

**Table 1.** (Cont.)

Pat/Microscope Position	Additional Surgical Challenges	Complications	Patient Comfort	Refractive Outcome (UDVA)
F-to-F upright seated	Fixed face turned to R, iris hooks needed	Suspected zonule dialysis, sulcus IOL	NR	6/12, "seeing well"
F-to-F upright seated, inclined 50° from horizontal/tilted 30° from vertical	—	None	CS 10/10	6/12, "very happy"
F-to-F upright seated, back inclined 45°, necked inclined 60° from horizontal	—	None	CS 9.5/10	6/5
F-to-F upright seated, inclined 45° from horizontal/tilted 45° from vertical	—	None	CS 10/10	6/9, satisfaction NR
F-to-F, back inclined 30° from horizontal/tilted 30° from vertical	Floppy iris, minor episode of iris capture, OCCI	None	"Comfortable"	6/9, "pleased"

the additional risks associated with face-to-face cataract surgery<sup>1,3</sup> and maximizes the postoperative visual potential.

## REFERENCES

1. Rogers GM, Goins KM. Cataract surgery in the patient that cannot lie flat. *Curr Opin Ophthalmol* 2010; 21:71–74
2. Ang GS, Ong JM, Eke T. Face-to-face seated positioning for phacoemulsification in patients unable to lie flat for cataract surgery. *Am J Ophthalmol* 2006; 141:1151–1152
3. Lee RMH, Jehle T, Eke T. Face-to-face upright seated positioning for cataract surgery in patients who cannot lie flat. *J Cataract Refract Surg* 2011; 37:805–809
4. Pajaujis M, Injarie A, Eke T. Extreme face-to-face positioning for cataract surgery with patient seated upright in motorized wheelchair. *J Cataract Refract Surg* 2013; 39:804–805
5. Kageyama T, Yaguchi S, Metori Y, Chida M, Koizumi K, Onishi T, Ayaki M. Visual results and complications of temporal incision phacoemulsification performed with the non-dominant left hand by junior ophthalmologists. *Br J Ophthalmol* 2002; 86:1222–1224. Available at: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1771336/pdf/bjo08601222.pdf>. Accessed January 15, 2016