There is a consensus among ophthalmologists regarding the necessity of adequate hydrodissection prior to nucleus disassembly and emulsification. For phaco-chop and divide-and-conquer techniques, the lens must be completely mobilized to allow easy nucleus rotation. Hydrodissection should result in a fluid wave travelling completely across the posterior surface of the lens. This ensures that complete dissection of the lens from the posterior capsule has occurred. Hydrodissection cannulas of various designs are used to accomplish the dissection.

I have noticed that many colleagues do not intentionally separate the lens from the anterior capsule. If these connections are not adequately separated, the lens will be unable to rotate. In this article, I describe my method for dissecting anterior capsular connections. Residents in our clinic learn this method without significant difficulty. This is a simple and logical technique that many surgeons may already practice.

**TECHNIQUE**

After a complete posterior fluid wave crosses the entire posterior surface of the lens (Figure 1), depress the nucleus, which will subsequently separate itself from the anterior capsule at approximately the 4- or 5-o’clock position (Figure 2). As you press on the nucleus, fluid underneath the nucleus will shift to the opposite side. Next, depress the nucleus on the opposite side (Figure 3). The nucleus can move a little posteriorly into the accumulated fluid pool, separating itself further from the anterior capsule. If the anterior capsule remains in position when the nucleus is pressed downward close to the anterior capsulorrhexis edge (Figure 4), this means that the anterior capsule and anterior capsule (shaded in red) is dissected from the lens.

**Figure 1.** A fluid wave (shaded in blue) has crossed almost the entire posterior surface of the lens.

**Figure 2.** When the nucleus is depressed, a portion of the anterior capsule (shaded in red) is dissected from the lens.

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**TAKE-HOME MESSAGE**

- The lens must be completely mobilized to allow easy nucleus rotation.
- Hydrodissection should result in a fluid wave travelling completely across the posterior surface of the lens.
- If the lens is not completely separated from the anterior capsule, the lens will not be able to rotate.
Hydrodissection

The Key to Successful Hydrodissection

By Khiun F. Tjia, MD

The hydrodissection fluid wave should traverse completely across the posterior surface of the lens and separate anterior capsular connections to facilitate lens rotation.

direct link to video:
http://eyetube.net/v.asp?defipe

Figure 3. When the lens is depressed approximately 180° away, the remaining areas of anterior connections (shaded in red) are separated.

Figure 4. When the nucleus is pressed downward, the anterior capsule does not move along with it, signifying separation of the anterior capsule and lens.

multipolar IOL with an aspheric design can be considered in the presence of stable glaucoma. In the future, another possibility will be an accommodating IOL with aspheric optics. It is important to bear in mind that baseline parameters may change after cataract surgery. Thus, we recommend that a full glaucoma assessment, including visual fields and other tests such as nerve fiber layer analysis, be repeated a few weeks after cataract surgery. This will benefit long-term disease monitoring by acting as the new baseline.

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