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SimulEYE® Phaco Soft

Eye Preparation:

1. Unscrew the Red Suction Cup.
2. Hold the SimulEYE upside down.
3. Fill the back of the eye with water, ideally room temperature. Do NOT Use BSS.
4. Keep the eye inverted and gently pump the cornea about 10 times. This will bring water into the AC and helps to free the lens from the capsule.
5. Fill the back of the eye with more water all the way to the top.
6. Install the Suction Cup while continuing to hold the eye directly upside down. It is ok to spill a few drops just as you screw in the Suction Cup. If you lose more than that, refill the eye and try again. **Avoid air bubbles in the back of the eye** as they will cause the posterior capsule to elevate upward toward the surgeon.
7. Grasp the Suction Cup just below the threads to tighten it securely.
8. Put the eye on the Elevated Base positioned within the Base Tray.
9. Mark incision locations with a Sharpie pen so they are easier to find later.
10. Make incisions and fill AC with SimulEYE Cohesive Viscoelastic Substitute (1cc syringe).
11. Place SimulEYE Cohesive Viscoelastic Substitute (5cc syringe) around limbus 360 degrees.
12. Place SimulEYE Dispersive Viscoelastic Substitute (5cc syringe) over entire cornea and limbus.
13. Proceed with Phaco.

Tips:

Setting Up the Phaco Model for Immediate Use:

- Fill the eye with water (Steps 1-7) right before using it. The longer water sits in the AC, the lens will become softer and opaque. A delay of three minutes before use is fine, but waiting more time will reduce the efficacy of the eye.

For Delayed Use:

- If the eye will not be used right away, such as prepping for a large lab or for any other delay, it is imperative to ensure that water does not sit in the AC. To do this, prep the eye as stated above. However, after pumping the cornea to fill the AC (Step 4), turn the eye right-side-up and gently pump the cornea a few times to remove the water from the AC. Shake the eye to remove the residual water drops from the eye.

Then, invert the eye and fill ONLY the back of the eye with water. Do NOT pump on the cornea this time or that will again fill the AC. Install the Suction Cup as above. Ensure that there is minimal to no water in the AC.

Incision Sizes:

Side Ports: 1mm or smaller -- minimize fluid leak.

Main Incision: 2.4mm or whatever is recommended for a given phaco tip/sleeve. Do not enlarge the incision.

Model and Hand Placement:

- Use the SimulEYE Base Tray to catch fluid. It must be positioned so that the logo and writing are oriented correctly in front of the surgeon otherwise it will not be stable. The Base Tray should sit directly on the table for stability. Do NOT place a chuck or another tray underneath it or it will slide.

- Attach the eye to the Elevated Base which is then placed in the middle of the Base Tray with the surgeon's hands resting on the edge of the Base Tray for support. Alternatively, the eye can be placed directly on the Base Tray and the Elevated Base can be used as a support under the dominant hand.

Use of Gels to Prevent Air Bubbles during phaco:

- Place a ring of Cohesive Gel 360° around the limbus and especially over the incisions to reduce air bubbles.

- Place the Dispersive Gel over the cornea to increase the view into the eye and to also reduce air bubbles.

If you are experiencing problems with air bubbles in the AC during phaco, it is likely from distorting the wounds with your instruments. Work on pivoting in the incisions and you will see that air does not enter the eye.

Using the SimulEYE Phaco-Soft Model:

- When entering with the Phaco Tip, have some viscoelastic spilling out of the main incision for lubrication. Use the second instrument just inside the main incision to lift upward and hold it open while entering with phaco tip.

- Keep the power quite low while sculpting to create a narrow groove as this makes it easier to crack the nucleus.

- The nucleus behaves like a soft lens and instruments will push into the lens when you try to crack it. Creating a long, deep groove will help with cracking the nucleus.

- This model is best used with a Divide and Conquer technique or Stop and Chop. It will NOT work with a Quick Vertical Chop right from the beginning. You may be able to do a Quick Horizontal Chop to create 2 nucleus halves.

- The best technique for beginners is to use low power and begin to create a groove. Go deep and far out to the periphery. Use two instruments to rotate the lens 180°. Continue the groove in the other direction, again going far out to the periphery. Use two instruments to crack the lens out at the periphery and the crack will propagate through the base of the groove. Continue with divide and conquer to get quadrants or switch to chopping. Horizontal chopping is easier but vertical chopping is possible with the proper technique. When chopping, the nucleus acts more like a 1-2+ NS.