SimuloRhexis Kit

Instructions for Use

Set-up Required

- Operating microscope
- Flat, smooth working surface for the suction cup to stabilize the SimuloRhexis device
- 3.0 mm keratome for the main incision
- 1.0 mm or 15º side port blade
- Cystotome and Capsulorhexis forceps
- Viscoelastic of choice: either a cohesive or a dispersive viscoelastic that would normally be used during the capsulotomy. KY or E-Z Jelly are a readily available and acceptable alternative to viscoelastic.

Supporting Pieces Included with the Kit

- Base Unit Complex: Suction Cup Base and Back Half Eye Cup
- Cornea-iris Cap with an 8mm pupil
- Anterior Capsule Films – 5 or 10 per kit, Red Film with Blue Ring on anterior side
- White Polymer Clay in a clear plastic cylinder

Using the Model

Begin by adjusting the base unit. The suction cup base should be screwed all the way into the back half of the eye until it stops. Do not tighten it down. Back off the suction cup 3/4 of a turn using the suction cup release tab as an indicator.

Remove the white polymer clay from the clear plastic cylinder. Roll a portion into a ball and place it in the back half eye cup so that it sits above the lip. Use the top of the clear plastic cylinder to press the polymer into the cup creating a smooth surface while cutting off the excess. Continue to smooth out the surface using the plastic top.

Hold the cornea-iris cap upside down with the non-dominant hand and place a red film into the back side of the cap. Be sure to place the side with *the blue ring face down* in the cornea-iris cap. While continuing to hold the cornea-iris cap upside down, insert the back half of the eye (which was previously filled with polymer) into the cornea-iris cap and press the pieces together.

Attach the SimuloRhexis device to a flat working surface by pressing down firmly on the outer ring or on the suction cup itself. DO NOT PRESS on the cornea.

With the suction cup base firmly attached to the working surface, make the desired corneal incisions just anterior to the limbus and fill the anterior chamber with viscoelastic.

Use a cystotome and capsulorhexis forceps to initiate and complete a CCC.

Challenge Yourself – Increase the Level of Difficulty

Grasp the periphery of the top part of the eye and turn it clockwise to rotate the eye down onto the suction cup base. This will cause the pressure in the polymer to increase behind the anterior capsule film.

For a greater level of difficulty the eye can be further rotated down onto the suction cup base. This will cause a shallowing of the anterior chamber as may be encountered in a smaller or hyperopic eye.

In addition, the increased pressure will simulate a loss of viscoelastic from the anterior chamber as may occur from wound distortion and the capsulotomy tear will have a greater tendency to run downhill and out toward the periphery.

Rescue maneuvers may be practiced and mastered.

Rotation of the eye to effect a change in posterior pressure while the eye is suctioned will cause the position of the incisions to also rotate. Simply release the suction cup, rotate the whole eye to the desired position so the incisions are in proper alignment and reattach the suction cup to begin working again.

Alternatively, the suction cup can be screwed into the eye prior to attaching the eye to the working surface. This will eliminate the need to rotate the eye to re-align the incisions.

Tips for Use

The central pupil has a diameter of 8.0 mm.

Bubbles may be moved out of the surgical field with additional viscoelastic agent.

A small amount of water on the bottom of the suction cup can greatly increase the suction and help to stabilize the eye.

Use the release tab on the suction cup base to release suction without damaging the eye.

The polymer clay works best when it is soft and pliable. If it has been sitting for a long time or has begun to dry out or if it is cold, work the polymer in your hands and fingers to warm and soften it prior to use.

The capsulotomy film is more fragile than the actual human capsule. This is necessary in order for the tearing properties to be as realistic as possible.

Learn to make the capsulotomy tear go exactly where you want it to. The idea is not to necessarily have perfectly round tears, but rather to understand the direction of forces and the techniques required to control the tear in a predictable and desired fashion.

Shelf-Life and Storage

It is best to use the SimuloRhexis device within 1 month of receipt.

Store at room temperature for the longest shelf life. Shelf life will vary depending on environmental conditions.