When irrigating nucleus choppers were first introduced the idea was to provide enough inflow to help maintain the anterior chamber while chopping, manipulating and emulsifying the nucleus. As more surgeons started to use these instruments several limitations became apparent.

- Standard 20-gauge irrigators did not provide sufficient flow to consistently maintain the chamber and larger diameter irrigators were too large for a standard paracentesis.
- Irrigation ports were too far from the chopper tips which at times resulted in the ports being outside of the eye when the surgeon was working near the incision.
- While the chopper tips were similar in shape, they were not identical to the surgeon’s favorite nucleus chopper, making them more difficult to use.

Dr. Rodney Kellen of Winnipeg, Manitoba, Canada has designed a new marker for impressing a circular pattern on the cornea which serves as a guide for performing a 5.5 to 6mm diameter capsulorrhexis. The marker consists of a 6mm diameter marking ring with four symmetrically placed, non-marking pegs extending to the 11mm optic zone. A perfectly centered mark on the cornea is created by aligning the pegs with the limbus and gently pressing the ring onto the corneal surface. Using this mark as a guide, the surgeon can produce a centered, predictably sized continuous curvilinear capsulorrhexis. The instrument is particularly useful when the pupil dilates eccentrically and the usual cues to center the rhexis are absent.

Kellen Capsulorrhexis Marker

for a centered, predictably sized CCC
Taking all of these issues into consideration, Katena developed the HydroChoppers which provide more than 48 cc/min of flow with strategically located ports and chopper tips that are dimensionally identical to the non-irrigating models. This uniquely designed group of instruments provides over 65% more inflow than standard irrigating choppers without increasing the incision size.

The instruments feature a lightweight aluminum handle with a series of dimples for positive grip while their front ends are made entirely from one piece of stainless steel. This one piece stainless steel engineering allows for a dramatically larger inside diameter, to maximize irrigation flow, while maintaining a 20-gauge outside diameter to fit through a 1.2mm incision.

Additionally, they have been designed with an end opening port near the tip to ensure that the irrigation is always in the eye, which is very important when working near the incision. Katena is now making the HydroChoppers available with many of the most popular chopper designs as well as an irrigating handpiece without a chopper tip.

Professor Jorge Alio of Alicante, Spain developed this instrument to manipulate the new Kelman Duet Lens. He uses two of these micro hooks to manipulate and position the haptics of the IOL within the capsular bag.

The instrument resembles the Lester IOL Manipulator, however it is much more delicate. This is a good alternative for those surgeons who like to use the Lester hook but would like a smaller tip.

Dr. Rex Cole of San Marcos, Texas, has designed an instrument that protects the posterior capsule while manipulating and removing the nuclear fragments. It features a crescent-shaped bend with a wedge-shaped anterior surface and a smooth posterior surface.

The crescent-shaped bend provides the maximum possible distance between the phaco tip and the posterior capsule. It is most useful in those situations where the chamber is shallow or where surge is proving to be a problem. The wedge-shaped anterior surface is used to direct and divide nuclear fragments against the phaco tip.
Posterior capsule rupture and vitreous loss necessitates a stressful departure from the surgical routine for both surgeons and their OR staff. Anticipating these difficulties, one can prepare for this contingency in several ways. As advocated by David Chang, M.D., the OR can pre-package special instruments in a “contingency kit” that is kept sterile in a separate, autoclavable container. This avoids the need to urgently search for a seldom-used instrument amidst the stress of an unexpectedly complicated case. With the potential need to convert to an ECCE and perform a vitrectomy, the Chang Contingency Kit includes the following:

**Bimanual I/A**

- K7-5811 Aspiration Handpiece with textured polishing tip
  - 21-gauge, single 0.35mm port
- K7-5840 Irrigation Handpiece
  - 21-gauge, dual 0.5mm ports

**Simcoe Irrigating Lens Loop**

- two front opening ports
- finely serrated, strong curve
- 25-gauge
- K7-5530 for right handed surgeon
- K7-5531 for left handed surgeon

**Corbin Sub-Tenon’s Cannula**

- smooth rounded tip
- 0.3mm side port
- 23-gauge
- K7-4008

**Infusion Cannula**

- 22-gauge angled with beveled tip
- supplied with silicone tubing and adaptor
- K7-6711

**Castroviejo Corneal Scissors**

- Universal Corneal Scissors
  - curved, blunt tips
  - medium blades
- K4-2220

**Infant Speculums**

**Infant Wire Speculum**

This simple wire speculum with 4mm wide blades uses the gentle spring tension of wire to retract an infant lid. The open wire blades are slightly offset, allowing the blades to fit together for easier insertion and removal.

**Premature Infant Speculum**

This extra small speculum features delicate 2mm wide solid blades with a gentle spring for retracting premature infant lids.

**Sauer Infant Speculum**

This speculum is identical to the premature version except it has 10mm blades for use on infants.

**Barraquer Infant Speculum**

This new wire speculum is shaped very much like a standard Barraquer except that its blades are reduced to a 9mm width. It is intended for use on infant eyes, however, it is also very useful for performing minor office procedures on adult eyes.
**More Phaco Instruments**

**Chang MicroFinger**
After receiving several requests, Katena is now making the Chang MicroFinger available in a single-ended instrument. It is more delicate than the original Lieberman MicroFinger and is used for the division of medium to soft nuclei.

The long, smoothly polished tip is ideal for slipping beneath the anterior capsule and around the equator while the defined inferior edge of the finger-shaped tip is used to split the nucleus horizontally as described by Dr. David Chang. The curved hourglass shape of the tip also aids in cradling and guiding nucleus fragments toward the phaco tip for emulsification and aspiration.

**Cooper Phaco Spatula**
This new spatula was developed by Dr. George Cooper of Fayetteville, NC to complement his "divide and conquer" technique. It features a 3mm long wedge-shaped lateral edge, which Dr. Cooper uses to manipulate and split nucleus quadrants against the phaco probe after the initial nucleus division.

**Gold Punctal Plug Forceps**
Dr. Jeffrey Gold of Hamden, Connecticut designed this instrument for grasping and inserting punctal plugs. Its tips are pointed, but not sharp, and the inside jaw surfaces feature a 0.2mm wide longitudinal groove which is designed to securely grasp any size plug. According to Dr. Gold the forceps also works well for grasping and removing eyelashes.

**De La O Nucleus Extraction and IOL Insertion Forceps**
This new combination forceps has been designed for grasping and extracting nucleus segments during manual phacofracture procedures as well as inserting soft intraocular lenses. It features very finely serrated tips and heels to grasp the nucleus segments.

The curved jaws are designed with a smooth longitudinal groove to hold and extract the nucleus, as well as to hold the folded lens for insertion into the capsular bag.

**Alfonso Nucleus Fragment Forceps**
This instrument was modified at the suggestion of Eduardo Alfonso, MD of Miami, FL.

It features two short rows of delicate interlocking teeth on the anterior surfaces of the jaws for grasping and extracting nucleus fragments. The posterior surfaces of the jaws are smooth to avoid inadvertently grasping delicate tissue. The reduction in the number of teeth has greatly reduced the cost and resulted in a more delicate instrument with superior ability to grasp and extract fragments.

**Inquire about our new Barron disposable artificial anterior chamber for corneal transplants.**