IOL Insertion

- Do not overfill the chamber with Healon5® OVD.
- As an option for the surgeon, a two-viscoelastic technique may be employed: Use Healon5® OVD to inflate the bag for lens insertion.
- Start injection directly on the posterior capsule centrally, which will open the capsule and create an expanded capsular bag.
- Surgeon may also direct Healon5® OVD onto the iris and/or at the iris border to open pupil and widen.
- Surgeon will find more resistance when implanting a lens; while it cushions and reduces kinetic energy when unfolding a three-piece lens it will have a tendency to keep a single-piece lens folded a little longer in a smaller profile. For a single-piece lens, this small profile will aid in removal of Healon5® OVD.

Removal Techniques

- Use extra care to ensure that all Healon5® OVD has been removed.
- Two-compartment technique:
  - Begin the removal after IOL implantation is completed. At this point, the AC is still filled with Healon5® OVD, and (if single-piece lens) the IOL can be easily shifted aside for access to Healon5® OVD.
  - Insert the I/A tip behind the IOL without engaging the flow of the I/A tip. The aspiration port should be facing up so that everything will come towards the tip and the capsular bag cannot become snagged. This will ensure that when flow begins, the capsular bag will be pushed away from the tip. An alternative option with a single-piece lens is to go into the bag and tip the lens to aid in Healon5® OVD removal.
  - Next, begin removing Healon5® OVD from the capsular bag and from behind the IOL with a higher vacuum to take advantage of the cohesive properties of Healon5® OVD. Bring the I/A tip anterior to the optic and continue. Use high vacuum with the I/A tip port upward toward cornea and anterior oblique to prevent capture of the capsular bag. Once Healon5® OVD is removed from the posterior chamber, lay the tip on the optic with the port up, and everything remaining will come to the tip.

Removal Techniques (continued)

- Continue to remove Healon5® OVD by circling the tip at the iris plane, or on the optic surface, then make an additional sweep in the AC, including the angles.
- Tip from Dr. Osher: Hydrate the incision before the removal of Healon5® OVD, so that the incision is essentially closed after removal. Surgeon may then come off the footswitch while exiting the eye.
- Additional tip from Dr. Osher: In a rare case of severe positive pressure, Healon5® OVD can be removed from a side port with a large cannula using a push/pull technique. It fractures Healon5® OVD as irrigation occurs, and due to the cohesive behavior of the material, subsequently aspirates.
- Other techniques may be appropriate to remove Healon5® OVD. Consult literature for additional options.

Overview

The unique viscoadaptive properties of Healon5® OVD deliver a winning combination of protection and control:
- Behaves like a cohesive and a dispersive viscoadaptive
- Designed to maximize control throughout surgery
- Delivers exceptional clarity for an unobstructed view of the surgical field
- Cushions delicate iris tissue to help reduce the risk of iris prolapse

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The Healon5® ophthalmic viscosurgical device (OVD) is used in ophthalmic surgical procedures of the anterior segment, including cataract surgery with an intraocular lens, cataract surgery without an intraocular lens, or secondary intraocular lens implant. Healon5® OVD is used in ophthalmic surgical procedures to maintain a deep anterior chamber, which facilitates manipulation inside the eye with reduced trauma to the corneal endothelium and other ocular tissues. Warnings/Precautions/Contraindications: There are no known contraindications to the use of Healon5® OVD when used as recommended. Please refer to the package insert for full prescribing information.

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Surgical Tips

Injection

- Remove Healon® OVD from refrigerated storage early in the morning, or the evening before if possible, to allow it to come to room temperature.
- Healon® OVD will form a solid mass upon injection.
- Keep cannula within bolus as it fills.
- Make sure to pass the internal lip of the incision before injecting. Do not inject while within the tunnel of the incision, because of potential viscoceleavage of the Descemet's membrane.
- Do not intentionally inject under the iris.
- For viscomyodrasis, surgeon can dilate the pupil with an injection on the iris surface or at the pupillary margin. The former makes a concave displacement of the iris, while the latter will displace peripherally.
- Stop injecting once the chamber is filled and adequately deep.
- Do not overfill the AC.

Capsulorhexis

- Rhesis with cystotome
  - Surgeon will feel that Healon® OVD has more resistance than other viscoelastics.
  - Surgeon may wish to use a shell technique with BSS on the capsule and under Healon® OVD. When injecting BSS, Healon® OVD is forced upward, pressurizing the AC. Capsulorhexis can then be performed in a watery environment with no resistance.
  - Use of the shell technique will slow surgeon slightly, but will provide for controlled capsulorhexis without peripheral extension.

Hydrodissection

- Create a pathway by wigging the cannula or injecting BSS; if desired, use Healon® OVD under Healon® OVD.
- Place hydrodissection cannula just below the capsulorhexis edge, press down on posterior lip of incisions and inject fluid. Depending on desired strategy (hydrodissection or hydrodelineation), the 27G hydrodissection cannula is placed at appropriate cleavage plane and depth within the nucleus.
- Allow “burp out” of Healon® OVD during hydrodissection by holding the posterior lip of incision down to avoid high pressure or intraoperative capsular block syndrome. Use a large gauge cannula such as 27G and perform gentle hydrodissection to prevent pressure buildup behind the lens. When injecting, surgeon may wish to gently depress cannula or lens. In addition, surgeon may inject ballot or dribble lens to prevent fluid from being captured behind the lens. Keep posterior lip depressed in case pressure builds up.
- Avoid iris prolapse by making sure that Healon® OVD doesn’t prevent fluid from escaping out of the incision and pushing the iris towards the incision.
- Refill with fresh unfractured Healon® OVD before phaco.

Phacoemulsification

- Compartmentalization is key to clear corneal. This is the way to keep tissues like the iris in place, minimize movement of anatomy, and provide optimal corneal protection:
  - Reinject after hydrodissection
  - Work under Healon® OVD layer
  - Use appropriate settings: lower vacuum and aspiration rates
- Prior to initiating phaco, surgeon may elect to use some I/A to evacuate an area above the lens. This procedure may help avoid initial visco-occlusion of the phaco tip of the irrigation line (which could cause phaco tip heating). A method recommended by Dr. Robert Osher entails entering bevel down into the lens and creating a divot with a couple quick bursts of phaco energy with vacuum over 250. This divot allows fluid circulation at the tip. Verify fluid circulation and ensure that occlusion alert on machine is not sounding. Then, turn the vacuum down after the divot is created. For the sculpting technique, use low vacuum (around 40 mmHg) and verify that occlusion is not encountered, since the tip should not occlude during sculpting. Work below the OVD.
- Keeping Healon® OVD in the eye during phaco depends on:
  - Aspiration rate
  - Vacuum
  - Bottle height (with a higher bottle, there may be a greater tendency to push OVD out of the eye)
  - Control of postocclusion surge
  - Incision (do not distort or gape incision while working)
  - Working below Healon® OVD
- Cortical cleanup has two options:
  - Remove Healon® OVD first, and then cortex
  - OR: Bury the tip into cortex and remove under Healon® OVD