

Flawless LRI Construction

Certain measures, including selecting the proper instrumentation, can help to improve the safety and effectiveness of these incisions.

BY R. BRUCE WALLACE III, MD

As with any surgical procedure, a flawless limbal relaxing incision (LRI) is hard to imagine. However, there are certain measures we can employ to improve the safety and effectiveness of these incisions.

LRIs represent a wonderful opportunity to reduce unwanted astigmatism, usually at the time of cataract surgery. Many approaches to LRI construction using either blade or femtosecond laser exist. I will confine my comments to diamond blade procedures. After witnessing confusing LRI instrumentation at various wet labs, I met with Duckworth and Kent and Storz engi-

neers and designed the Wallace LRI Kit (Bausch + Lomb Storz; eyetube.net/?v=sunuto). This kit contains three simple instruments: a Mendez axis marker, 0.12-mm Colibri forceps, and a single-foot-plate 600- μ m trifacet diamond knife.

Preoperative decisions determine the astigmatic axis and length of the planned LRI or LRIs. In the pre-operative area, with the patient in the sitting position, I use a Bakewell marker (Crestpoint) to mark the operative eye at the 180° axis. A new device designed by

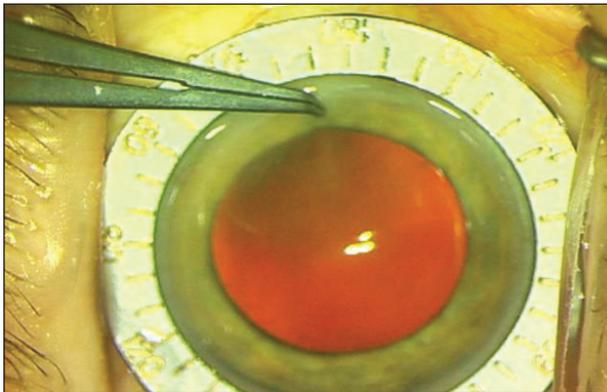


Figure 1. The axis is marked with Colibri forceps.

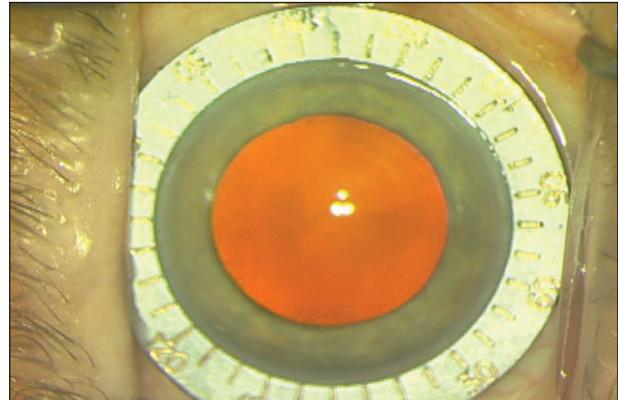


Figure 2. The Mendez marker is rotated so that a major hash mark is over the axis mark.

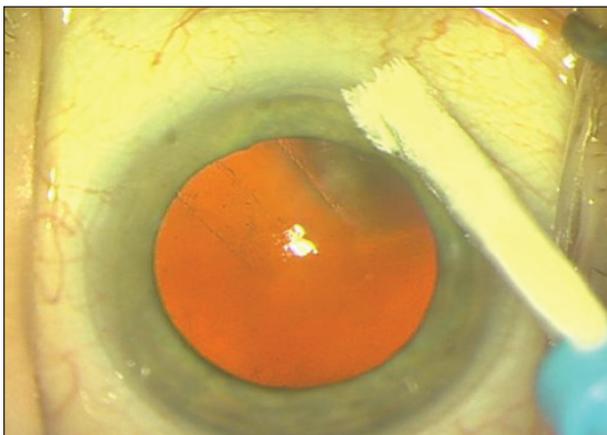


Figure 3. The marks are dried with a spear sponge.

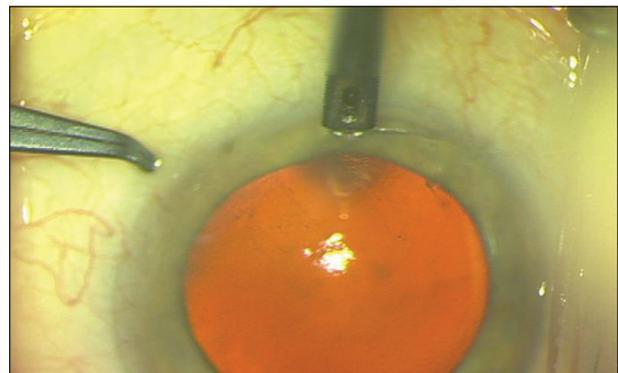


Figure 4. The diamond blade enters the peripheral cornea and a semicircular incision is performed while advancing the knife toward fixation.

TAKE-HOME MESSAGE

- LRIs located near phaco or sideport incisions should be slightly more anterior and shorter than in other locations.
- Although rare, a corneal perforation can be repaired with a single 10-0 nylon suture.

Takayuki Akahoshi, MD, is also available (ASICO). The patient is then transported to the operating room.

After the patient is prepped and draped and the lid speculum is placed, the Mendez marker is oriented to the 180° marks. The axis is marked with the Colibri forceps (Figure 1), and the Mendez marker is then rotated so that a major hash mark is over the axis mark (Figure 2). As an example, for a 60° LRI, two 30° marks are placed on either side of the axis mark. The marks are then dried with a spear sponge (Figure 3). The same forceps are used to fixate the eye by grasping the conjunctiva just distal to the mark at the intended distal portion of the LRI. The single footplate is posterior to the microscope, allowing the surgeon to visualize the diamond blade. The blade is positioned vertical to the corneal surface, not to the floor. The diamond blade enters the peripheral cornea, and a semicircular incision is performed, connecting the dots on the cornea, so to speak, while advancing the knife toward the fixation forceps (Figure 4).

Caution should be exercised when LRIs are performed near phaco or sideport incisions. These LRIs may need to be slightly anterior and shorter than in other locations.

Postoperatively, topical NSAIDs help to minimize foreign-body sensation. Rarely a corneal perforation will occur; this can easily be repaired with a single 10-0 nylon suture.

CONCLUSION

There is an art to LRI construction, and there are many avenues to learn more about creating these incisions. Instructional videos are especially useful for acquiring surgical pearls and improving your surgical technique. Several of these can be found by searching “Wallace LRI” on Eyetube and YouTube. ■

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