



Retro iris suture fixation of a rigid intraocular lens

Aravind Haripriya, MD, Sankalp S. Sharma, MS

We present an iris suture fixation technique for a rigid poly(methyl methacrylate) (PMMA) intraocular lens (IOL). A 10-0 polypropylene suture on a long curved needle is used to preplace 2 iris suture bites 180 degrees apart. The suture loops below the iris are retracted through the main scleral tunnel using a Kuglen hook and a McPherson forceps. The 2 suture loops are twirled twice around the corresponding haptics of a standard 3-piece PMMA IOL, and the IOL is placed in the sulcus. After it is confirmed that the loop surrounds the haptic, the suture knot is tied to secure the IOL to the iris.

Financial Disclosure: Neither author has a financial or proprietary interest in any material or method mentioned.

J Cataract Refract Surg 2016; 42:1556–1561 © 2016 ASCRS and ESCRS

 Online Video

In eyes with large capsule tears or severe zonular loss, intraocular lens (IOL) implantation is a challenge. In the current scenario in which economic and social expectations have risen to near-perfect restoration of post-cataract surgery vision, aphakia itself is considered a disease. Numerous techniques are available to fixate the IOL to the iris or sclera in eyes with inadequate capsule support.^{1–3}

Iris suture fixation of a posterior chamber IOL (PC IOL) is an old technique, first described by McCannel in 1976.⁴ McCannel described the technique of refixating decentered IOLs to the iris. Many surgeons later used the technique to implant PC IOLs in eyes with inadequate capsule support.^{1,5,6} The advantage of using a foldable IOL for iris suture fixation includes using a smaller wound and thereby minimizing surgically induced astigmatism. However, the technique cannot be used if a poly(methyl methacrylate) (PMMA) IOL is selected, as the rigid optic cannot be captured by

the pupil when there is no capsule support. Even with foldable IOLs, pupillary capture of the optic may be a challenge, especially if the pupil is large. We describe a technique that uses a suture to fixate a 3-piece PMMA IOL to the iris.

SURGICAL TECHNIQUE

The basic principle behind suture fixation is the same in aphakic intraoperative posterior capsule rupture or zonular dialysis and in patients with ectopia lentis due to any etiology.

In aphakic patients, a temporal sclerocorneal tunnel is preferred. A frown-shaped sclerocorneal tunnel is made using a crescent blade. The anterior chamber is entered using a keratome and extended to create a 6.0 mm tunnel. An ophthalmic viscosurgical device (OVD) is injected into the eye to form the anterior chamber.

A paracentesis is made at the 5 o'clock position in the right eye or the 11 o'clock position in the left eye using a lance tip knife. A second paracentesis is then made at the 11 o'clock position in the right eye or the 5 o'clock position in the left eye. The placement of the paracentesis can vary according to the site where the haptic has to be tied to the iris. A meticulous bimanual automated anterior vitrectomy through the 2 paracenteses to clear the pupillary area of vitreous is a prerequisite for any technique of secondary IOL placement. A pupil size of approximately 5.0 mm is ideal for this technique of sutured iris fixation. Using an ab externo approach, a 10-0 polypropylene (Prolene) suture on a long curved

Submitted: March 2, 2016.

Final revision submitted: August 9, 2016.

Accepted: August 9, 2016.

From the Aravind Eye Hospital, Madurai, India.

Sathish Devarajan, MD, Aravind Eye Hospital, drew [Figures 2, 4, 6, and 7](#).

Corresponding author: Aravind Haripriya, MD, Aravind Eye Hospital, 1, Anna Nagar, Madurai 625020, India. E-mail: haripriya@aravind.org.

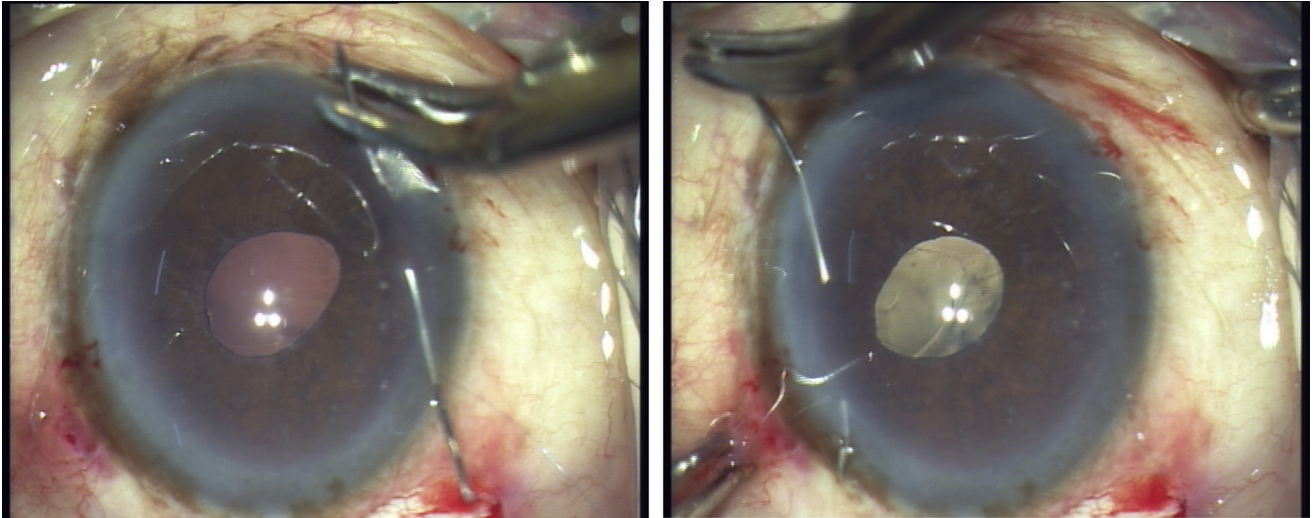


Figure 1. Preplaced iris suture bites using 10-0 polypropylene suture on long curved needle. *Left:* First iris bite about 2.0 mm long. *Right:* Second iris bite 180 degrees from the first bite.

needle (Alcon PC7, Ethicon CIF 4, or Aurolab 6902PP) is passed through the cornea and then the iris, so a full-thickness iris bite of 1.5 to 2.0 mm is taken. It is externalized through the cornea on the other side of the bite. The needle is inserted so the suture bite is placed in the iris midperiphery and in line with the paracentesis. The tip of the suture needle is directed away from the tunnel so the same suture needle can be used to take a second iris bite 180 degrees from the first bite through the opposite clear cornea (Figures 1 and 2). The main sclerocorneal tunnel is extended up to 6.0 mm using a keratome blade. A Kuglen hook is introduced through the left paracentesis to retract the suture loop from below the opposite iris to the pupillary center

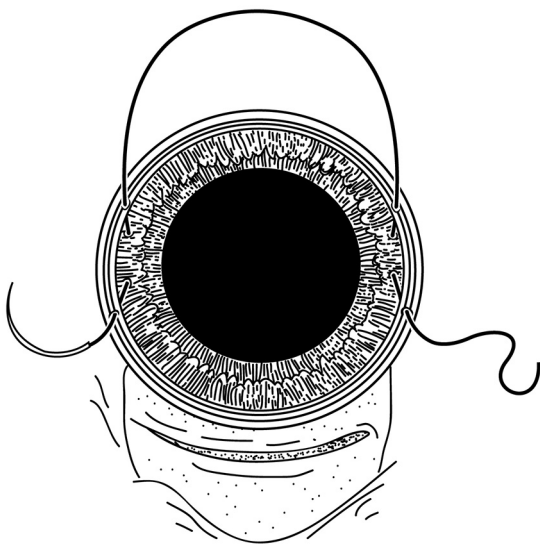


Figure 2. Schematic diagram of the suture used to take both suture bites on the iris.

(Figure 3, *left*). This suture loop is externalized through the sclerocorneal tunnel using a McPherson forceps introduced through the main tunnel (Figure 3, *right*). The suture bite on the other side is also externalized through the sclerocorneal tunnel. The externalized suture loops are placed away from each other at the corresponding ends of the tunnel to prevent their being entangled (Figure 4).

The right suture loop is twirled twice around the leading haptic of a 3-piece PMMA IOL with a 6.0 mm optic, ensuring that the suture loop lies closer to the optic-haptic junction (Figure 5, *left*). The leading haptic is then gently slid behind the iris and the suture ends are gently pulled so the suture around the haptic is taut and does not slip from the haptic. The other suture is similarly twirled twice around the trailing haptic, which is then placed in the sulcus (Figures 5, *right*, and 6). The IOL is dialed gently so the haptic is in line with the iris suture bite. The suture is looped and not tied to the haptic as the position of the knot over the haptic may not be exactly symmetrical for both haptics. If the position of iris bite varies, IOL decentration or pupillary peaking might occur if the suture is fixated to the haptic with a knot. A regular PMMA IOL is preferred to an IOL with eyelets as the site of the iris bite may not always be predictable. If the suture bite on the iris is too anterior or too posterior, passing the suture through an eyelet on a fixed location of the haptic may cause IOL decentration.

After the IOL is in position, both suture ends of each bite are simultaneously gently lifted to look for mild tilting of the IOL. This is done to confirm that the suture that lies below the iris continues to support the haptic and that there is no slippage. The double loop over the haptic reduces the risk for suture slippage

Download English Version:

<https://daneshyari.com/en/article/5704644>

Download Persian Version:

<https://daneshyari.com/article/5704644>

[Daneshyari.com](https://daneshyari.com)