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INTERNATIONAL

International outlook **For subluxated lenses, instrumentation gets a makeover abroad**

by Matt Young EyeWorld Contributing Writer



Having the proper instruments makes all the difference when dealing with challenging cases. An elegantly designed hand instrument can be extremely helpful, but the catch is that you have to have it available when you need it. In this month's column, we feature a simple solution for a difficult problem. Subluxed IOLs can be a challenge to retrieve and reposition. Chee Soon Phaik, M.D., describes her specially designed forceps that facilitate manipulation of a dislocated IOL. Check your eye tray and see if this might be something you should consider

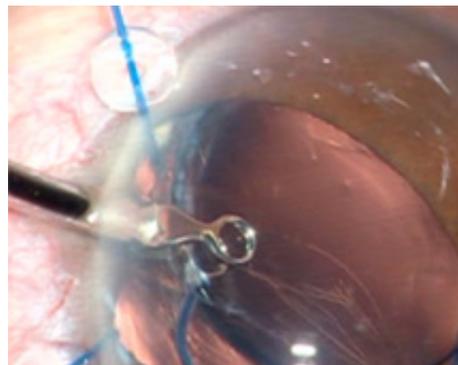
While IOL implantation is one of the most common surgical procedures, instrumentation for niche cases continues to be refined in significant ways—and nowhere more so than in Singapore.

Take iris-fixated IOLs, for example. One Singaporean surgeon found significant hurdles in achieving appropriate iris fixation and has therefore decided to improve upon the tools. "The main hurdle is the lack of appropriate instrumentation," said Chee Soon Phaik, M.D., senior consultant and head, Cataract Service, Singapore National Eye Centre, Singapore, and associate professor, Department of Ophthalmology, National University of Singapore. For the last 8 years, Dr. Chee has learned techniques to confront IOL fixation from all over the world. Yet all the while, she just "made do" with instruments not designed for IOL fixation. On a bad day, such instruments could leave a mark or even take a chunk out of the lens. Dr. Chee's instrumentation avoids that. But let's back up a bit to understand more about iris fixation first.

"We know an IOL is sometimes made of slippery material," Dr. Chee said. "It can slip from the original position behind the pupil into the anterior vitreous. The way we do iris fixation is by optic capture around the pupil, and that means the best way to hold the lens is by holding the optic—not the haptic." Dr. Chee, with the help of ASICO (Westmont, Ill.), developed instruments for anterior segment work just like this. One is a small, 21-gauge forceps instrument, which can grasp an optic regardless of material type, "especially silicone or PMMA," Dr. Chee said. Named the Chee Subluxated IOL Grasping Forceps 21G (ASICO), the instrument's jaws also open very widely. "Some lenses can be quite thick in profile," Dr. Chee said.

After a few prototypes, Dr. Chee decided on an instrument profile that could indeed help with fixation of the lens to the iris.

"We had different prototypes and went through different surfaces," she said. It ended up with a gently sandblasted gripping surface. "I am



The dislocated IOL within its capsular bag is retrieved from the anterior vitreous with the help of microforceps, and the PMMA optic is firmly grasped using the Chee Subluxated IOL Grasping Forceps. The IOL is observed to be upside down and the haptic excessively bent inward within the capsular bag. The firm grasp of the IOL makes anterior vitrectomy and removal of the capsular bag easier, facilitating optic capture and placement of the prolene sutures for iris fixation
Source: Chee Soon Phaik, M.D.

adding.

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amazed the final product can grasp PMMA lenses," she said.

Other adaptations made it into the final design. "Over time, we made the instrument shorter and shorter," Dr. Chee said. "My hand is not very big, so we made it ergonomic. So now, when you grasp it, you don't have to twist your arm around to manipulate the optic."

Dr. Chee explained her technique in using such forceps. First, she brings the lens up from the anterior vitreous—just anterior of the pupil. She supports the optic still holding onto the forceps. With her other hand she places the sutures.

"So the moment I grasp, I don't let it go until I do the optic capture — then I still don't let it go and place sutures with my other hand," she said. She noted that Asian irises, which are thick and pigmented, cause trouble in being able to see the outline of the haptic through the iris. "It's difficult to place sutures behind the iris without knowing where the optic may lie," she said. "I raise the lens forward to see the outline raised against the iris."

Dr. Chee's forceps are not only useful for retrieving the lens, but also in the placement of sutures, she said.

Dr. Chee used to use a Sinsky hook to assist with suturing in these cases. "It's not an instrument specifically made for this purpose," she said. "To use it can be difficult. Pulling the suture out while retrieving it from the anterior chamber, you can slip."

Further, the view of the suture area can be difficult. A blue prolene suture against a brown or black iris can be hard to see, she said.

"Sometimes we can be hooking blindly."

This could lead to hyphema.

"You may miss it repeatedly or the suture may slip off—it's quite fiddly," she said. "I designed a hook for this purpose."

Called the Chee Suture Retrieving Hook (ASICO), the instrument is "like a hammerhead," according to Dr. Chee. It can be used in combination with a Siepser sliding suture technique.

"As you hold it, you can take a right or left swipe to latch onto the suture," she said. "This hammerhead is very narrow. It can slip into little crevices quite easily because the edges are slightly curved. It doesn't snag tissue and cause bleeding."

Meanwhile, she said, on the other side of the hammerhead are grooves.

"A suture can sit there and not slip," she said.

Asked what led to her innovations, Dr. Chee explained that she enjoys working on complicated cases such as subluxated cataracts.

"I just did a case two days ago—you don't even see the lens," she said.

"You look down and wonder where the lens is—it's gone."

In that case, forceps made the lens "run away," she said. Instead, she used a needle bevel up to harpoon the lens. Slowly angulating it, she then switched to micrograsping forceps to get a firmer hold.

So far, her new tools are helping, she said.

Now, many lenses retrieved from the back of the eye are the same lenses she uses to fixate to the iris. "You don't have to change them," she said.

The tools also prevent induction of astigmatism and eliminate hypotony, and patients can get their original vision back the very next day. "Patients recover well if you have the right tools," she said.

Editors' note: Dr. Chee has no financial interests related to this article.

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