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*Guest Editorial*

# Starting manual small incision cataract surgery as a phaco surgeon

Jasmine Yaowei Ge[1], Claire Lixian Peterson[1]

[1]Department of Residency, Singapore National Eye Center, Singapore.

Starting our surgical journey as ophthalmologists is both exciting and nerve-wracking. The surgical journey is full of memorable 'firsts' – the 1st time we insert an intraocular lens, the 1st time we complete an entire case, the 1st time we face the dreaded posterior capsule rupture.

In this down-to-earth piece, Dr Jasmine Ge, a 3rd-year resident at the Singapore National Eye Centre, shares her personal experience of her first small incision cataract surgery (SICS). Before this, she was trained in both extracapsular cataract extraction and phacoemulsification, which is the standard for trainees in Singapore. However, transitioning from being a 'machine-reliant' phacoemulsification surgeon to a 'manual' small incision cataract surgeon comes with its own set of challenges. Below, we also share a few tips for ophthalmologists beginning their surgical journey.

'*My First Manual SICS*'

If the journey of a thousand miles begins with a single step, then the journey of an ophthalmologist begins with their first incision.

I practised diligently on the Eyesi cataract surgery simulator before moving on to pig eyes, but the prospect of operating on a real eye (one that stared back at me) filled me with a mix of fear and trepidation. Cataract surgery videos from seniors and those available on YouTube had made the procedure seem so effortless, but holding the scalpel in my hand brought forth the true weight of the responsibility. I was quite comfortable with phacoemulsification surgery when I started learning manual SICS. However, I found the surgery and skill set required for SICS to be very different from phacoemulsification. I round the wound and tunnel creation to be the most challenging and distinctly remember struggling to get a beautiful corneoscleral tunnel while practicing on pig's eyes. It definitely did not help that horror stories from seniors, including vitreous presentations from wounds that were too deep, began to creep into my mind.

On the day of my first SICS, I remember having to steady my breath and treat the eye with the utmost care, as if I was dissecting butter with a gentle knife. My first incision was too shallow – what a nerve-wracking start! But with each step guided by my mentor's steady hand and reassuring words, I found myself quickly immersed in the rhythm and routine of the surgery. To my surprise, the creation of the corneal-scleral tunnel went smoothly. Despite the initial apprehension, a sense of calm descended upon me as I proceeded with each step – taking my time to make sure things were right. I loved the precision required to navigate through layers of tissue, which we do not have to perform during phacoemulsification, and the delicate manipulation of intricate structures. I could not help but marvel at the intricacy of the human eye and the artistry that manual surgery entails.

A wave of relief washed over me when I placed the final suture. Thankfully, my first SICS went well, and the surgery had gone well, surpassing my expectations. The patient even achieved a best corrected 6/6 vision, a testament to the resilience of the human body!

Looking back, my first SICS surgery marked not only a milestone in my medical career but also a profound moment of discovery. For those who are planning to start your first SICS surgery, here are some of my top tips:

1. Familiarise yourself with as many surgical videos as you can find! There are many great resources online on platforms such as Youtube as well – my favourites were from Aravind Eye Hospital, Cataract Coach by Dr. Uday Devgan, and Dr. Nikhil Gotmare, to name a few!
2. Watch a few live SICS surgeries before you start! Ideally, scrub in or help out with your trainer's theatre. This would also help you know the steps and the instruments your trainer prefers!
3. Ask your seniors for their pearls and takeaways. I would have never known that the sclera feels much less firm than a pig's eye and adjusted my incision likewise if I had not heard my senior's horror story.

***Corresponding author:** Jasmine Yaowei Ge, Department of Residency, Singapore National Eye Center, Singapore. jasminegeyw@gmail.com

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4. There is a good review paper[1-4] that summarises the steps and things to watch out for as well!
5. Practice makes perfect! Be it on pig eyes or Eyesi, every bit of practice counts for how comfortable you will be during surgery!
6. After finishing your surgery, remember to get your surgical video to review with fellow peers or seniors to see how you can do better.
7. Do not stop there, keep learning and doing and trying to get better! You got this!

Successful surgical training requires dedicated, supervised training lists in the operating theater. This is best conducted live and in person. With rapidly advancing technology, new surgeons also have the benefit of training on simulators to pick up their surgical skills and familiarise themselves with surgeries before beginning their first lists. The state-of-the-art simulator by HelpMeSee, which relies on magnetic fields to mimic the feel and resistance of an eyeball, helps attenuate the learning curve for new SICS surgeons, especially for tunnel and continuous curvilinear capsulorhexis creation.

In addition to the points above, I feel that a good trainee-trainer relationship is key to having successful surgical training.

For trainees, try to be as honest with yourself during training and to know your surgical limits; you are operating in someone's eye! Listen to all the feedback you receive, record it, and review it before your next case. When facing complications, review videos of your case with your colleagues and seniors to see what you could have done differently. Complications can be disheartening and demoralising, but remember that every surgeon faces complications, so try to keep a positive attitude, learn and stay motivated!

For trainers, it is important to give the trainee as much opportunity as safely as possible. Every trainee is different, and it is helpful to pay attention to their personality – some crave a lot of feedback, while others may work better in silence. At the end of the list, review key parts of the surgery with the trainee. Finally, manual SICS has a steep learning curve, so try to be honest but also encouraging to the trainee as they are just at the beginning of their surgical journey!

*Dr. Jasmine Ge is currently a 3rd-year resident at the Singapore National Eye Centre and will be starting her term as the Lead resident this year. Dr Claire Peterson is the Singapore Young Ophthalmologist Chair and will be starting her Glaucoma Fellowship at the Singapore National Eye Centre this year.*

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