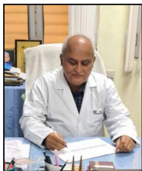
Practice Patterns In SICS

SICS is a very commonly performed surgery with gratifying results. There are various techniques employed by surgeons worldwide to perform this surgery. UPSOS interviews a panel of experts who give their inputs for the readers to help it do better and frame a better practice with SICS.

***UPJO Correspondent*: Mohit Khattri**
Consultant Regency Hospital Ltd. Kanpur

EXPERT PANEL



Prof. Kamaljeet Singh (KJ)
Former Prof & Head, MLN Medical College, Allahabad

Prof. Sidharth Agrawal (SA)
Professor of Ophthalmology
KGMC, Lucknow

Dr. Sudhir Singh (SS)
Senior Consultant & Head (Ophthalmology) Global Hospital & Research Centre, Mount Abu

Dr. Ruchi Goyal (RG)
New Delhi

MK: What are the indications of SICS in your practice?

KJ: Primarily, affordability issues with the patient

SA: For training residents, when a phaco machine is not available, brown/black cataracts, unhealthy cornea

SS: Manual SICS is now cataract refractive surgery. It can be done through an incision as small as 4 mm. it produces SIA of 0.5 D, which is too small. My indications include hard and large nuclear cataracts, cataracts with poorly dilating pupils, cataracts with zonulopathy, posterior polar cataracts, cataracts with very shallow AC, subluxated cataracts, cataracts with glaucoma and hazy cornea

RG: A combination of grade 4 nuclei with extensive corneal opacity, specular count < 1500, shallow AC, hypermature cataract with wrinkled anterior capsule and non-affordability of toric IOL with pre-existing astigmatism of > 1D, Phacomorphic glaucoma

MK: Which incision do you prefer (Straight/Frown)?

KJ: I always prefer a frown incision

SA: Frown incision is my preference

SS: My incision depends upon pre-existing astigmatism. I use both types of incisions

RG: I always use frown incision except:
On-axis placement of incision to induce astigmatism
High Hypermetropia
Micro ophthalmic eye with large nucleus

MK: What's your technique of nucleus delivery in SICS?

KJ: I either do visco expression or deliver using a wire vectis

SA: I prefer visco expression. It is the most endothelium-friendly

SS: I perform intratunnel phacofracture SICS

RG: I prefer the modified Blumenthal's technique with the following exceptions:

1. Subluxated cataract where AC maintainer can further increase subluxation
2. Pre-existing trabeculectomy
3. Poorly constructed wound with inadequate built-up of hydropressure.

MK: How do you manage astigmatism in SICS?

KJ: I place my incision on the steep meridian and often use LRI too

SA: Incision can be placed on the steep axis. I have seen that surgically induced astigmatism is comparable in phaco and SICS

K1(180)&K2(90) Difference	Incision size (mm)	Incision site
No difference	4	ST or SN
0.5D	4	ST or SN
1 D	5	ST or SN
1.5 D	6	On Steeper Axis
2.0 D	7	On Steeper Axis
2.5 D	7.5	On Steeper Axis
3.0 D	8	On Steeper Axis

ST= Superotemporal SN= Superonasal

SS: I follow my own nomogram and place my incisions accordingly

RG: Our group has shown that on axis placement of incision can correct a maximum of 3D with 7 mm straight external incision (Goel R, Sontakke R, Shah S, Nagpal V, Kumar S, Koli O, Ojha SSainin S, Arya D. Correction of pre-existing astigmatism by on axis incision size modulation in manual small incision cataract surgery (Indian J Ophthalmol. 2022 Nov;70(11):3858-3863). The mean surgically induced astigmatism at 12 weeks in our study with 6 mm incision was 0.85 ± 0.28D, 6.5 mm incision was 1.32 ± 0.65D and 7 mm incision was 1.91 ± 0.69 D. To maintain Wound stability, I prefer to keep the maximum length of an unsutured wound no more than 7.5 mm. Astigmatism > 3D would need a toric IOL.

MK: Do you use premium IOLs with SICS?

KJ: Usually not

SA: I usually use hydrophobic, acrylic, and aspheric foldable IOLs. Rigid PMMA IOLs are used for camp patients. I have never used toric or multifocal IOLs in SICS.

SS: I prefer mini monofocality and avoid costly lenses, which, according to me do not offer any extra benefit.

RG: I usually do not warrant premium IOLs with SICS but use them in rock-hard cataracts or astigmatism > 3D.

MK: Do you make capsulorhexis or do a Can Opener's capsulotomy in SICS?

KJ: I prefer capsulorhexis. However, sometimes can opener technique is also needed.

SA: I prefer capsulorhexis always. Two relaxing cuts are given if the opening is small or a large nucleus is expected.

SS: Capsulorhexis is the rule with capsulotomy as an exception.

RG. Capsulorhexis always with envelope capsulotomy in hypermature cataracts with wrinkled capsules.

MK: In the presence of PCR, you prefer automated vitrectomy or vannas aided cutting of the vitreous?

KJ: I prefer an automated cutter.

SA: I use vitrector and prefer to take out residual cortex with the same.

SS: I prefer automated bimanual anterior vitrectomy.

RG: I always prefer an automated vitrector. Vannas to be used to cut a solitary strand of vireous, causing peaking of pupil.

MK: Do you combine Trabeculectomy with SICS? If Yes, then How?

KJ: Yes, I often do combined surgeries. I prefer to do trabeculectomy away from the tunnel.

SA: I often do this combined surgery. I perform both from the same site. A flap is made by extending one end of the scleral tunnel. Sclerostomy and flap are closed with 10-0 nylon, while conjunctival closure is done with 8-0 vicryl sutures. AC wash is done through the side port.

SS: I perform single port SICS and trabeculectomy with releasable sutures. I do deep sclerectomy with Kelly's punch as well as 15-degree knife.

RG: I perform combined SICS and Trabeculectomy using Flying Eagle incision which has a rectangular partial thickness scleral flap in the center of the frown incision. Sclerostomy is made by using MVR blade instead of a Kelly's punch. Two sutures are placed at the ends of the rectangle and the conjunctiva is closed. (Malik, Krishna Pal Singh, Goel Ruchi. "Flying Eagle" incision for combined manual small incision cataract surgery and trabeculectomy (Delhi Journal of Ophthalmology 27(2):p 124-127, Oct-Dec 2016).

MK: Do you always patch the eye after SICS? Even in topical anesthesia?

KJ: Yes…..usually I do after peribulbar

SA: I perform all SICS surgeries under topical anesthesia and prefer to patch the eye for an hour before sending off the patient.

SS: Yes, I patch the eye till next morning.

RG: Yes I always patch the eye.

MK: After how many days of surgery you prefer to give pseudophakic correction?

KJ: 15 to 20 days

SA: after 4 to 5 weeks

SS: After 4 weeks

RG: After 4 weeks