

**MANUAL
SMALL-INCISION
CATARACT
SURGERY**

**Dr Henry R. Lew
FRANZCO FRACS**

Manual Small-Incision Cataract Surgery

5 Pioneers.

(1) Peter Kansas (Albany, USA).

(2) Luther Fry (Dodge City, USA).

(3) Michael Blumenthal (Tel Aviv, Israel).

(4) Russell Perrin (Sunshine Coast, Australia).

(5) David McIntyre (Seattle, USA)

and I have been personally privileged to have met with all of them & to have attended live surgery with Russell Perrin & also with the truly long-term pioneering Peter Kansas, whose primary cataract procedure from 1972-1985, interestingly, was phakoemulsification.

In the late 1980s phakoemulsification (aka phako), was starting to gain wider appeal. Prior to that it had been limited to a small minority of surgeons.

By this time phako machines were starting to improve in safety, but were still very expensive, & beyond the easy reach of many a solo practitioner.

Phako allowed reduction of wound size from about 14 mm to 5 mm, not because Phako itself could not be performed through a 3 mm wound, but because there were no foldable intra-ocular lenses (IOLs), so one needed a 5 mm wound to insert an IOL into the eye.

Smaller wounds were associated with much less post-operative inflammation and with it more rapid healing.

So a small number of surgeons started thinking about manual techniques, which could provide their patients with the important benefit of smaller 5 mm wounds.

Kansas, McIntyre and Perrin offered techniques where the lens nucleus was divided inside the eye, and removed as smaller pieces. This idea raised the possibility of further reductions of wound size into the future.

Fry and Blumenthal offered techniques which in essence removed the lens nucleus in one piece, unless it fragmented spontaneously, or was helped to fragment as it was being delivered through the wound.

Kansas and McIntyre cut the nucleus between a plate of their own design behind it, and dividers, either bisectors or trisectors, also of their own design, in front of it. McIntyre was one of the first surgeons to advocate a temporal corneal incision.

Perrin cut the nucleus with scissors, which were bulkier than Kansas or McIntyre dividers, and required greater dexterity.

Fry removed the nucleus with a vectis behind it and an iris repositor in front of it.

Blumenthal, introduced the concept of an anterior chamber maintainer to generate hydropressure. He placed a Sheets Glide behind the nucleus and expressed it hydrodynamically by applying pressure to the exposed part of the glide which covered the posterior lip of the scleral wound. His technique is the cheapest, because it is not reliant on viscoelastic.

For splitting the nucleus I preferred the Kansas plate to the McIntyre plate; liked the Kansas bisector; and preferred the less bulky McIntyre trisector to the more bulky Kansas one.

Both Kansas and Perrin developed special forceps with which to extract lens fragments. These complimented one another and the one I chose depended on, and varied with, the circumstances of the case.

**My own personal preference
was for a
Modified Kansas Technique,
where I chose my
instruments as outlined
above.**

When I first presented this technique at Australian meetings (circa 1989-1991) as an amazing asset for use in remote and underprivileged areas, where electricity supplies are unreliable - (such as the third world) - I was publically criticised for performing a medically negligent procedure - and privately advised that it was unethical to subject people in disadvantaged areas to a surgical procedure that only 5 out of 700 Ophthalmologists in Australia had ever performed.

So you can well imagine that I was quite chuffed - at the “Asia-Pacific Meeting in Sydney in 2011” - to be able to attend several lectures - and to view several videos of manual small incision procedures - nowadays the most widely performed cataract operation in remote and rural Asia.

The preferred technique is Michael Blumenthal’s because its lack of reliance on viscoelastic makes it the cheapest.