INNOVATION
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HOMBURG

CROSS-STITCH MARKER by DR. SUFFO

CORNEAL SUTURE MARKER FOR DEFINING THE PATH OF A RUNNING CROSS-STITCH SUTURE IN PK

Geuder®
Precision made in Germany

HOMBURG

CORNEAL SUTURE MARKER

FOR CROSS STITCH SUTURES IN PK WITH NEUTRAL ASTIGMATISM

CHALLENGE

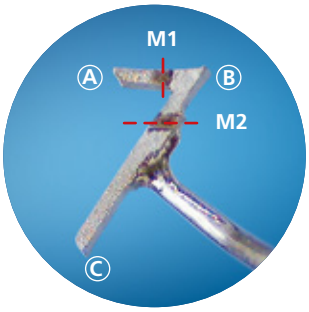
The challenge in performing a penetrating keratoplasty (PK) is to place the sutures for donor cornea fixation in a way that no additional postoperative iatrogenic astigmatism is induced, preventing persistent vision deterioration.

One option, which proved itself throughout the history of corneal transplantation, is to fixate the corneal transplant through a running cross stitch suture – the double running crossed diagonal suture by Hoffmann with 2 x 8 bites.

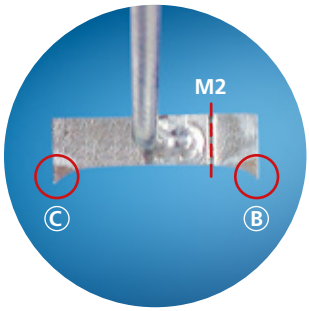
As the name suggests, the challenges of this suture technique lie in the precision required to exactly place the stitches. In addition, the technique requires a precise visual estimate for gauging the dimensions, which is often associated with a shallow (long and tedious) training curve. Therefore the desired results are not always achieved.

SOLUTION

The cross stitch suture marker by Suffo in the shape of number 7:



Vertical visual mark (M1) of the arc and horizontal visual mark (M2) of the long side indicate the right radial alignment of the suture marker



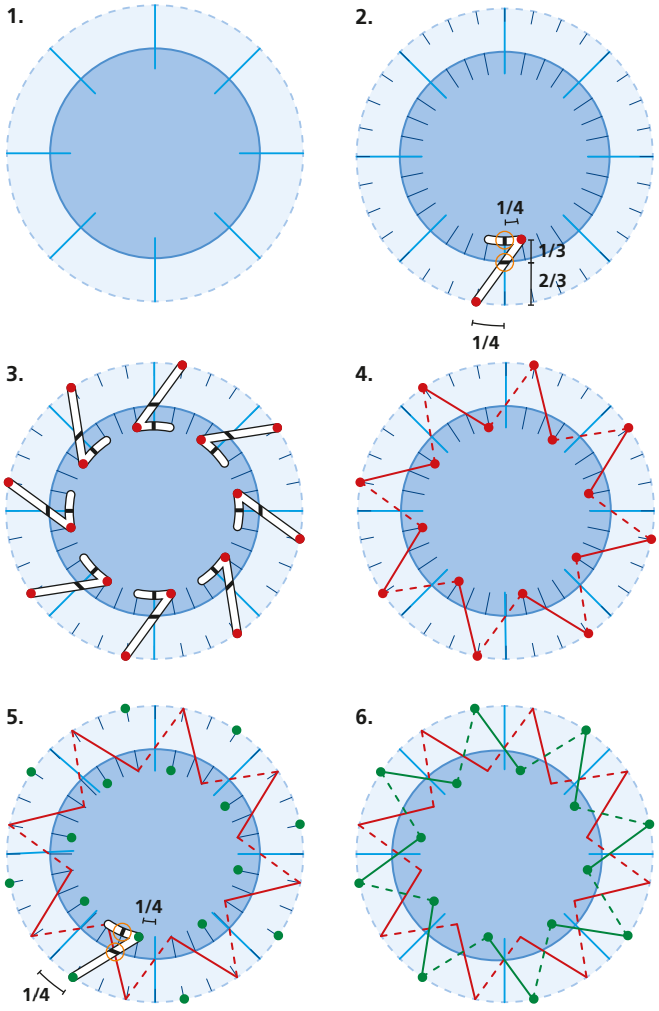
Marking tips on both ends of the long side indicate the suture entry (B) and exit points (C)

ADVANTAGES OF THE INSTRUMENT

- Precise marking of the needle entry and exit points
- Homogenous running cross stitch suture
- Highly reproducible
- Short training curve
- High safety for the surgeon through independence of visual estimate
- Neutral astigmatism
- Reduced risk of a vertical tilt or horizontal torsion of the donor cornea when suturing
- High topographic regularity (regular astigmatism)
- Low rate of suture loosening
- Early visual rehabilitation
- Reduction of gaping inner and outer wound margins
- Reduced rate of suture repositioning

Shady Suffo, MD
Vice Head of Ophthalmic Clinic
at Saarland University Hospital,
Homburg, Germany

TECHNIQUE



1. Provisional fixation of the donor cornea
Use an 8-blade corneal transplant marker to place the provisional cardinal sutures with simple interrupted stitches.

2. Marking the first running suture (red dots)
For marking the needle entry and exit points of the first running suture, align the visual marks M1 and M2 with the cardinal suture, so that M2 sits at the transplantation edge (interface).

3. Repeating the markings (red dots)
Repeat this type of marking eight times along each cardinal suture.

4. Positioning the first running suture (red lines)
Perform the first running suture along the red dots in a star-shaped pattern. The dots on the donor cornea constitute the suture entry points. The dots on the recipient cornea (close to the limbus) constitute the suture exit points. The dashed lines indicate suture passage below the cornea, whereas continuous lines indicate suture passage above the cornea.

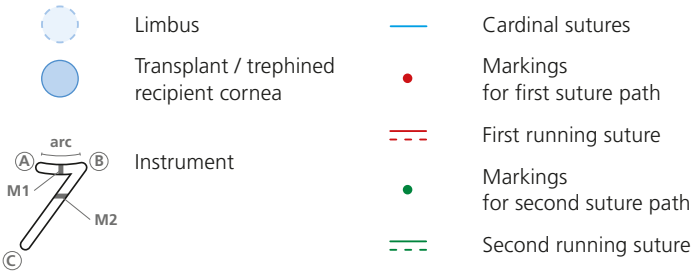
5. Marking the second running suture (green dots)
For marking the needle entry and exit points of the second running suture, the instrument needs to be placed exactly in between two cardinal sutures. Align the left end of the arc (A) with the entry point of the first running suture, and align M2 with the first running suture at the interface. Repeat this type of marking eight times along the first running suture.

6. Positioning the second running suture (green lines)
Perform the second running suture along the green dots in a star-shaped pattern, as well. The dots on the donor cornea constitute the suture entry points. The dots on the recipient cornea (close to the limbus) constitute the suture exit points.

7. Removing the cardinal sutures
Remove the cardinal sutures after the double running suture is in place.

8. Result
The result is a neat and evenly double running suture by Hoffmann, crossing each other at the interface.

Legend



S03956 **CORNEAL SUTURE MARKER by SUFFO**

Corneal suture marker for precise visual marking of the suture entry and exit points of a running cross-stitch suture in penetrating keratoplasty.

For 8 mm transplants (grafts).

VIDEO

Watch the video and learn more about the technique.

Dr. S. Suffo, Homburg/Saar, Germany
Presentation at HKCS 2018

Penetrating Excimer-Laser Keratoplasty with "Homburg Cross-Stitch Marker" for Treating Keratoconus

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