Suturing technique for squint surgery

P. J. FENTON

St. Thomas Hospital, London

There are many methods of suturing the muscles in recession and resection operations. The disadvantages, which vary with the precise technique used, include the following: the suture ends tend to get muddled; the original width of the tendon is not accurately preserved; the final position of the tendon may require a third suture to prevent the middle of the tendon bowing backwards; the suture may cut out of the sclera; there may be multiple knots under the conjunctiva.

By the simple technique described below, a single suture with two needles may be used both for recession and for resection. The author uses 5/0 terylene with Jameson Evans corneal needles.

Recession (Fig. 1)

- (1) One needle is passed through the edge of the tendon and the suture is looped to prevent slipping. The needle is passed through the width of the tendon to emerge at the opposite edge and looped again. The width of the tendon is now determined by the fixed length of this running suture.
- (2) When the tendon has been detached from the sclera, the needles are passed through the sclera parallel with, and at a measured distance from the original insertion so that each needle emerges from the sclera about 2 mm. apart opposite the middle of the cut end of the tendon.
- (3) The two ends of the suture are pulled up to approximate the edges of the tendon with the sclera and the two needles are now passed through the tendon to emerge posterior to the running suture within the tendon.
- (4) The suture is pulled up and tied.

Resection (Fig. 2)

- (1) The suture is sewn through the width of the tendon as described for a recession, but at a measured distance from the insertion. The width of the tendon is now determined by the length of the running suture within it.
- (2) When the tendon has been resected the needles are passed through each edge of the original insertion but at right-angles to it, and aimed anteriorly.
- (3) The needles are passed posteriorly through the middle of the original insertion, about 2 mm. apart.
- (4) The sutures are pulled up and the needles are now passed through the tendon posterior to the running suture.
- (5) The suture is tied.

FIG. 1 *Recession. For description, see text*

FIG. 2 *Resection. For description, see text*

Discussion

The technique just described is simple to perform. The original width of the tendon is preserved. The tendon is secured at four points across its width. There is only one knot. There is less likelihood that this suture will pull out of the sclera than in the methods which anchor one edge of the tendon to a short intrascleral tunnel; here a cheese-wiring effect is imparted to the sclera. The suturing method shown in Figs 1 and 2 does not depend on tight intrascleral sutures but on a double-mattress sling with the knot holding the tendon down to the sclera in the middle.

Jameson Evans needles are chosen because of their cutting sides and their 'flat' surfaces. These needles find an intrascleral plane easily in the thin sclera under the muscles and, when they are placed tangentially to the globe, do not damage either the superficial or the deep sclera (Jameson Evans, 1954).

Conclusion

This method of suturing tendons in recession and resection operations has been used by the author at this hospital for 3 years and has caused no operative or postoperative complication. Because it is simple to perform it has been appreciated by junior staff during their early experience of squint surgery and in their hands also it has caused no complication.

I am grateful to Mr. T. Tarrant of the Institute of Ophthalmology for depicting in diagrams the details of this technique so much better than I can describe it in words.

Reference

EVANS, P. JAMESON (1954) *Brit. J. Ophthalm.*, **38**, 630