Useful alternative technique for tying a knot with one hand

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BACKGROUND

Various knot-tying methods are available.¹ In some situations, the extra freedom and flexibility provided to the surgeon's hands by certain techniques is advantageous. Here, we describe a useful knot-tying method where one hand is completely free except at the end to tighten the throw.

TECHNIQUE

This technique (Fig 1, Video 1) is adapted from the concept of instrument tying. The black (distal) suture end is held between the index and

Video 1 A video demonstrating this knot-tying technique can be viewed at <http://publishing.rcseng.ac.uk/journal/video?videoTaxonomy=TECH>

Fig 1 Knot-tying manoeuvre using a single hand

middle fingers (Fig 1A). Loops are formed around these fingers by pronating the hand to bring the thumb behind the suture (Fig 1B), followed by supination (Fig 1C). A total of three loops produce a surgeon's knot, as displayed in the figure and video, while two loops produce the standard square knot. The index and middle fingers are then slightly separated to release the black suture end (Fig. 1E), which is subsequently grasped by the ring and little fingers (Fig 1F). The white (proximal) suture is picked up using the index and middle fingers (Fig 1G), and pulled through the loops (Fig 1H-I), assisted by the thumb simultaneously pushing the loops. The black suture is passed to the other hand (Fig 1J) to provide counter traction and to tighten the throw as the white suture is pulled away (Fig 1K). The knot is completed (Fig 1L) by forming the second half-hitch using a regular one-handed tie.

DISCUSSION

The extra flexibility provided by this technique is useful when one hand is needed to maintain exposure or pressure slightly away from the knot tying site.

References

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