Innovative Economical Surgical Suture Board

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Received: 9 May 2017 / Accepted: 6 September 2017 / Published online: 14 September 2017
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Abstract The aim of this study is to develop an economical suture board for practising suturing skills and techniques. Suture boards were made by using local electric boards, small leather patch, four suction buttons, six screws and a hook. These suture boards are multipurpose boards which are economical and available all the time in department for practicing. This board can also be placed in endotrainer for laparoscopic suturing skills. This economical suture board is cheap, easily available and helps in practicing various suturing and knot tying techniques.

Keywords Suturing board · Suturing skills · Knot tying · Innovative · Economical

Introduction

Suturing and knot tying are essential part of surgical training. Mastery in suturing is necessary for maintaining postsurgical function of the tissue and also to provide good cosmetic results [1, 2]. Apart from instruments, requirement of a suturing surface is there which is durable, economical and easily available to the trainees. Such boards are available with various pharmaceutical companies but they are not readily available and if they are purchased, they are quite expensive [1, 2]. With this purpose in mind, we have designed a simple, innovative, economical suturing board which is available all the time in the department for learning and practising.

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Material and Methods

We used an easily available rectangular electrical board of size 24 × 12 cm, a leather patch which was splitted and fixed with screws on the board, a hook for knot tying and four suction buttons to fix the board on the table (Fig. 1). The leather patch was used for suturing practice and the hook for knot tying (Fig. 2). Total cost of this assembly was less than INR 100. The leather patch can be easily replaced after multiple use.

Observation and Results

This indigenous suture board is easy to handle, tolerates passage of tapered and cutting needles of varying diameters with regular use for months. The part of the leather patch that represents the wound edge provides structure that simulates the dermis. All types of suturing techniques can be practised on this board. The hook can be used to practice hand knots like

Figure 1. Showing the assembly of the suturing board

Figure 2. Suture Board in use

reef knot, surgeon's knot and even extracorporeal laparoscopic knots like Roeder's knot. We placed this suture board in the endotrainer, and even laparoscopic suturing was practised.

Discussion

To learn and develop suturing skills is essential for surgical training. To practice and develop these skills, we require a readily available, economical and durable suture board [1, 2]. We have designed this board by using easily available material, and initial cost of this assembly is less than INR 100 (approximately 1.25 US dollars) and it requires no maintenance. The board is available to trainees all the time and it can be used for suturing and practising hand knots. There are

previous studies by Uppal et al. [1] and Kumaresan et al. [2, 3] which showed various techniques of making an affordable suture board by using wooden board and cloth, sponge and even banana and orange peel. However, our model is cost effective and durable as compared to these studies, and the extra advantage was the use of this board in the endotrainer for doing laparoscopic knotting and suturing practice.

Conclusion

Knotting and suturing are essential part of surgical training. A cheap, economical and easily available suture board is required for enhancement of these skills. Our suture board fulfil all these requirements with an added advantage of its use in the endotrainers.

Compliance with Ethical Standards

Conflict of Interest None.

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