



A Novel Scissor-Handling Technique for Thoracic Surgery

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Keywords

Scissor-handling technique; Lung cancer; VATS; Thoracic surgery

Introduction

The use of video-assisted lobectomy combined with a small thoracotomy or complete video-assisted thoracic surgery (VATS) lobectomy has spread worldwide. Open thoracotomy is also performed for patients with lung cancer.

The conventional method for handling scissors, such as Mayo scissors, has been described repeatedly [1]. However, this method was described for use in the formerly more common conventional open thoracotomy. When working in a small thoracotomy or performing complete VATS, however, this scissor-handling technique causes the hand and elbow on the holding side to interrupt the view because of the relatively small and deep working space.

This report describes a new technique for handling scissors when working in a small thoracotomy or performing complete VATS that does not interrupt the view, while still allowing the surgeon to perform fine maneuvers.

Surgical Technique

During chest surgery, a curved 10-inch-long Mayo scissors is used in the small working space created by a small open thoracotomy or ports inside the thoracic cavity.

First, the elbow is slightly bent and the palm of the hand is placed perpendicular to the floor. Scissors have two blades; one is a moving and cutting blade, while the other is stationary. In this method, the upper side is the moving blade and the lower side is the stationary blade.

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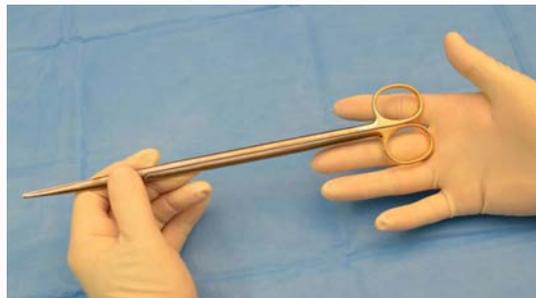


Figure 1: The hand holds the blade side and attaches the ring of the lower side firmly to the proximal joint of the middle finger.



Figure 2: The middle finger wraps around the lower ring to steady it like the trigger of a gun, but the finger is not placed into the lower ring.

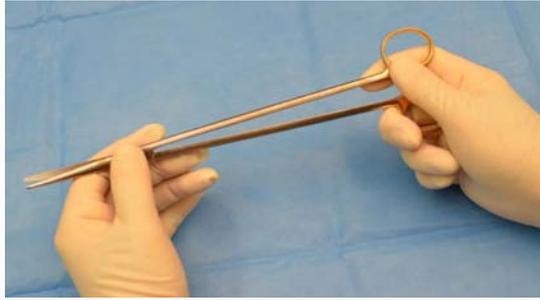


Figure 3: The blade side of the upper ring is firmly attached between the index finger and thumb.

The hand holds the blade side and attaches the ring of the lower side firmly to the proximal joint of the middle finger (Figure 1). The middle finger wraps around the lower ring to steady it like the trigger of a gun, but the finger is not placed into the lower ring (Figure 2). The ring finger and little finger are slightly bent, and these fingers are applied to the lower ring (Figure 2).

Next, the blade side of the upper ring is firmly attached between the index finger and thumb (Figure 3). The index finger is slightly bent at the second joint, and the side of the first joint of the index finger is pressed down on the handle of the scissors by the thumb. Both fingers are not put into the upper ring; this allows the hand and scissors to form a right angle (Figure 4). The upper ring can then be moved precisely to separate a blood vessel sheath, perform exfoliation, or dissect lymph nodes.

Discussion

Conventional Mayo-type scissors can be used to dissect and divide tissue, spread and open tissue planes, dissect and cut vessels, assist in tissue palpation, and elevate and bluntly dissect tissue when closed. When using long Mayo scissors, however, the hand and elbow on the holding side interrupt the view of a small thoracotomy or complete VATS because the scissors and hand become straight. If the long Mayo-type scissors are handled lightly like the right-angled forceps used for VATS, the point will shake and make fine maneuvers difficult. When the Mayo-type scissors are exchanged for the right-angled forceps used for VATS, fine operation is difficult, necessitating the use of gauze balls, dissectors, and other instruments.

The above-described scissor-handling method causes the scissors and wrist to form a right angle, and the point of the scissors does

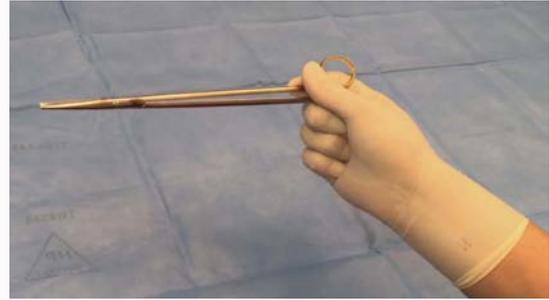


Figure 4: The index finger is slightly bent at the second joint, and the side of the first joint of the index finger is pressed down on the handle of the scissors by the thumb. Both fingers are not put into the upper ring; this allows the hand and scissors to form a right angle.

not shake; therefore, all surgical maneuvers that are possible when using the usual Mayo-type scissors can be performed via this method in a small thoracotomy and during VATS. The location of the lower ring changes with the size of the surgeon's hand; this method is still appropriate for small hands if the location of the lower ring is changed from the proximal joint of the middle finger to the palm. The scissor-handling technique used in any procedure is based on the surgeon's preference, but this method is useful for conventional thoracotomy, small thoracotomy, and sometimes complete VATS lobectomy.

Since 2001, we have applied this method in more than 1,000 cases of segmentectomy, lobectomy, and pneumonectomy in both open surgery and VATS. We previously reported this novel procedure for dissection of the pulmonary artery and veins [2].

Conclusion

A new technique for handling scissors in a small thoracotomy or during complete VATS in patients with lung cancer has been described in this report.

References

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