

## A simple technique for removal of the gallbladder during microlaparoscopic cholecystectomy

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**Abstract.** With the advent of mini-instruments, laparoscopic cholecystectomies have been performed with two or three trocars instead of the standard four ports. However, removal of the gallbladder is a difficult aspect with these microlaparoscopic techniques. To remove the gallbladder through the 11-mm umbilical port, a 5-mm telescope should be used. However this telescope is not always available. Other techniques are suitable only for patients with limited or no inflammation of the gallbladder. An efficient, simple, and inexpensive technique is described that allows removal of the gallbladder through an 11-mm trocar without the need for a 5-mm telescope. It permits removal of the specimen in acute suppurative or thick-wall cholecystitis independently of the technique used.

**Key words:** Laparoscopy — Cholecystectomy — Gallbladder removal

Laparoscopic cholecystectomy was first reported as a procedure requiring four ports: two 11-mm and two 5-mm trocars. With the advent of mini-instruments such as the 5-mm clip applier, a four-port technique using one 11-mm and three 5-mm trocars became possible. Later three- or two-port techniques were described for the so-called microlaparoscopy [1, 4]. With these techniques, removal of the gallbladder through the 11-mm umbilical port is mandatory.

The authors describe an efficient, simple, and inexpensive technique that allows removal of the gallbladder through an 11-mm trocar without the need for a 5-mm telescope. It permits removal of the specimen in acute suppurative or thick-wall cholecystitis independently of the technique used.

### Technique

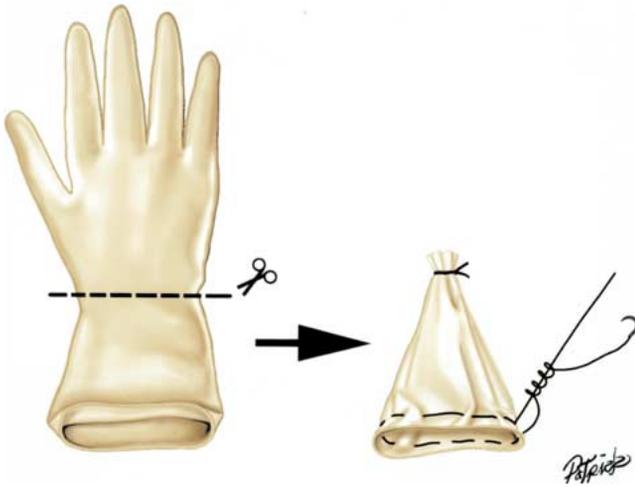
A sterile surgeon glove is tied at the level of the wrist, then a pursestring suture is performed to create a retrieval bag (Fig. 1). A sterile highly resistant plastic bag also can be prepared in the same fashion. The pursestring suture is performed with a 75-cm suture to create an asymmetric knot leaving a long string (Fig. 1).

After completion of the cholecystectomy, the retrieval bag is inserted through the umbilical port leaving the long string outside the abdominal cavity. The 10-mm telescope is inserted through the umbilical port, and the gallbladder is put inside the glove or plastic bag (Fig. 2). The telescope is removed. The retrieval bag then is pulled out, together with the 11-mm trocar, and the procedure is ended as with the standard technique. This technique has been used by the authors over the past 5 years without any complication related to the gallbladder removal.

### Discussion

With standard laparoscopic cholecystectomy, the gallbladder is removed through the umbilical or subxiphoid port, depending on the surgeon's preference, under direct vision through the other 11-mm trocar. With the advent of new instruments such as the 5-mm clip applier, the author switched to a four-port technique using a 5-mm trocar instead of an 11-mm trocar in the subxiphoid area. This approach permits the same dissection capabilities and can be used in acute suppurative or gangrenous cholecystitis as well. With greater experience, this technique can be switched easily to a two- or three-port technique.

The laparoscopic techniques that use fewer or smaller ports are beneficial to the patient because they cause less pain, are less expensive, and leave fewer scars [5]. With all the techniques that use only one 11-mm port, a 5-mm telescope is needed for safe removal of the

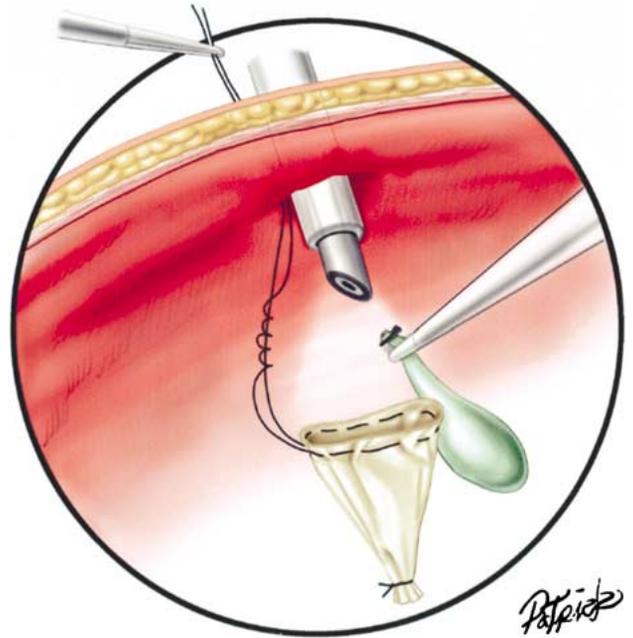


**Fig. 1.** Confection of a retrieval bag using a wrist cuff of a sterile glove. A pursestring suture is performed using a 75-cm suture to create an asymmetric knot leaving a long string. Note that a highly resistant plastic bag can be used instead.

gallbladder from the abdominal cavity. However this laparoscope is not always available.

An alternative technique was described recently by Kang and Lim for removal of the gallbladder [3]. However, this technique does not allow retrieval of inflamed or gangrenous gallbladder. The retrieval bag described in this report follows the same principles as those of the retrieval system described by Gruber et al. [2], now adapted for the use in microlaparoscopy. The current technique is useful for retrieval of the gallbladder through the umbilical port during microlaparoscopy and other procedures involving a single 11-mm port that prevents the use of a 5-mm laparoscope.

The authors believe that the described retrieval bag is easy to prepare with essentially no special equipment. It provides safe removal of suppurative or gangrenous gallbladder after standard or microlaparoscopic cholecystectomy. This technique may preclude the use of expensive ready-for-use retrieval bags, decreasing operative costs.



**Fig. 2.** The retrieval bag was inserted through the 11-mm port leaving the longer string outside. The gallbladder is placed inside the bag under direct vision using the 10-mm laparoscope. The bag then is withdrawn through the 11-mm port.

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