

# Randomized controlled trial comparing three methods of liver retraction in laparoscopic Roux-en-Y gastric bypass

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*Surgical Endoscopy*; 2013, Feb; 27(2): 679-684. DOI: 10.1007/s00464-012-2438-6. Epub 2012 Jul 7.

## Article Overview

Traditional liver retractors require another wound for insertion, are bulky, and may cause iatrogenic liver injury. This study aimed to evaluate differences between three methods of liver retraction during laparoscopic Roux-en-Y Gastric bypass (LRYGB) and to compare novel liver retraction techniques with the traditional mechanical liver retractor in a randomized controlled trial.

## Methods

A randomized controlled trial comparing traditional Nathanson liver retractor (Group 1) with liver suspension tape (Group 2) and (V-LIST) the V-shaped liver suspension technique (Group 3).

1. Patients were randomized to one of three groups (20 in each).
2. This was a **Double-blind study**, with the patient and follow-up assessors blinded to the procedure details.
3. During the surgery, one patient each in Groups 2 and 3 were converted to Group 1.

The primary outcomes measured were liver dysfunction after retraction in each group. The secondary outcomes measured were intraoperative difficulty and postoperative pain.

## Discussion Related to Results of Liver Retraction

1. The ALT and AST levels were significantly higher in Group 1 than in groups 2 and 3 at 18 h or compared with Group 2 at 1 week, showing more liver dysfunction associated with the Nathanson liver retractor.
2. Liver suspension and V-LIST did not require an extra wound for its application and that equipment could be introduced easily through a 12-mm port.
3. Postoperative pain was less in Group 2 than in the other groups because Group 1 needed an extra epigastric wound and Group 3 needed stapler fixation of the Penrose drain to the peritoneum during the procedure.
4. The operating surgeon could perform the procedure with a shorter learning curve when utilizing liver suspension tape, and V-LIST.

## Conclusion

This study showed that the Nathanson liver retractor causes more liver dysfunction, requires an additional wound compared with the liver suspension tape or the V-shaped liver suspension technique, and causes more postoperative pain than the liver suspension technique.



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