Keyhole operations for obesity – which one is better?

Obesity is increasingly becoming a significant global health problem. It has been linked to the development of other medical conditions such as diabetes, heart disease, joint conditions and certain cancers. Around 30% of the adult population is now obese in countries such as the United States, Australia and the United Kingdom.

Keyhole weight loss surgery is increasingly being used to help people who have been unsuccessful in losing weight with diet and exercise alone. We undertook the review of the medical literature to analyse complications associated with two keyhole (laparoscopic) surgical procedures: laparoscopic Roux-en-Y gastric bypass (LRYGB) which reduces size of the stomach and about 1-1.5m of the small intestine is bypassed to facilitate weight loss; and laparoscopic sleeve gastrectomy (LSG) which removes about 90% of the stomach. All the scientific papers published between 2000 and 2015 comparing the postoperative complication rate within the first 30-days after these laparoscopic procedures were evaluated. To be included in our review studies had to randomly assign patients to one or the other procedure. We found 6 studies that met our strict criteria comprising 703 patients which were evenly distributed between procedures.

The analyses showed that major complications (such as death, need for another operation, hospital stay longer than 7 -14 days, or the need for a blood transfusion) occurred less frequently after a LSG than a LRYGB. LSG was associated with nearly half the number of major complications after surgery compared to the LRYGB. Complications common to both types of surgeries included bleeding, infections, leaks where the “joints” were made between the stomach and bowel or between the wall of the stomach, and blockage of bowel. Pneumonia was more commonly experienced by patients after LSG, while the development of fistulae (holes between the intestine and the skin or other internal organs), internal scarring, hernias and temporary slowdown of the gut was more common after LRYGB. Of all the 703 patients only one patient died who received a LRYGB.

While the number of major complications were higher in the LRYGB than the in the LSG, the need for further operations to fix these complications were not different between both procedures. A relatively small number of patients had to be admitted back to hospital after going home due to complications occurring after surgery. From the studies we looked at it is hard to tell if one surgical procedure was more likely to result in complications that would require a return to hospital.

Minor complications were not well explained but generally were complications that weren’t as serious as the major complications. They did not appear to differ between two types of surgeries. Bleeding and infections were the most commonly reported minor complications after both surgeries.

Operating times were shorter for the LSG compared to the LRYGB, though different studies varied with times taken for both procedures which may be secondary to surgeons’ experience. In a very

small number of cases, keyhole surgery needed to be converted to open surgery due to complications during the operation: This was rare and was reported equally between the two types of surgeries.

The results of our review suggest that a LSG may result in fewer major complications after surgery than a LRYGB, but in all other measures of complications the procedures are very similar. This is only one part of the whole picture that should be considered when selecting a weight loss surgery.

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Publication

Postoperative Early Major and Minor Complications in Laparoscopic Vertical Sleeve Gastrectomy (LVSG) Versus Laparoscopic Roux-en-Y Gastric Bypass (LRYGB) Procedures: A Meta-Analysis and Systematic Review.
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Obes Surg. 2016 Feb 19