

# ENDOSCOPIC SURGERY

Endoscopic Surgery is surgery performed through a colonoscopy and is used for many colorectal conditions.

However, its main use is for large (>1cm) benign polyps of the colon that cannot be removed with conventional snare polypectomy. It should not be used for biopsy proven polyps containing cancer, or polyps with suspicious features for having cancer in them.

The two common methods include Endoscopic Mucosal Resection (EMR) and Endoscopic Submucosal Dissection (ESD).

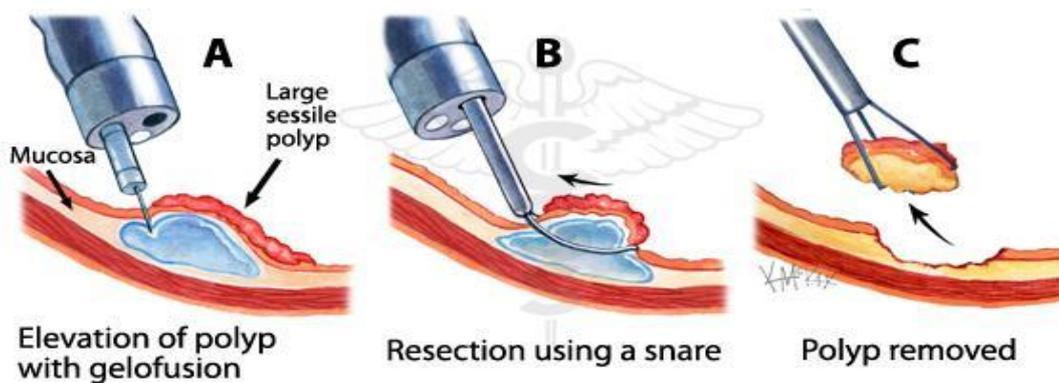
The advantages of endoscopic surgery, is the avoidance of an incision. The disadvantage is the risk of colonoscopic perforation which has a risk of 5% [1]. The other disadvantage of endoscopic techniques is that they are not suitable for cancers, which require a proper resection to remove not only the cancer, but the lymph nodes around the colon.

## ENDOSCOPIC MUCOSAL RESECTION

Endoscopic mucosal resection (EMR) involves:

1. the injection of a solution into the submucosal layer of the bowel wall; and
2. En bloc or piecemeal resection of the lesion using a snare.

Injection fluid has traditionally been normal saline, however more recently better results have been achieved with a mixture of succinylated gelatin (Gelifusin®) with a blue colour dye (methylene blue) and adrenaline to cause vasoconstriction [2].



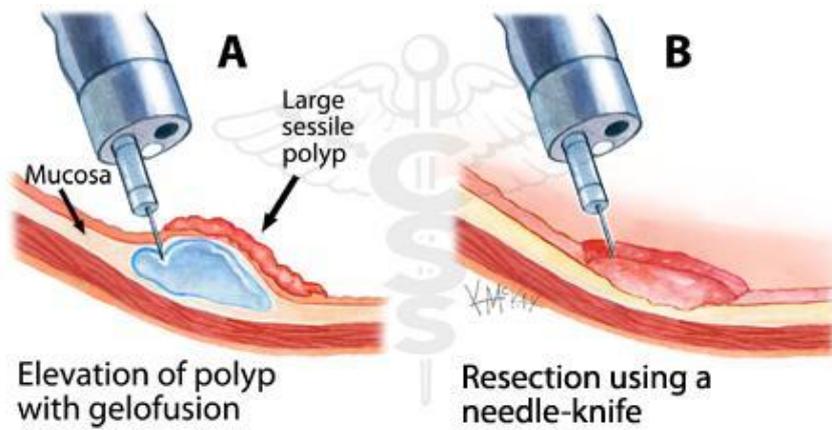
**Figure 1. Endoscopic Mucosal Resection (EMR) of large colonic polyp using snare.**

By injection underneath the large polyp, it allows the polyp to be lifted up off of the underlying colon wall, thus allowing more easy inclusion of the lesion in a large snare, which reducing the risk of thermal injury and perforation to the underlying colon. The main disadvantage of this technique is that piecemeal removal of the polyp is often required for very large polyps, leading to potential error when assessing the specimen for underlying cancer.

## ENDOSCOPIC SUBMUCOSAL DISSECTION (ESD)

Endoscopic Submucosal Dissection (ESD) can be used for larger polyps, and also involves lifting the polyp with injected solutes. The benefits of ESD include the complete en bloc removal of the specimen rather than by piece-meal [3-4].





**Figure 2. Endoscopic Submucosal Dissection (ESD) of large polyp using Needle-Knife technique.**

**References**

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