How to perform safe and complete colon ESD?

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Endoscopist's minimal requirements for C-ESD

❖ **Updated JGES Guideline 2020**

➤ Sufficient understanding of anatomical features LGI

➤ Insertion technique smoothly and accurately advanced to the cecum in the shortest distance

➤ Familiarity with basic techniques of polypectomy, EMR, hemostasis, and clip suture.

➤ Experience with gastric ESD is helpful

➤ Experience is limited, colorectal ESD should be carried out only after sufficient training in ESD by using living or isolated porcine stomach or colon.

Indications of C-ESD

❖ **Updated JGES Guideline 2020**

➢ Lesions for endoscopic en bloc resection is required

1. Lesions for which en bloc resection with snare EMR is difficult to apply
   - ➢ LST-NG, particularly LST-NG (PD)
   - ➢ Lesions showing a VI –type pit pattern
   - ➢ Carcinoma with shallow T1 (SM) invasion
   - ➢ Large depressed-type tumors
   - ➢ Large protruded-type lesions suspected to be carcinoma

2. Mucosal tumors with submucosal fibrosis

3. Sporadic localized tumors of chronic inflammation such as UC

4. Local residual or recurrent early carcinomas after endoscopic resection

Tanaka S et al. Dig Endosc 2020:32:219-239

Start submucosal injection

- ❖ **Start submucosal injections with N/S or hyaline uronic acid**

  - ✓ Avoid perpendicular direction

  - ✓ Usually start with anal side (except rectum)

  - ✓ Avoid inject the all the lesion
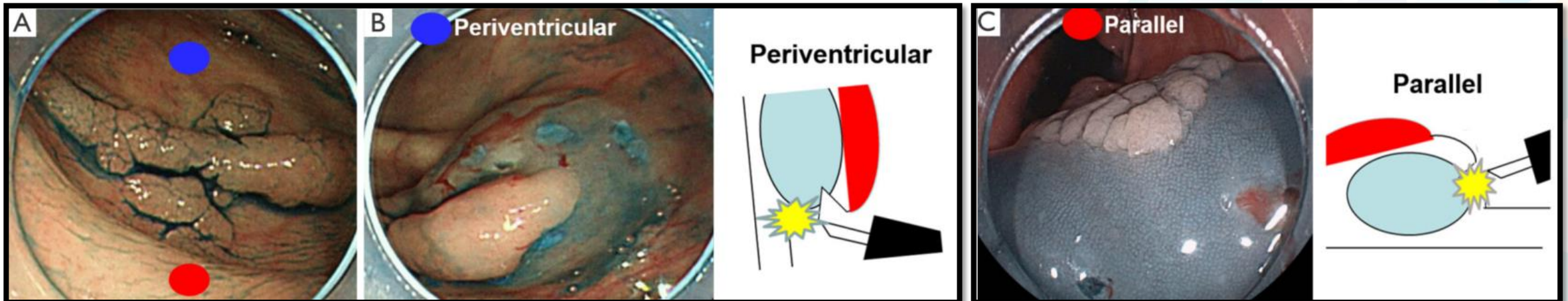
Circumferential incision (CI)

- Start CI at proper distance from the lesion
    - don't afraid spending more time
    - Usually about 1cm from lesion
    - about 1~2cm from fibrotic lesion
- Usually perform 1/3 ~1/4 of CI around lesions
    - Avoid full circumferential cutting
- Usually using cutting current
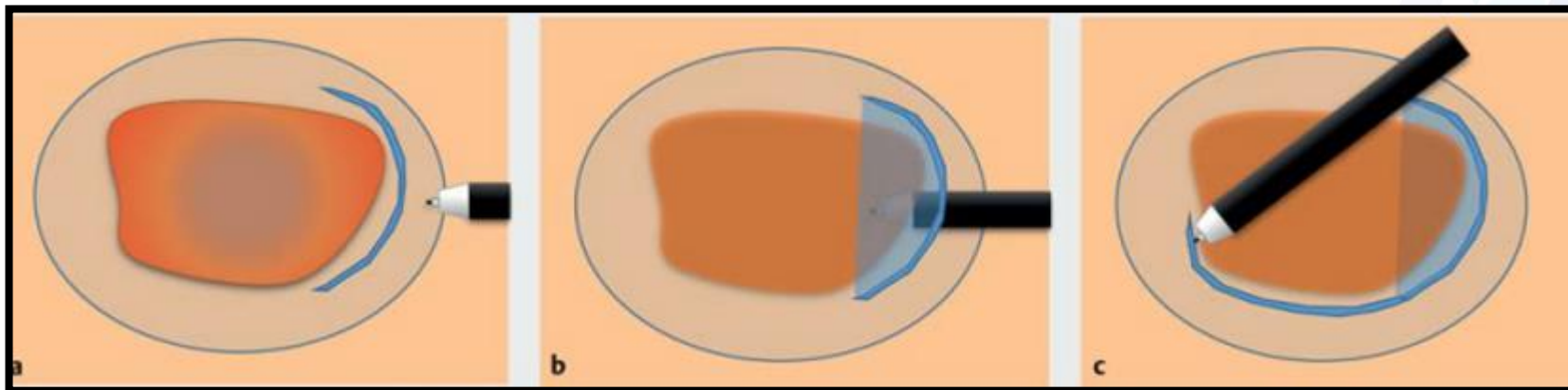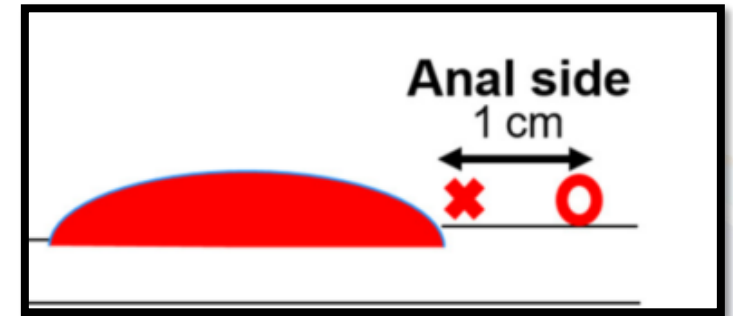
Submucosal dissection

- Creation of mucosal flap or pocket

- Don't extend too much lateral circumferential cutting before creation of mucosal flap

- Deep sm layer cutting helps to secure deep resection margins and reduce bleeding

- Endoscopic **knives** should be moved parallel to the **proper** muscle layer to avoid perforation.
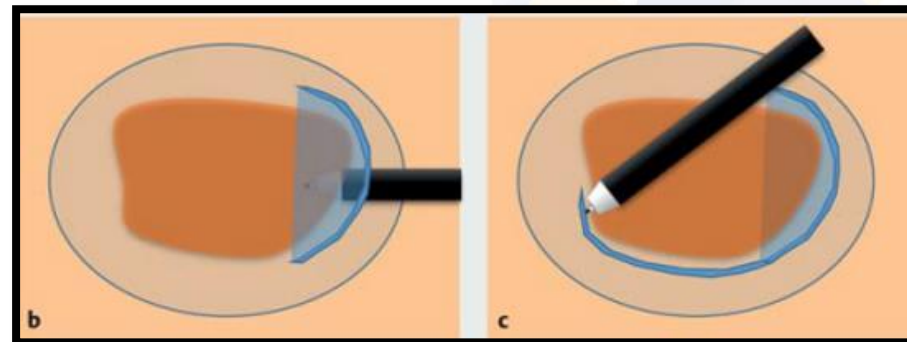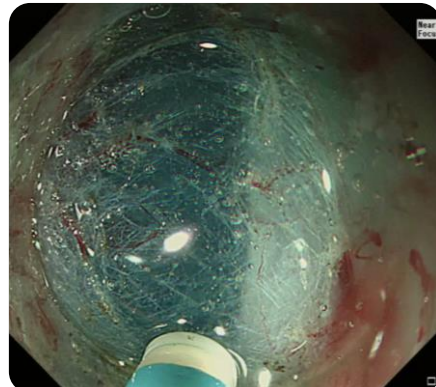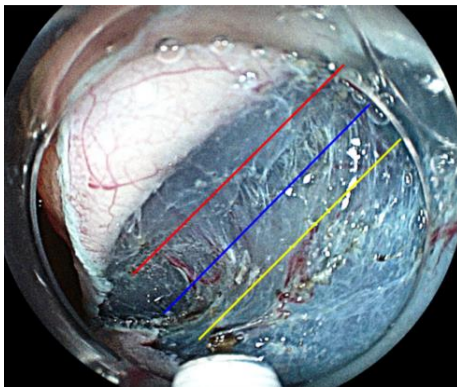
Technical tips for C-ESD

1. **Positioning and stabilize** the tip of endoscope

2. **Slow and effective** cutting

3. Create appropriate **mucosal flap**

4. **Use of gravity** by position change

# Stabilize the movement of endoscope

- Minimize the loop when insertion of CFS

- Using transparent cap

  - Position and fix the tip of endoscope
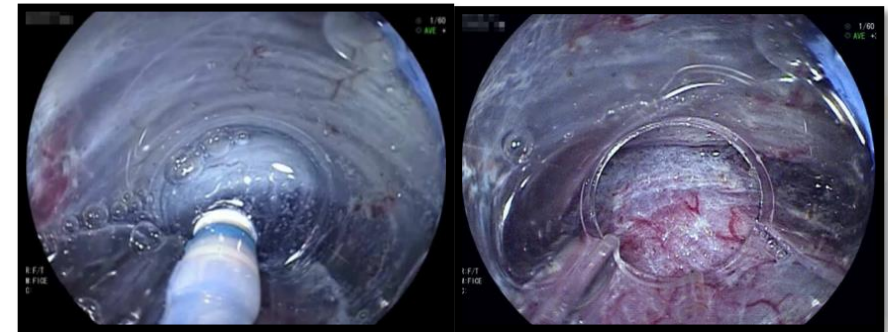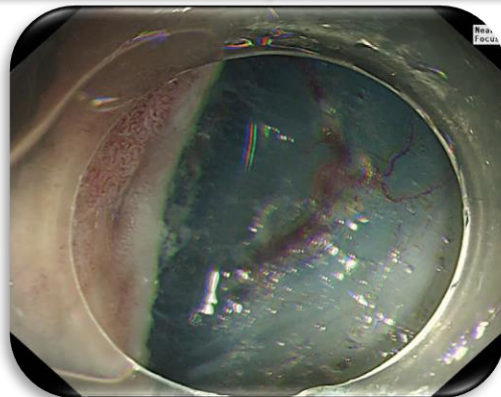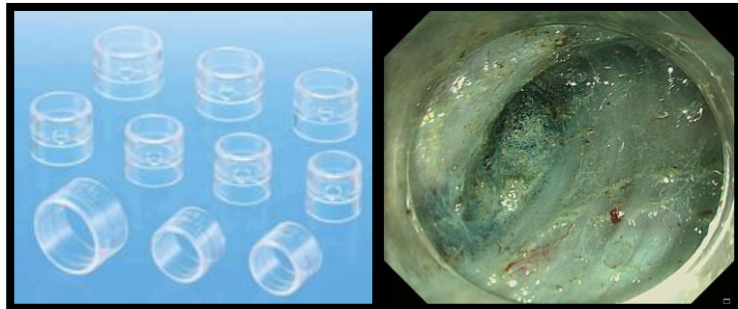
NEW Short-type ST hoods • Package: 5/container

| Model name	Outer diameter	Distance from the endoscope tip	Inner diameter of distal end	Drain	Guide ditch	Applicable endoscope (Tip portion diameter)
DH-28GR	11.8 mm	7.0 mm	8.0 mm	2	Without	EG-590WR (9.6 mm)
DH-29CR	13.0 mm	7.0 mm	8.0 mm	2	Without	EG-590ZW (10.8 mm)
DH-30CR	14.8 mm	7.0 mm	8.0 mm	2	Without	EC-590WM3 (12.0 mm) EC-590WM4 (12.8 mm) EC-590ZW3 / M (12.8 mm) EC-590ZW3 / L (12.8 mm)

ST hoods • Package: 5/container

| Model name	Outer diameter	Distance from the endoscope tip	Inner diameter of distal end	Drain	Guide ditch	Applicable endoscope (Tip portion diameter)
DH-15GR	12.2 mm	8.3 mm	7.0 mm	1	With	EG-590WR (9.6 mm) EG-530WR (9.4 mm)
DH-19GR	13.0 mm	8.3 mm	7.0 mm	1	With	EG-530D (11.5 mm)
DH-16CR	16.0 mm	8.3 mm	7.0 mm	1	With	EC-590WM (12.8 mm) EC-530WL3 (12.8 mm) EC-530WI / WL / WM3 (12.8 mm)

DH-15GR

Sample image

Stabilize the movement of endoscope

① Avoid excessive torque using endoscope if possible

② Practice the use of U/D & R/L angulation knob

③ Avoid excessive sedation
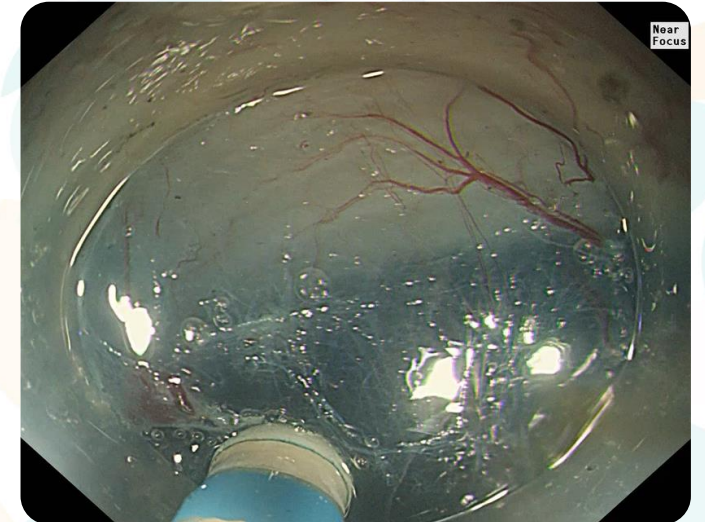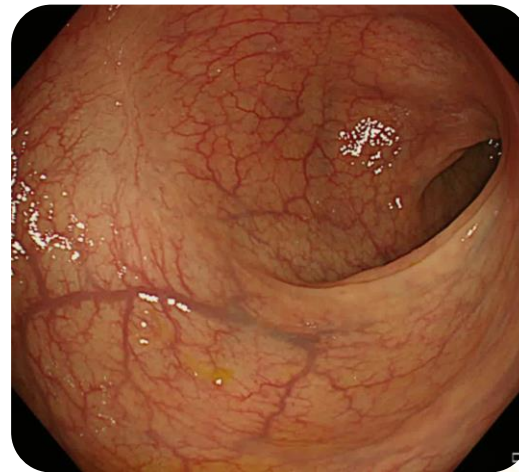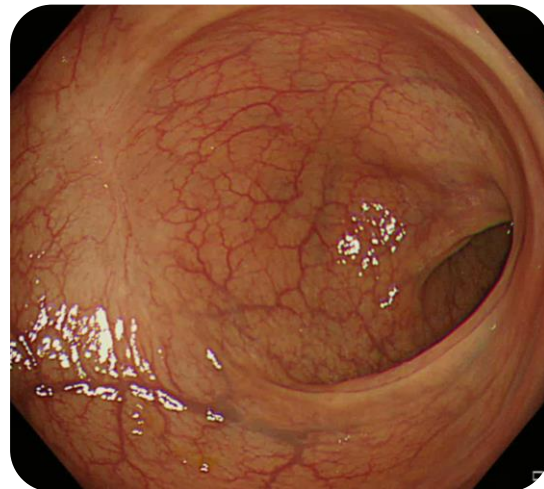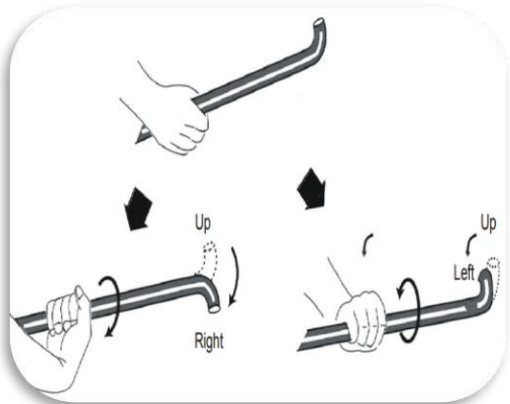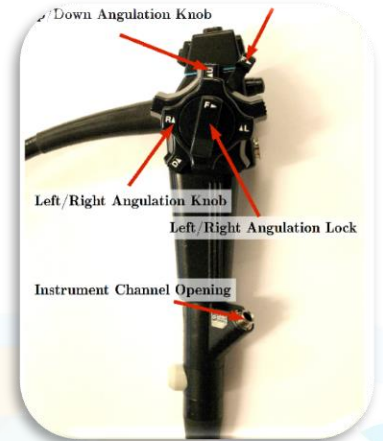
Slow and effective cutting

- Avoid excessively rapid speed cutting and rapid movement of the scope

- Keep the cutting depth during dissection
  - Don't push or pull the knife during dissection (if not intended)
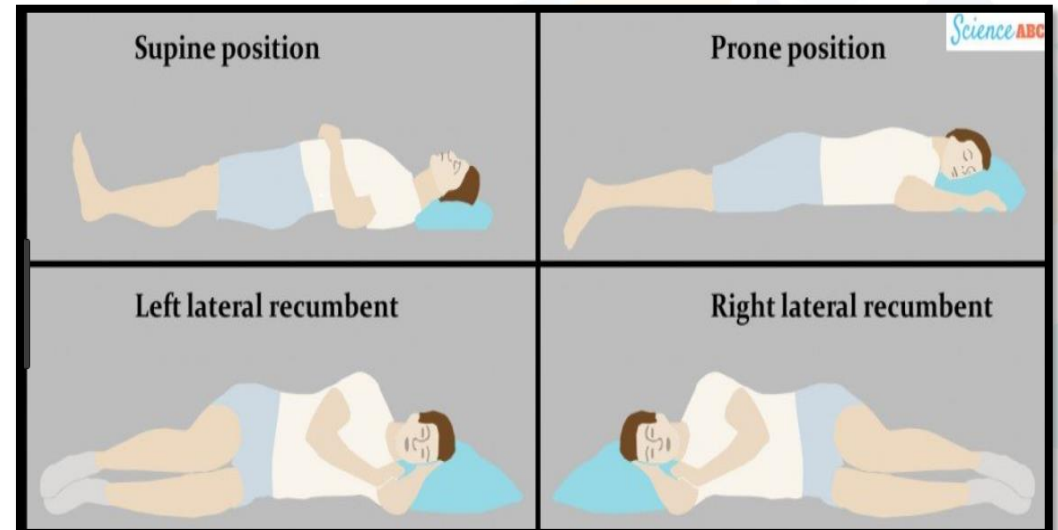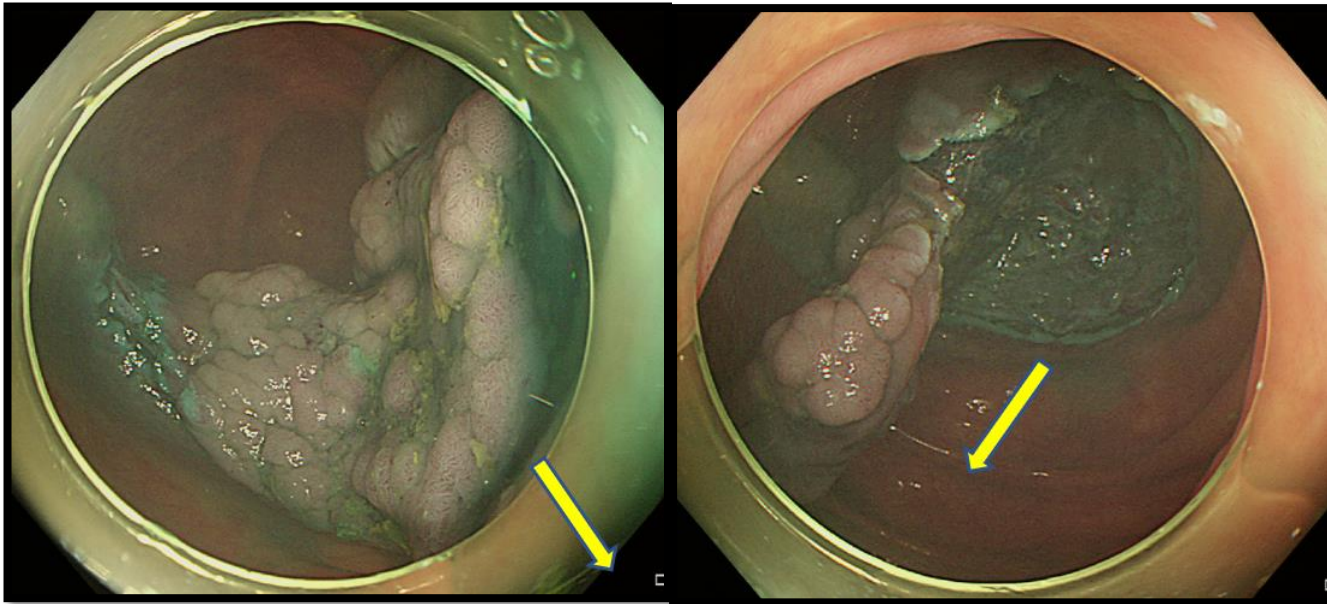 - Lower 1/2~1/3 of submucosal layer (if possible)
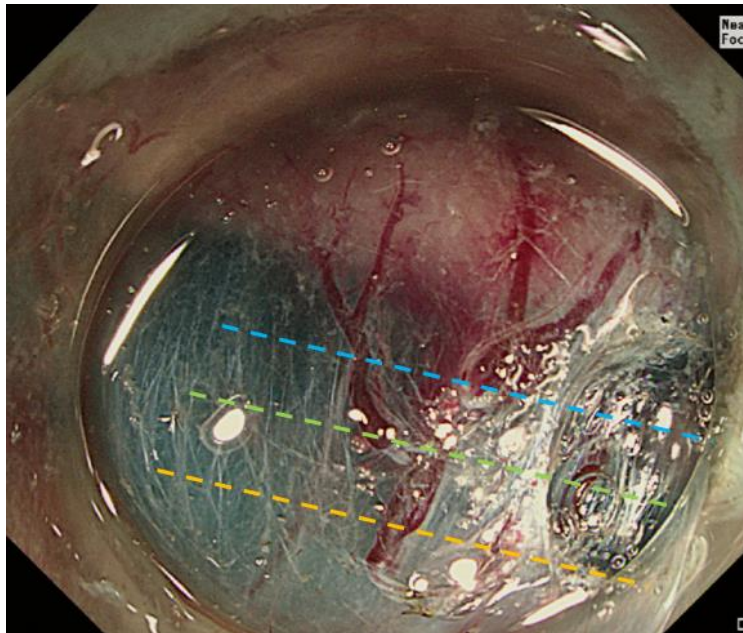
Create appropriate mucosal flap

- Creating mucosal flap is the most important
  - ➤ Enable to stable dissection regardless of patient's respiratory movement
  - ➤ Safe cutting with direct visualization
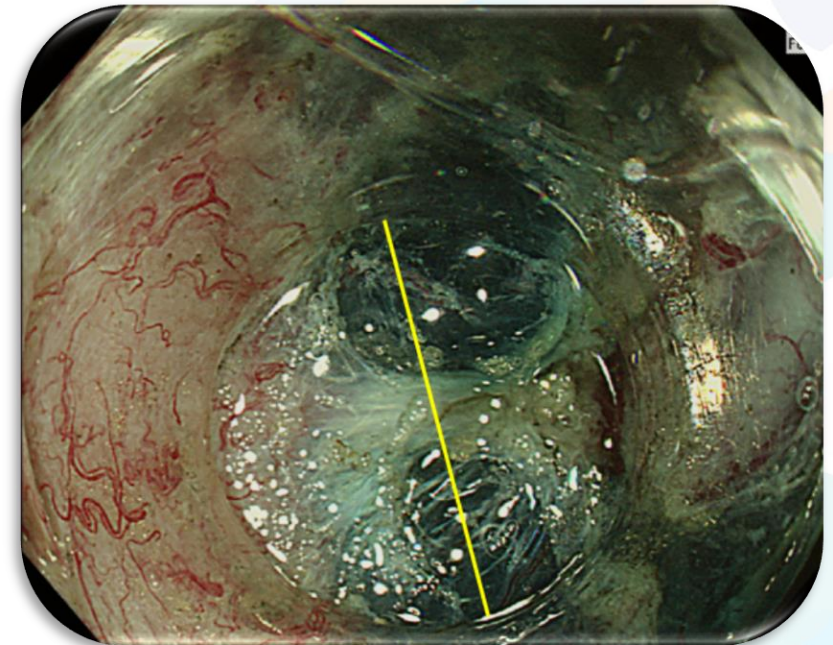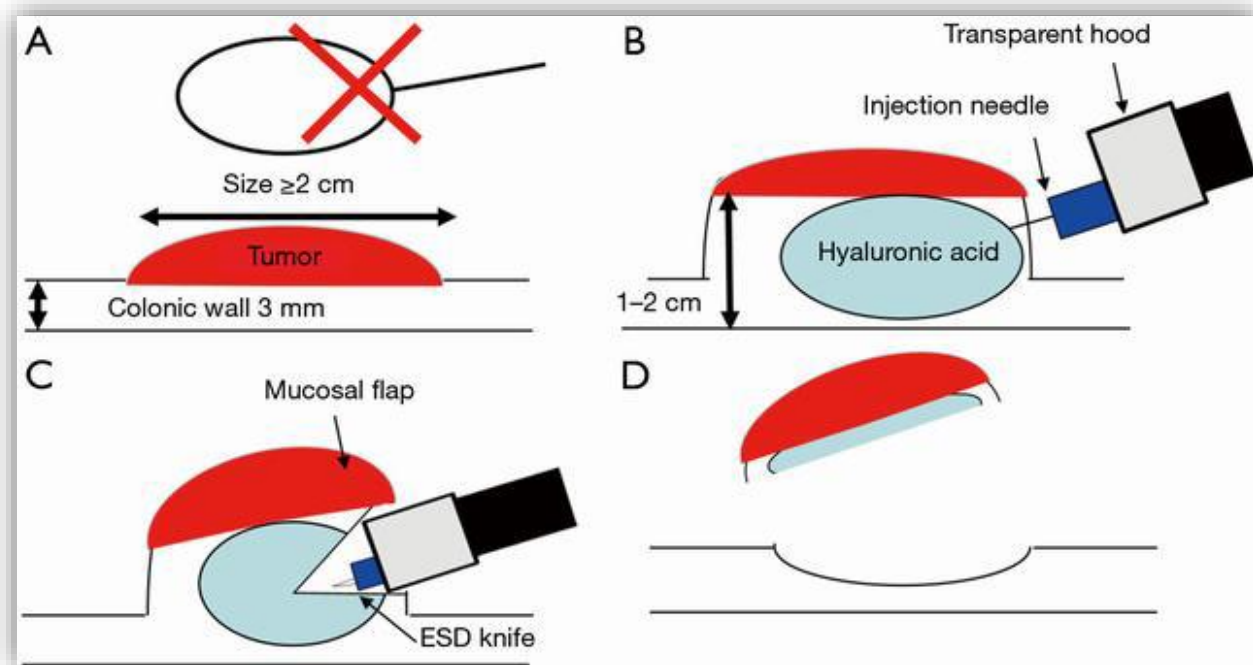
Use of gravity by position change

- Gravity is most effective natural traction methods

- Don't hesitated the position change

Position change