

ESD

ESD (Endoscopic Submucosal Dissection) x Colonic Polyp

Preparation

Equipment preparation From CEU	- PCF C39 - PCF C42 - Erbe 3000
1. Patient Preparation	- Patient ->Left lateral position +/- additional pillow - Main surgeon -> patient back - Assistant -> OT bed end
2. LA + sedation	-Pethidine (from ward) + midazolam -Fentanyl + midazolam (*please confirm with surgeon)
3. Equipment	- Erbe 3000 from CEU (with the suppl 4K TV monitor) - Suction (with the surg TV 10 system) - TV system SURG TV10 - UCR (Please prepare one extra B size CO2) - 飛線電視子機 suppl 4KTV monitor - fujinon water pump (flush knife or dual knife) - OFP-2 water pump (gascon water) - Drip stand (flush knife / dual knife) - Photo printer - +/- Ipad for clinical photo (soft copy)
4. Instrument	- Colon, PCF C39 - Colon, PCF C42 - water bottle x CO2 MAJ-902 - Low flow tube MAJ- - Fujinon Pump tube (pre sterile by plasma) - mayo St. scissors - U001

5. Consumable	- KY jelly x 1 tube - green gauze x 1 pack - big disposable drapes x 5 (2 for patient, 3 for working tables) - disposable valves for Colonoscope - suction tubing for Colonoscope - For dual knife / flush knife + injector: 10 ml syringe with luer lock x 4 (3 for Hyruan Mixture with gelofusine adrenaline) (1 for adrenaline) - 3 - way x 1 (for mixing Mixture with hyruan) - Simple IV drip set x 1 (for gelofusine adrenaline) - 750mm IV extension tube x 4 (for fujinon water- pump) - 20 ml syringe x1 (for gascon water on table) - Erbe electrode (patient return plate) prepare at least two (sometimes change position, can paste one more electrode) (*please remove all electrode pasted before theatre Out) - From Uro Box - Disposable distal attachment (13.2 and 9.8 1@) (use with corresponding PCF) - electrical tape (for disposable distal attachment/ cap) - Disposable colonic injection needle (for Mixture + H; tattoo)) - Disposable endo knife (flush knife/ dual knife) - tooth brush (for cleansing knife) - +/- disposable biopsy forceps - +/- disposable grasping forceps - +/- coagrasper - +/- disposable cold / standard snare - +/- specimen trap (use with snare) x 2 - +/- filter paper (use with specimen trap) - endoscopic metal clip 11mm / 16 mm (at least 20 each) - endomarker / tattoo (from CEU) - Polynet / Rothnet for main specimen - pins and foam - specimen container (最細盒) - ESD consumable record - Drug labels *consumables are in URO store, <u>THREE drawers</u> label for ESD, Please take all these 3 drawers (box 13, 14, 15) out for ESD procedures and mark the item used on the ESD consumable record for refill
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6. Irrigation / Drugs	- Adrenaline 1:10000 / 10ml / amp x 10 - Hyrun inj / 2 ml / amp (10 mg sodium hyaluronate/ ml) (3 syringe) (keep in fridge if not used soon) - Gelofusine solution 500 ml x 3 - Gascon 10ml into irrigation water 1000 ml x 2 sets - Indigocarmine 4ml/ amp x 2 (1ml per gelousine solution) - Irrigation Normal saline 1L / bottle x 1 - +/- PuraStat (keep in fridge) *Please confirm the concentration of mixture of Hyruan and gelofusine and adrenaline mixture * <i>*refridgerated medication need to be taken out from drug fridge and keep back in drug fridge, don't take unnecessary amount of the needed medication*</i>
8. Dressing	- NA
9. Remark	- Clinical photo **After taking out the main specimen, the doctor will use the colonoscope to take clinical photo, please don't unplug the colonoscope before that** - +/- video recording fo whole procedure

Equipment:

Endotrolley A



Endotrolley B



ERBE 3000 (from CEU)



ERBE 3000 (from CEU)

Surg TV 10 (CV-1500)



Endoscope

Colon PCF C39 (from CEU)
PCF-H290DL



Use 13.2 cap
secure cap with electric band

Colon PCF C42 (from CEU)
PCF-H290TL



Use 9.8 cap
secure cap with electric band

Fujinon water pump (in surg TV 10)
connect to flush knife/ dual knife



UCR in surg TV10
connect to LOW flow CO2 tube



OFP-2 water pump (in surg TV10)
connect to gascon water



1. Mix 2.5mg (25 ml Adrenaline 1:10000) into Gelofusine 500ml solution
2. add 1 ml of 0.4% indigo carmine for coloring as doctor's preference

This mixture will be infused to the dual knife/ flush knife via the fujinon pump

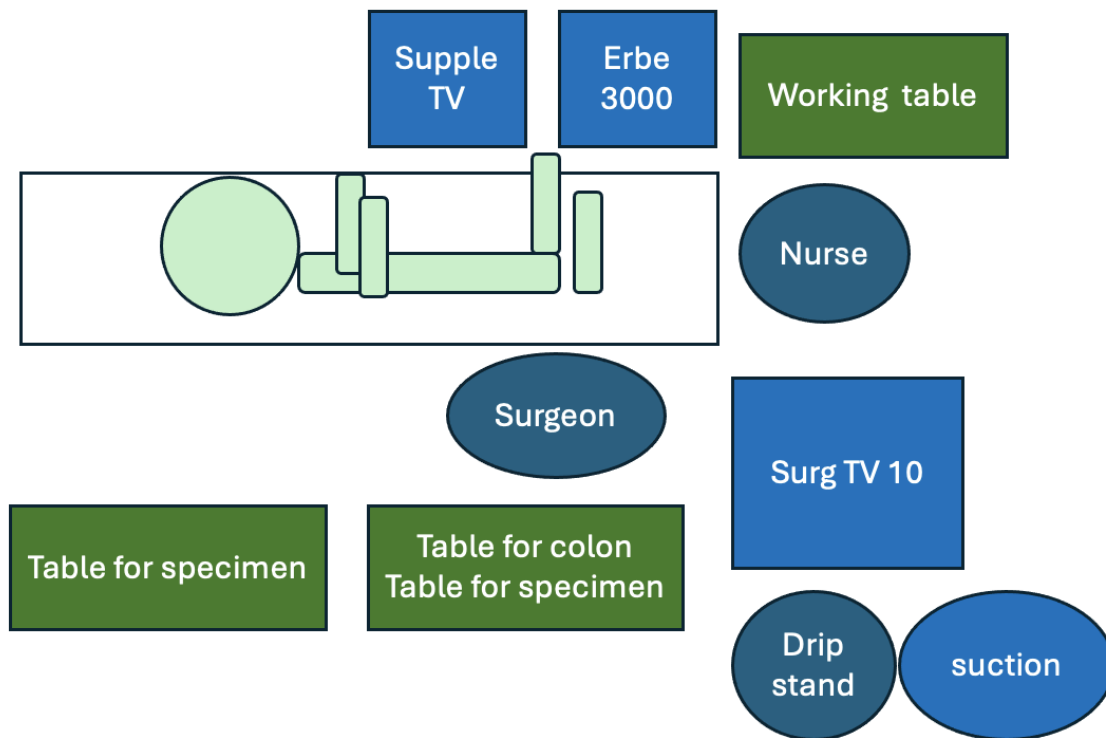
3. 8ml of the mixture from step 1 + Hyaluronic acid 2ml (one pre-fill syringe) into 10 ml
Using luer lock syringe+ 3-way to mix

connect to 23G colonic injector

The image displays two medical supplies. The primary item is a PuraStat catheter set, shown in its clear plastic packaging. It consists of a long, flexible, yellowish tube and a blue Luer-lock connector. A white label on the package provides detailed information, including lot numbers and expiration dates. To the right of the catheter is a box of PuraStat 3mL syringes. The box is predominantly red and white, with the brand name 'PuraStat' prominently displayed. It also features a small graphic indicating the volume '3mL'.

ESD theatre setting





ESD Theatre Setting

SURG TV 10 set up



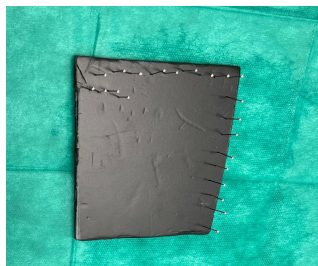
Content of the working table during ESD:

Working table

1. 23 G colonic needle injector
prime with the 10ml luer lock hyrun mixture from step 3 in medication preparation
2. Flush knife or dual knife
3. A kidney dish of Gascon water with 20 ml syringe
4. tooth brush x 1
5. medication (8ml mixture; left 5ml adrenaline in syringe)
6. green gauze

Working Table for Colon

1. kidney dish of water for doctor to check the function of the colon
(*Nurse should able to test colon for 試水試氣 and white balance before doctor test)
2. KY jelly



Working Table for the specimen

1. A kidney dish of Normal saline
2. pins on foam (as photo)
3. +/-filter paper if using specimen trap

How to set up Fujinon pump



Fujinon tubing have two end,
long to 長, short to 短
(plug the tubing into the purple cover)



Please handle with care, the purple cover
can be broken if mal-practice

*fujinon tubing is INSTRUMENT with mobile
SITS barcode label,
Please send to sc decontamination room for
reprocessing (like laser fiber)

Erbe 3000 settings (connect patient return plate)
FLUSH knife 24a programme

Flush knife Adopt 24a CLN ESD Flushknife



24a CLN ESD Flushknife
For Dr. Yip

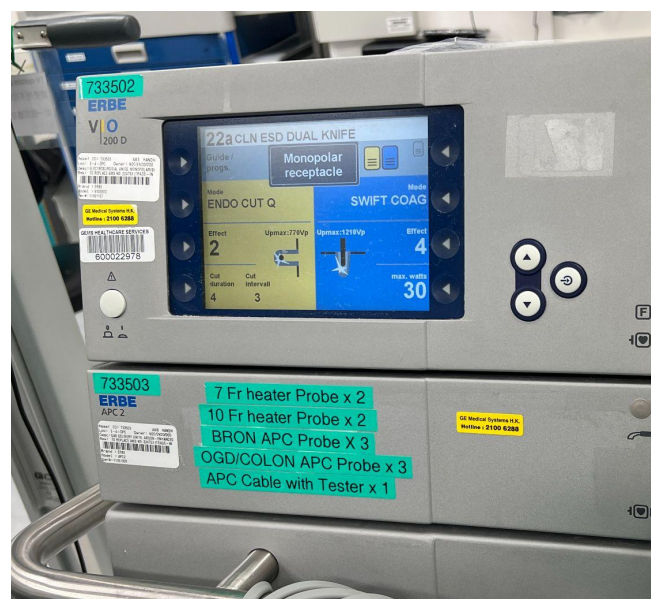
Use foot pedal to switch to 24b programme
by surgeon



24b CLN ESD Coagrasper
For Dr. Yip

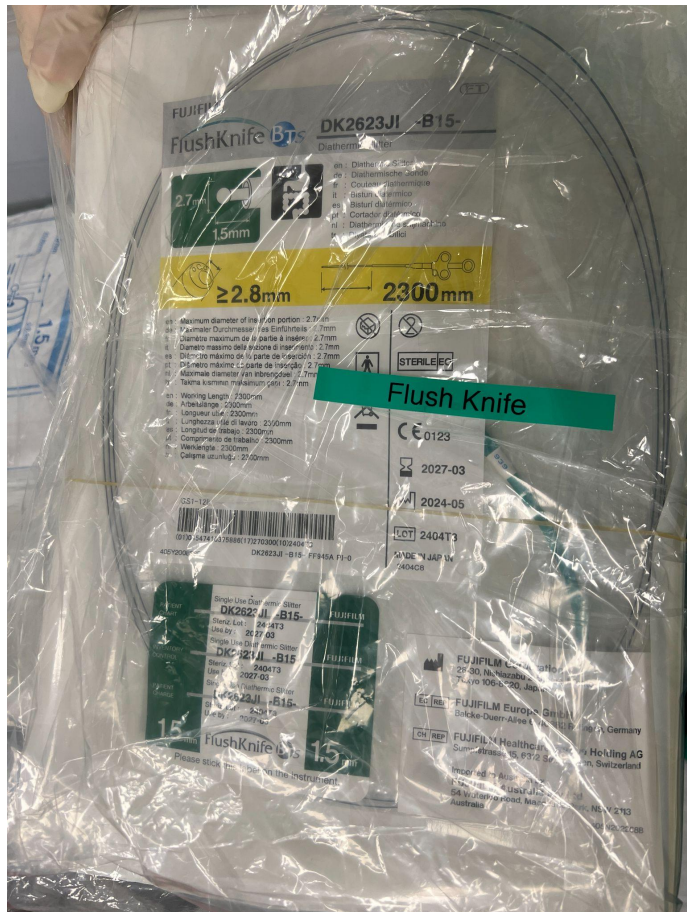
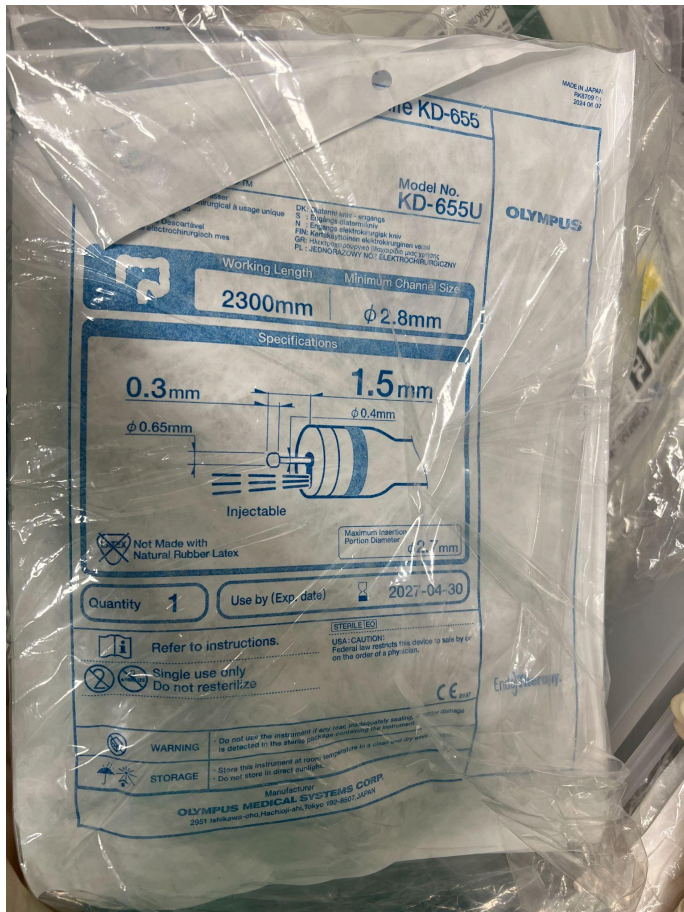
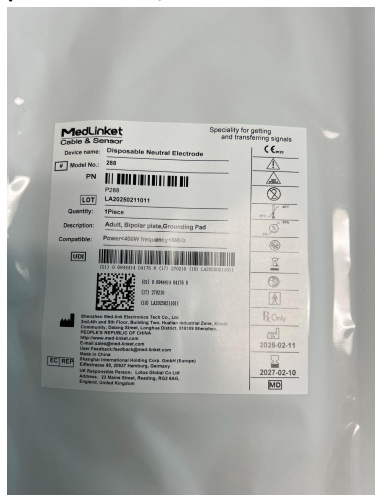
Erbe 3000 settings (connect patient return plate)
DUAL Knife 22a programme

Adopt 22a CLN ESD Dual Knife



For Dr. Ruby Lau

Consumable

Flush knife
DK2623JI-B15
For Dr. YipDual Knife
KD-655
For Dr. LauErbe patient return plate
(from CEU, with Erbe 3000 machine)

How to set the Fujinon pump



1. to start with the Gelofusine adrenaline solution hang on drip stand using IV drip to the fujinon pump in
2. the pre-sterile fujinon pump tube is inserted correctly in the fujinon pump (refer to the fujinon pump set system page)
3. fujinon pump out connect FOUR 750mm extension to the flush knife / dual knife



750 mm extension connect to the flush knife or the dual knife

How to cap
also refer to how to mouth the distal attachment page



use appropriate cap



Use electric band to secure



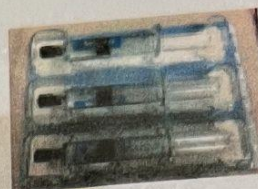
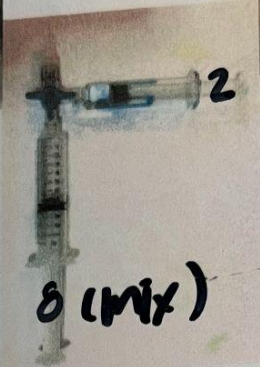
Please check it must be secured



The cap is visible on TV screen,
a complete circle should be seen.

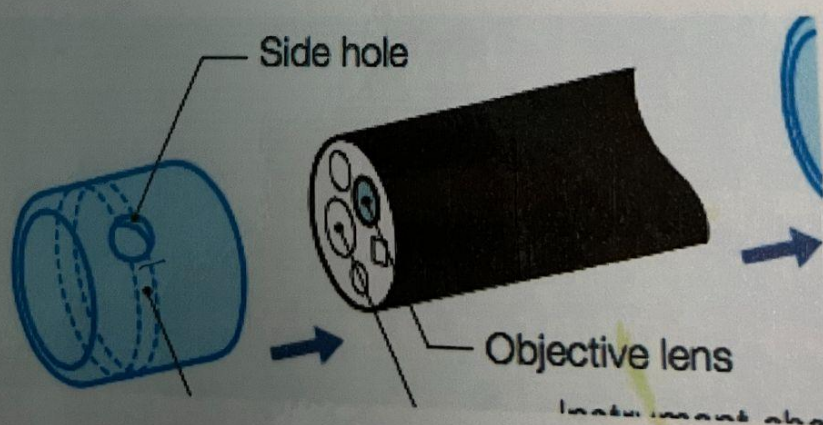
Injection solution

Mix of injection solution



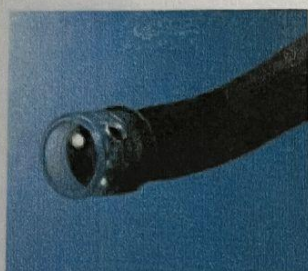
How to mouth the distal attachment

- Side hole is aligned with the endoscope's objective lens

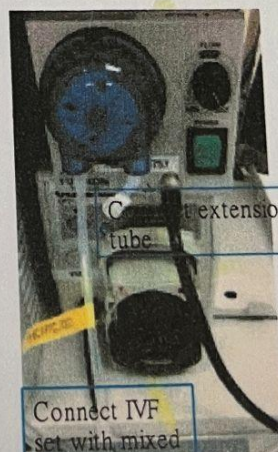


How to mouth the distal attachment

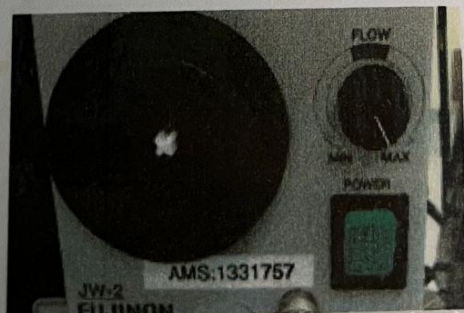
- Push the endoscope tip into the distal attachment as far as the alignment line on the distal attachment



Funjinon pump set system



Connect IVF set with mixed solution



LGI ESD list

1. Flush knife / Dual knife
2. Colon cap, OGD cap
3. Colon injector
4. Hot biopsy forcep
5. Haemoclip MT 11mm/ 16mm
6. Snare (standard/ cold)
7. Polynet / Rothnet
8. 3M plastic tape (electric band)
9. Pin, Foam
10. Tooth brush
11. Specimen trap
12. PuraStat with catheter x 2 set
13. Hyaluronic acid (2 box)
14. Indigo carmine x 4
15. Coagrasper
16. SB knife
17. Fujinon pump
18. Fujinon pump tubing (pre-sterile)
19. PCF scope x 2 (from CEU)
20. ERBE 3000 machine with patient return electrode plate (from CEU)

ESD sample OT record (Dr. Yip)

Endoscope z: PCF-H290TL

Medication: Midazolam IV 5mg, Pethidine 50mg

Indication: Endoscopic treatment of colonic lesion

Biopsy:

- Distal transverse colonic LST, Routine section

- Sigmoid LST, Routine section

Findings:

Quality of Bowel preparation: Inadequate

Boston Bowel Preparation Scale : BBPS : NA

Colonoscopy Withdrawal time: 240 minutes

Is Caecum reached: No

Reason for Caecum is not reached: Planned for Partial Colonoscopy

Cap-assisted scope

CO2 insufflation

Scope to transverse colon

Specimen 1

One 5x 4 cm JNET 2A+B polypoid growth with broad thick short stalk at distal transverse colon around 50cm from anal verge, tattoo just distal to it

The lesion was elevated with a mixture of gelofusine, noradrenaline, indigocarmine and hyaluronic acid.

Mucosal incision then submucosal dissection with Flush Knife.

En bloc resection of the lesion

Hemostasis confirmed

Mucosal defect apposed with MT clips x 8

Specimen retrieved by Polynet (specimen broken into two halves while passing the relatively narrow lumen at large sigmoid polypoid growth)

Specimen 2

Updated 6/4/2025

One 4x 4 cm JNET 2A+B polypoid growth with around $\frac{1}{3}$ circumferential broad stalk at 25 cm from anal verge. tattoo opposite to it

The lesion was elevated with a mixture of gelofusine, noradrenaline, indigocarmine and hyaluronic acid.

Mucosal incision then submucosal dissection with Flush Knife.

Noted dense adhesion to underlying muscle at the centre of lesion ? fibrosis due to previous biopsies vs muscle invasion

En bloc resection of the lesion with a superficial cuff of muscle fiber

Hemostasis confirmed with coagulation grasper

Mucosal defect apposed with MT clips x 10

Specimen retrieved

Scope out

Endoscopic Diagnosis:

Colonic polyp (Transverse and sigmoid colonic LST)

Procedure:

Therapeutic colonoscopy - submucosal dissection - site: transverse colon

Therapeutic colonoscopy - submucosal dissection - site: sigmoid colon