

Colonoscope Training Model

大腸内視鏡トレーニングモデル

Instruction Manual ENGLISH P.1~P.14

KYOTOKAGAKU Co.,Ltd. KYOTOKAGAKU Co.,Ltd. KYOTOKAGAKU Co.,Ltd. KYOTOKAGAKU Co.,Ltd.

Index

Features	p. 1
Manufacturer's note	p. 2
Specifications	p. 2
Instructions	
1 Before Training---- Preparation and Set-up	
① Prepare lubricant	p. 3
② Detach colon-rectum tube	p. 4
③ Pour the lubricant into the colon-rectum tube.	p. 5
④ Install the colon-rectum tube in the abdomen model	p. 6~7
2 While Training.	
① Confirm the proper setting of the anus.	p. 8
② Adjust the pressure of the anus opening	p. 8
③ Change the Body Positions	p. 9
④ Insert the colonoscope and proceed with training.	p. 9
3 After Training---- Cleanup and Storage	
① Clean the model	p. 10
② Clean the colonoscope	p. 10
4 Maintenance	
① Replacement of the colon-rectum tube	p. 11
② Replacement of the anus unit	p. 12
Troubleshooting	p. 13
Dos and Don'ts	p. 14
Replacement Parts	p. 14

Colonoscope Training Model

Features

- ① Hands-on training of the insertion technique for colonoscopy.
- ② Colon layout can be arranged for various difficulty levels.
- ③ Soft, life-like material of the skin and anus unit provides realistic feel and simulation of the colonoscopy procedure.
- ④ Adjustable anal opening.
- ⑤ Anal opening can be closed to allow air insufflation and deflation training.
- ⑥ Detachable colon unit can be cleaned easily with just water.
- ⑦ Colon tube section can easily be replaced.
- ⑧ Abdominal manipulation can be practiced by using skin cover.
- ⑨ Three patient positions can be simulated: supine, left lateral and right lateral.

Manufacturer's note

This Colonoscope Simulation Trainer has been developed for the training of medical professionals only. Any other use, or any use not in accordance with the enclosed instructions, is strictly prohibited. Kyoto Kagaku Co., Ltd. cannot be held responsible for any accident or damage resulting from such use.

Please use this model carefully and refrain from subjecting it to any unnecessary stress or wear.

Should you have any questions or concerns regarding use of this simulator, please contact the distributor who you purchased from or Kyoto Kagaku Co., Ltd.

Specifications

Materials: Soft resin and hard plastic

Size: Life-size adult

Weight: approx. 6.5kg (weight of unit with all parts attached)

Set Includes:



- a. Abdomen model 1 piece
- b. Colon-rectum tube 1 piece
- c. Anus unit 1 unit
- d. Air bulb 1 unit
- e. Abdomen skin cover 1 piece
- f. Colon tube fixtures 1 set
(Fixture type A (with spring), 5 pieces / Fixture type B (without spring), 10 pieces / Wrench, 1 piece / Clip, 1 piece)
- g. Colon layout guide Set of 5
- h. Concentrated lubricant :BLUE pack 30 packs (50ml each)
- i. Endoscope lubricant gel :PINK pack 30 packs (20ml each)
- j. Plastic bottle 1 piece
- k. Stand 1 piece
- l. Rubber sheet 1 piece
- m. Anus plug 1 piece

Instructions

1 Before Training---- Preparation and Set-up

① Prepare lubricant



- Pour one 50 ml. pack of the concentrated lubricant (BLUE pack) into the plastic bottle.

*Do not confuse with the endoscope lubricant gel (PINK pack) .



- Add 50cc of water to the lubricant in the bottle.
Close the cap tightly.
(Mixing ratio; concentrated lubricant: water=1:1)



- Agitate the liquid by shaking the bottle well.
Shake it well times until bubbles are formed throughout the liquid.

Please note:

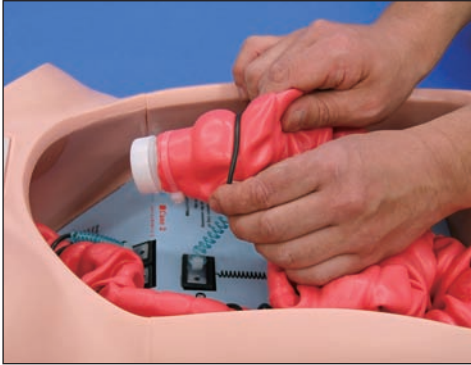
Do not use concentrated lubricant without diluting with water; it may clog in the channels of the colonoscope.

Only prepare as much lubricant as needed for each training session. Do not reuse leftover portion, as the viscosity deteriorates over time.

Only use the lubricant with the colonoscopy simulation training model. Lubricant is not intended for human use.

Never use the concentrated lubricant or diluted solution to human body.

② Detach colon-rectum tube

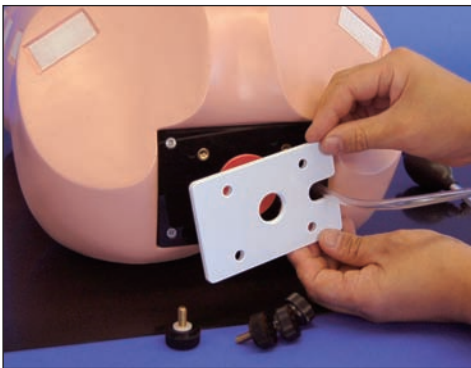


- Detach the colon tube from the abdomen unit. (The colon tube is attached in the factory).

If you are not changing the existing layout for training, then take the tube out through the fixture rings, leaving the fixtures on the base.

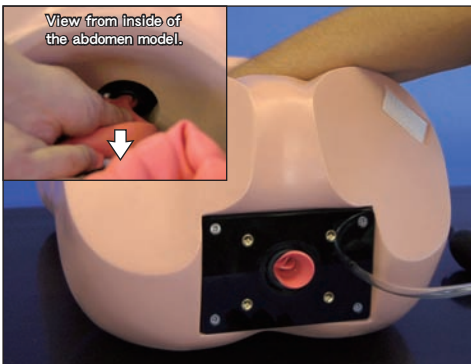
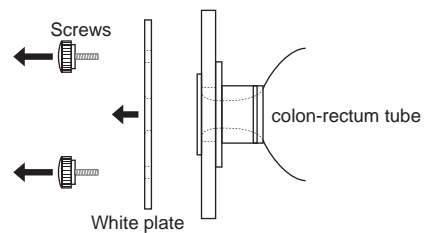


- To change the layout, detach the fixtures by using the wrench.



- Detach the anus unit.

Take off the four screws on the white plate and remove the plate.

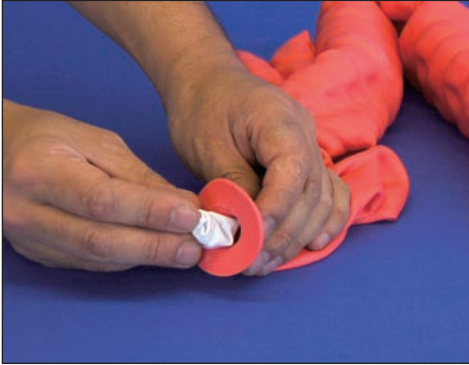


- Slowly remove the colon tube from the inside of the abdomen model. Be very careful to avoid tearing the tube.

Caution

Do not pull the tube too strong. Excessive force may cause breakage in the tube.

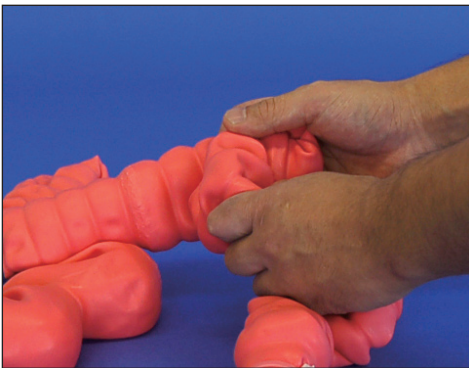
③ Pour the lubricant into the colon-rectum tube.



- Plug the anus opening of the colon-rectum tube with soft gauze to prevent spillage while filling the tube.



- Open the cap at the end of the colon-rectum tube and pour the diluted lubricant in slowly. Do not pour all at once.

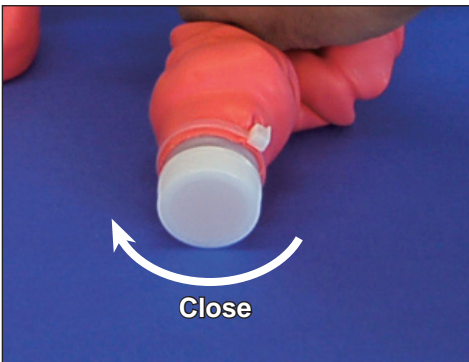


- Work the lubricant throughout the colon tube.

Please note:

Leakage may result if too much lubricant is put in at once; use enough for each training session and add more if needed.

Typically, 50cc of diluted lubricant is enough for training. The leftover can be used to add lubricity while training, if necessary.

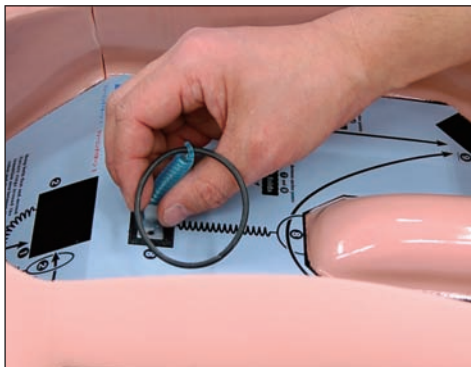


- Close the tube cap tightly.

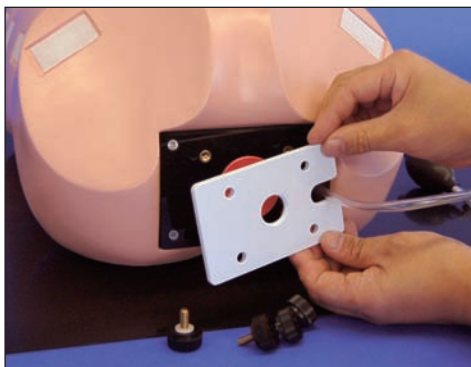
④ Install the colon-rectum tube in the abdomen model



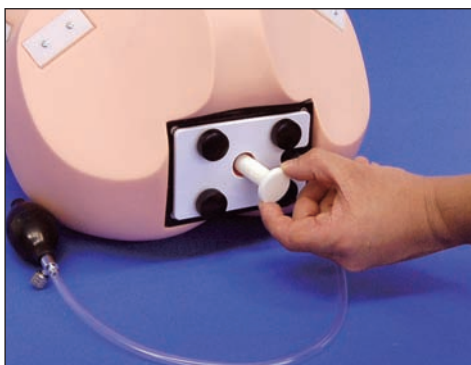
- Place one of the colon layout guide board at the bottom of the abdomen model.



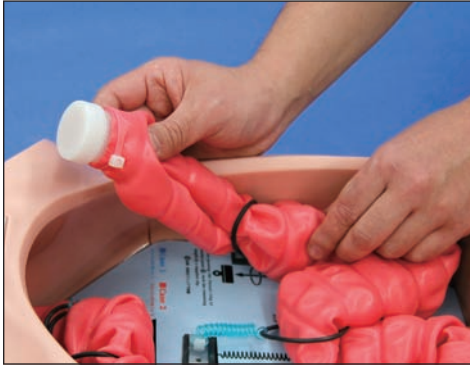
- Put the fixtures at the anchor points as indicated on the layout guide.
You can also adjust the fixtures freely to meet other variations without the guides.



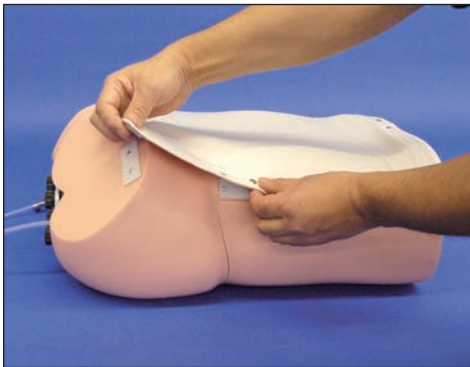
- Insert the anal end of the colon-rectum tube in the opening of the abdomen model wall.
Fix it by the white plate (see drawing on p. 11).



- Remove the gauze from the anus opening and insert the supplied plug.



- Lead the colon-rectum tube through the fixtures following the guide on the board.



- Attach the abdomen skin cover with the Velcro fasteners and set the model on a level table on top of the supplied rubber sheet.



- When you need to detach any fixtures, use the supplied wrench.

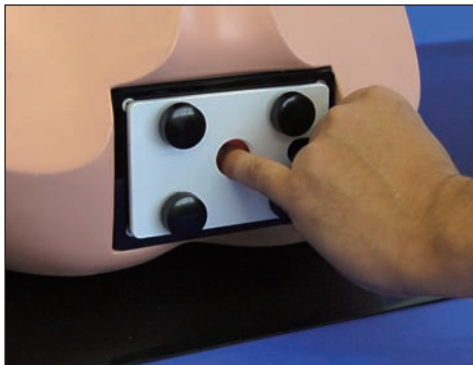


Caution

Always use the supplied wrench to detach fixture rings and springs.

2 While training.

① Confirm the proper setting of the anus.

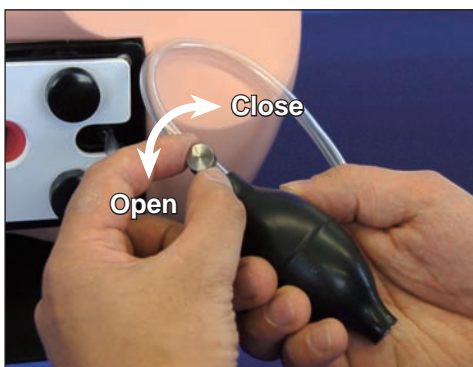


- Remove the anus plug. Before insertion of the colonoscope, check to make sure there is enough lubricant in the colon tube. If a bit dry, add more lubricant with your finger.

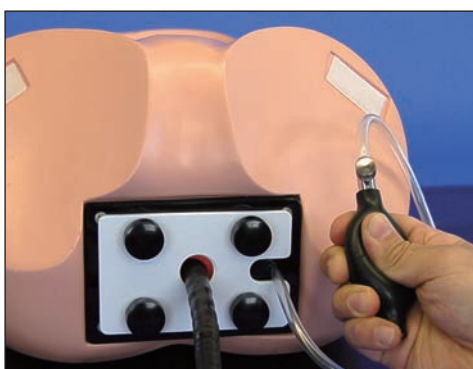
Caution

Put some endoscope lubricant on the colonoscope when the insertion does not go smoothly. Do not continue training with poor lubrication or it may cause breakage in the tube, the anal part or the colonoscope.

② Adjust the pressure of the anus opening



- Close the air valve dial on the air bulb connected to the anus unit by turning clockwise.



- Insert the tip of the colonoscope into the anus opening.
- Squeeze the bulb several times to increase pressure to the anus wall. Adjust the diameter of the anus opening to allow smooth insertion of the colonoscope without any gap.

To loosen the opening, release the pressure by turning the valve dial counter-clockwise.

Caution

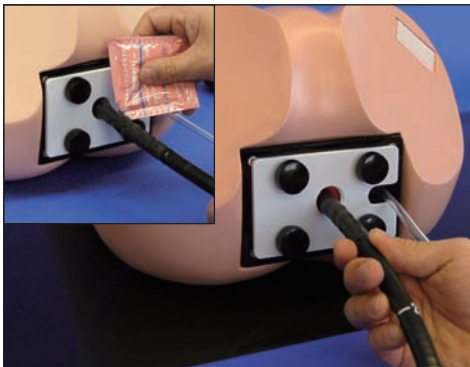
Do not insert the colonoscope if the anus opening is too tight. Breakage of the colon tube may result. Adjust pressure against the anus opening so that there is no strong resistance to the colonoscope.

③ Change the Body Positions



- To stabilize the lateral positions, attach to the stand accordingly (see picture).

④ Insert the colonoscope and proceed with training.



- If you encounter strong resistance to the endoscope, add some endoscope lubricant (PINK pack) along the insertion section of the colonoscope.

Caution

Do not advance the colonoscope when you feel the strong resistance and add some endoscope lubricant as described above.

If you continue inserting while feeling strong resistance, it may cause breakage in the tube or the anus wall.

3 After Training --- Cleanup and Storage

① Clean the model



- At a standard sink, open the cap at the end of the colon tube and remove the anus plug. Let water flow freely through the tube, working out any excess lubricant. Repeat the flushing until no residue is detected in the tube. Drain and dry the tube well. Wipe any water or lubricant from the abdomen model.

② Clean the colonoscope

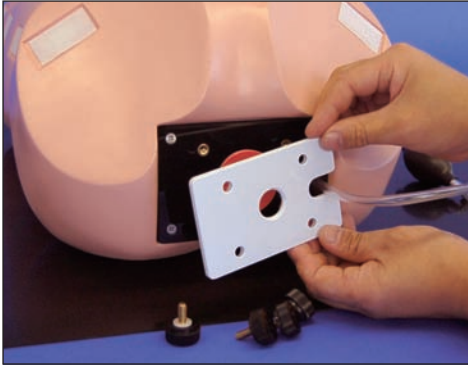
- Clean the colonoscope soon after usage according to the manufacturer's instructions.

Caution

Without proper cleaning and maintenance, the lubricant may dry and clog in the colonoscope tube, causing deterioration in insufflation and water supply functions. The remaining lubricant may also lead to insufficient cleaning and disinfection at the time of reprocessing.

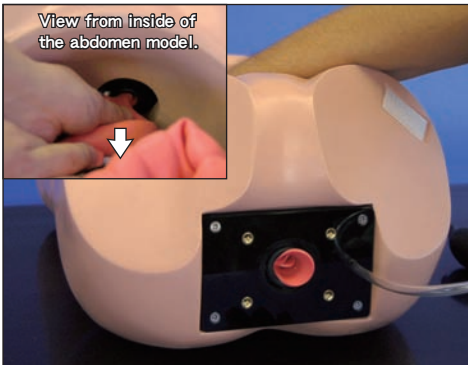
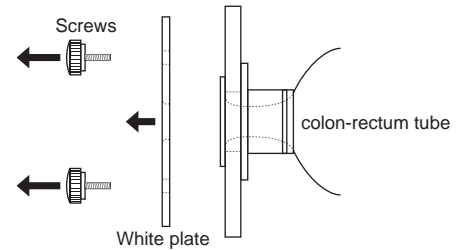
4 Maintenance

① Replacement of the colon-rectum tube.



- Detach the anus unit.

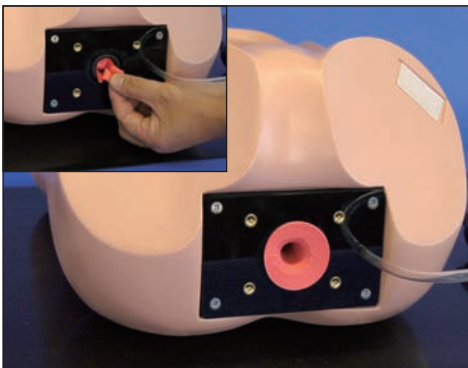
Take off the four screws in each corner on the white plate and remove the plate.



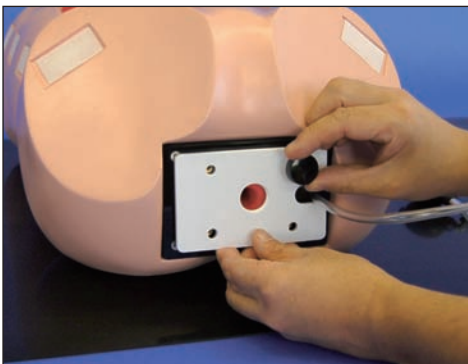
- Slowly remove the colon-rectum tube from the inside of the abdomen model. Be very careful to avoid tearing the tube.

Caution

Do not pull the tube too strong. Excessive force may cause breakage in the tube.



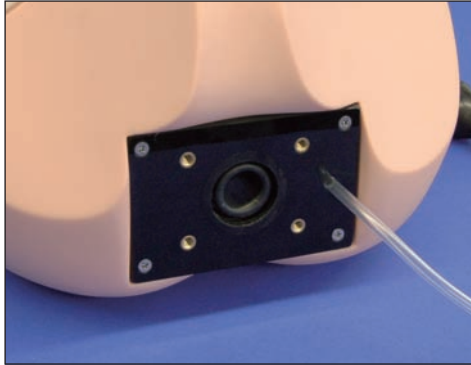
- Insert the anus end of the replacement colon tube through the hole on the abdomen model wall.
Fit the end of the tube to the base without pinching or creasing.



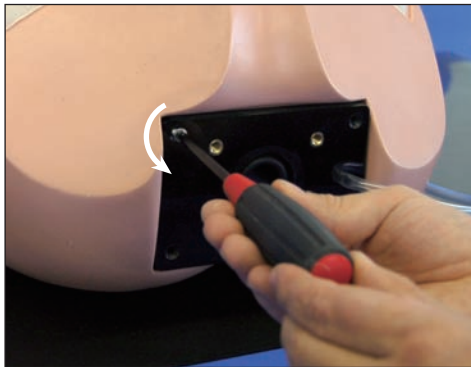
- Attach the white plate to the base so that the end of the tube fits in the notch. Attach the four screws. Make sure there is no pinching or creasing.

② Replacement of the anus unit

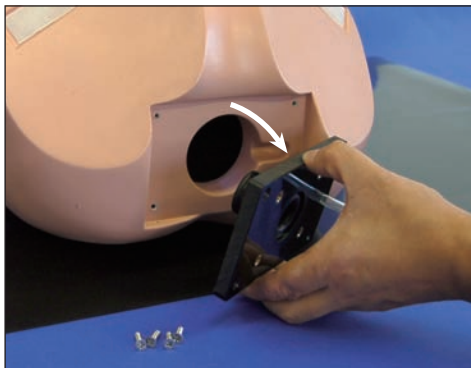
(Do not detach the anus unit unless replacing a broken section or part)



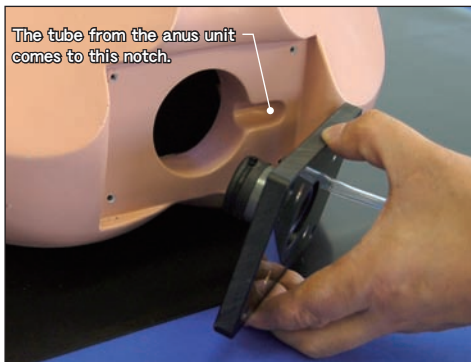
- With the white plate off, detach the colon tube using the instructions on p. 11.



- Take off the four screws with a Philips-head (+) screwdriver.



- Remove the anus unit from the abdomen model.



- Install the new anus unit so that the air tube and the notch on the model wall meet. Reattach the anus unit with the four screws to the abdomen model.

Troubleshooting

• Use the following steps to ensure satisfactory training with the Colonoscope Training Model.

If trouble persists, please contact the distributor from which the unit was purchased, or Kyoto Kagaku Co., Ltd. Contact information is on the last page of this manual.

Q I cannot make the anus opening close, no matter how many times I squeeze the air bulb.

A Is the air valve closed? Turn the air valve dial clockwise to fully close. (See instructions on p. 8).
If the valve is closed but the anus opening doesn't close, there may be breakage in the air bulb or the anus unit. Order a replacement and install according to instructions on p. 12.

Q The bottom of the abdominal model is soaked with lubricant while training.

A Is the colon tube cap closed tightly?
If the cap is closed, but excessive wetness persists, there may be breakage in the colon tube. Replace according to the instructions on p. 11.

Q The colon-rectum tube does not inflate or deflate when using the colonoscope to insufflate or deflate.

A Are there any gaps between the endoscope and the anus opening? (See p. 8).
Is the tube cap closed tightly?
Is there a twist or kink in the colon tube preventing the air flow? If the condition persists, there may be a leak in the tube. Replace according to the instructions on p. 11.

Q I feel strong resistance suddenly, while inserting the colonoscope.

A Is the anus opening diameter adjusted properly? If the opening is too tight, the scope does not go smoothly. Adjust the pressure at the anus wall by releasing the air. (See page 8)
Did you put the colonoscope lubricant? Add some lubricant around the anus opening. (See page 9)
Is there enough lubricant in the colon-rectum tube? If the liquid is getting short, add some slowly. (See page 5)
Did you use newly diluted lubricant? If not, prepare new diluted lubricant and try again by using it. (See page 3)
Isn't the colon-rectum tube twisted? If so, make the tube straight and try again.

Dos and Don'ts

Dos

Handle with care

The materials used for the colon-rectum tube and other internal sections are made of special resin composites. Excessive force may cause breakage.

Cleaning

Thoroughly rinse all excess lubricant from the colon tube and abdomen model when finished training before storage. Clean the surface of the abdomen model with mild soapy water and dry completely. Apply talcum powder to the colon tube to avoid stickiness.

Storage

Make sure to release the air pressure from the anus unit before storage.

Store the model at room temperature, away from heat, moisture and direct sunlight.

* Note that the color of the tubes, skin cover and abdomen model may change over time, but this does not affect the quality and performance of the training model.

Don'ts

Never wipe the model or tubes with thinner or organic solvent.

Ink from pens or printed material coming in contact with the model may leave permanent markings.

Always leave the colon tube in the abdomen model or in the supplied storage bag. It may affect other resins it comes into contact with.

Replacement Parts

Consumables	QTY	product code	Description
Colon-rectum tube	1 unit	RZ015000	Colon-rectum tube, Tube caps (a set of inner and outer cap), Anus plug
Anus unit	1 unit	RZ015100	Anus unit with air tube and air bulb
Colon fixtures	1 set	RZ015200	(5 Type A, 10 Type B, 1 Wrench, 1 Clip)
Lubricant (concentrated)	1 box	RZ015300	30 packs (50ml each)
Endoscope lubricant gel	1 box	RZ015400	30 packs (20ml each)
Colon layout guide	1 set	RZ016100	5 layout guides, 1 training guide leaflet

For inquiries and service, please contact your distributor or:

KYOTO KAGAKU CO., LTD.

Main Office and Factory

15 Kitane-koya-cho Fushimi-ku Kyoto 612-8388, Japan Telephone : 81-75-605-2510 Facsimile : 81-75-605-2519

LA Office (for USA and CANADA customers)

3109 Lomita Boulevard, Torrance, CA 90505, USA Telephone : 1-310-325-8860 Facsimile : 1-310-325-8867

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Colonoscope Training Model

Training guide

Table of Contents

Preparation and Set-up p.4 ▪ p.5

■ Primary level

Case 1. (Introductory level I) p.6 ▪ p.7

Case 2. (Introductory level II) p.8 ▪ p.9

Case 3. (Straighten out "Alpha" loop) p.10 ▪ p.11

■ Secondary level

Case 4. (Redundant sigmoid colon, "N" loop formation and long transverse colon) p.12 ▪ p.13

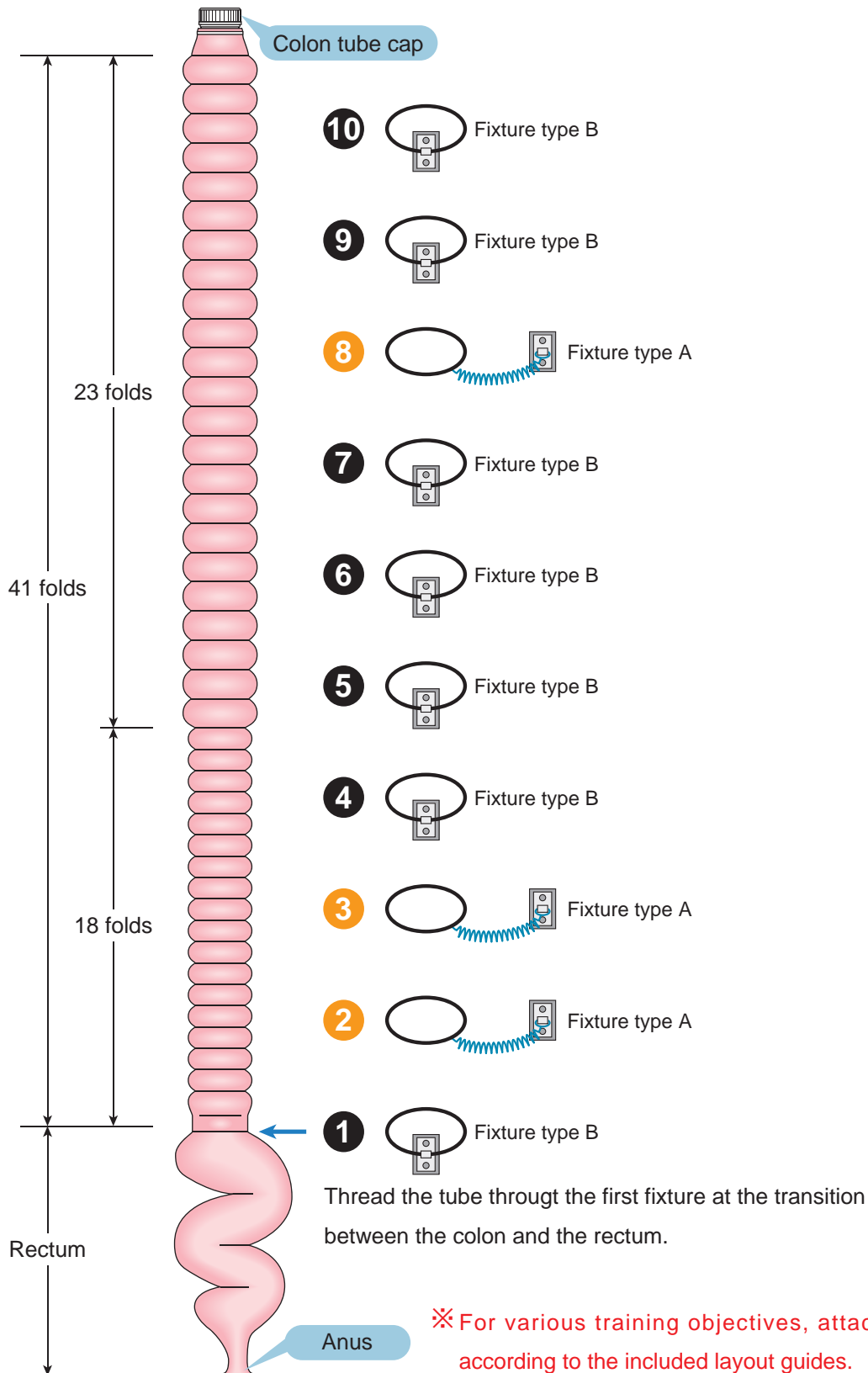
Case 5. (Redundant sigmoid colon and "alpha" loop formation) p.14 ▪ p.15

■ Advanced level

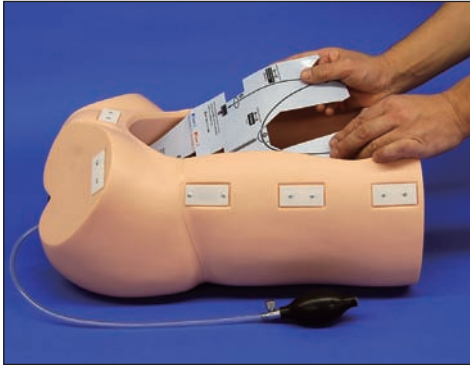
Case 6. ("Reverse alpha" loop formation) p.16 ▪ p.17

Preparation and Set-up

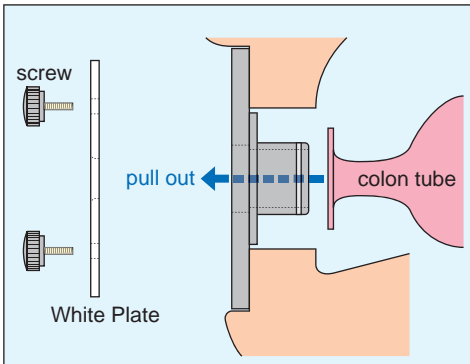
First, attach the fixtures to the colon-rectum tube in order, as illustrated bellow, threading the tube through the fixture rings. Keep in mind the two types of fixtures, Type A in positions 2, 3 and 8, and Type B for the rest.



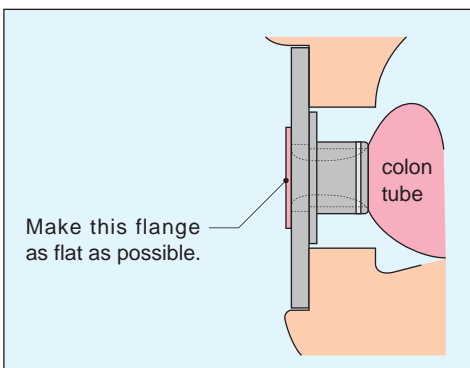
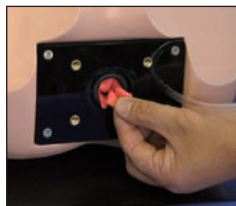
After filling the colon-rectum tube with lubricant (see pages 3 & 5 of the "Instruction Manual"), attach it to the anus opening of the abdomen unit. Close the opening with the supplied plug after affixing the plate.



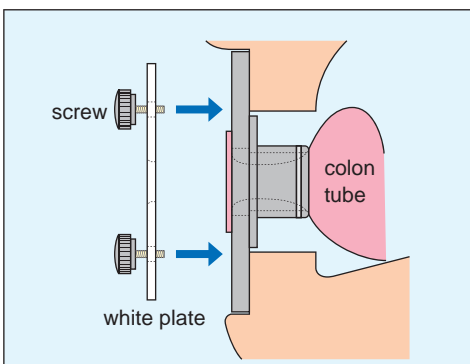
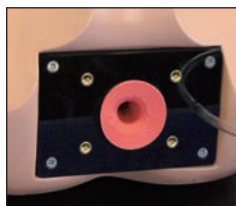
- Place one of the colon layout guide boards at the bottom of the abdomen model.



- Take off the four screws from the white plate and remove the plate. Insert the anal end of the colon-rectum tube through the opening of the abdomen model wall.



- Fit the flange at the tube-end to the black base without pinching or creasing.



- Attach the white plate to the base so that the manual pump air tube fits in the notch. Affix the plate with the four screws.

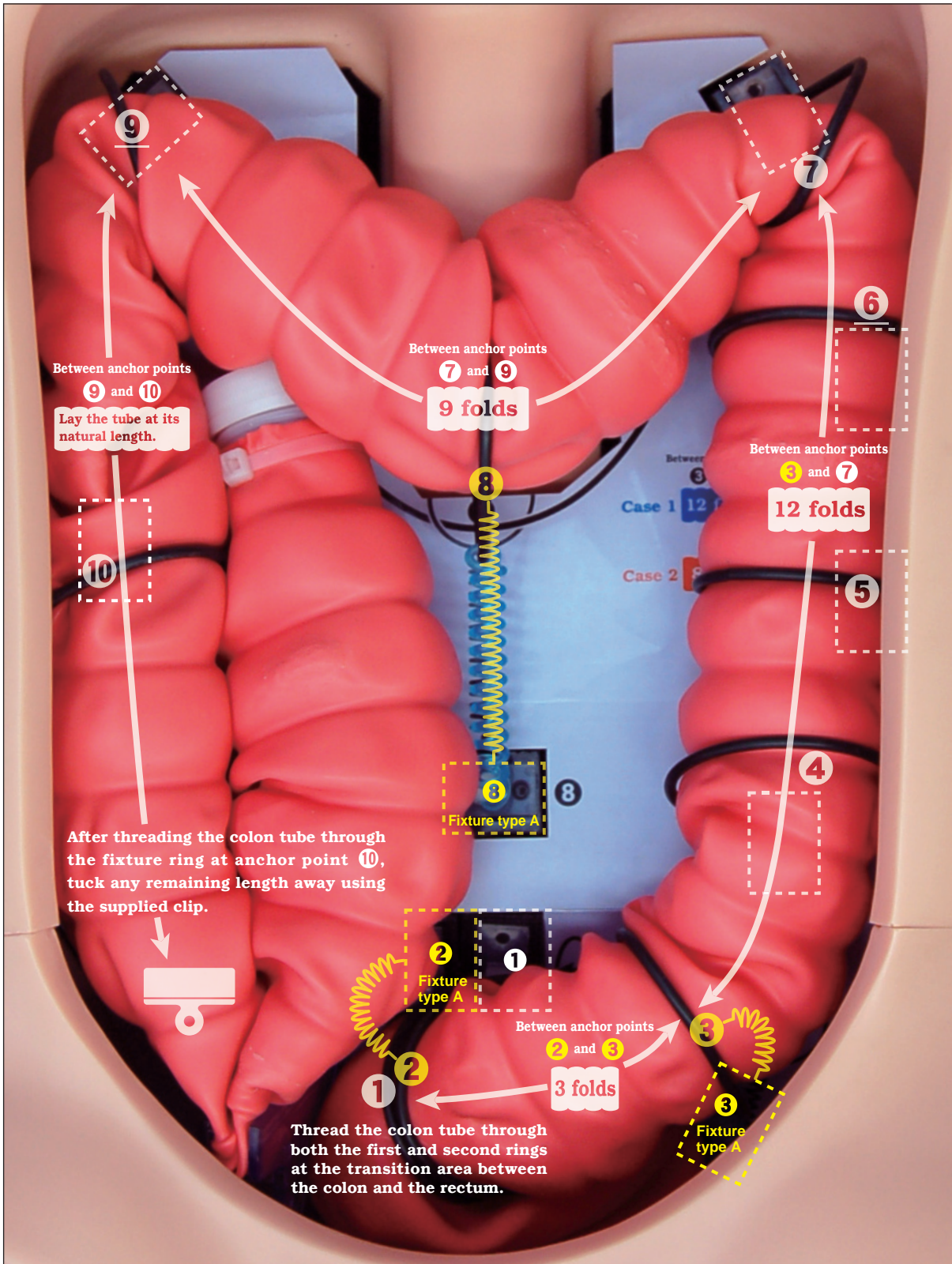


Primary level

Case 1

■ Introductory level I

■ Simple layout appropriate for first-time trainees.



■ Objectives

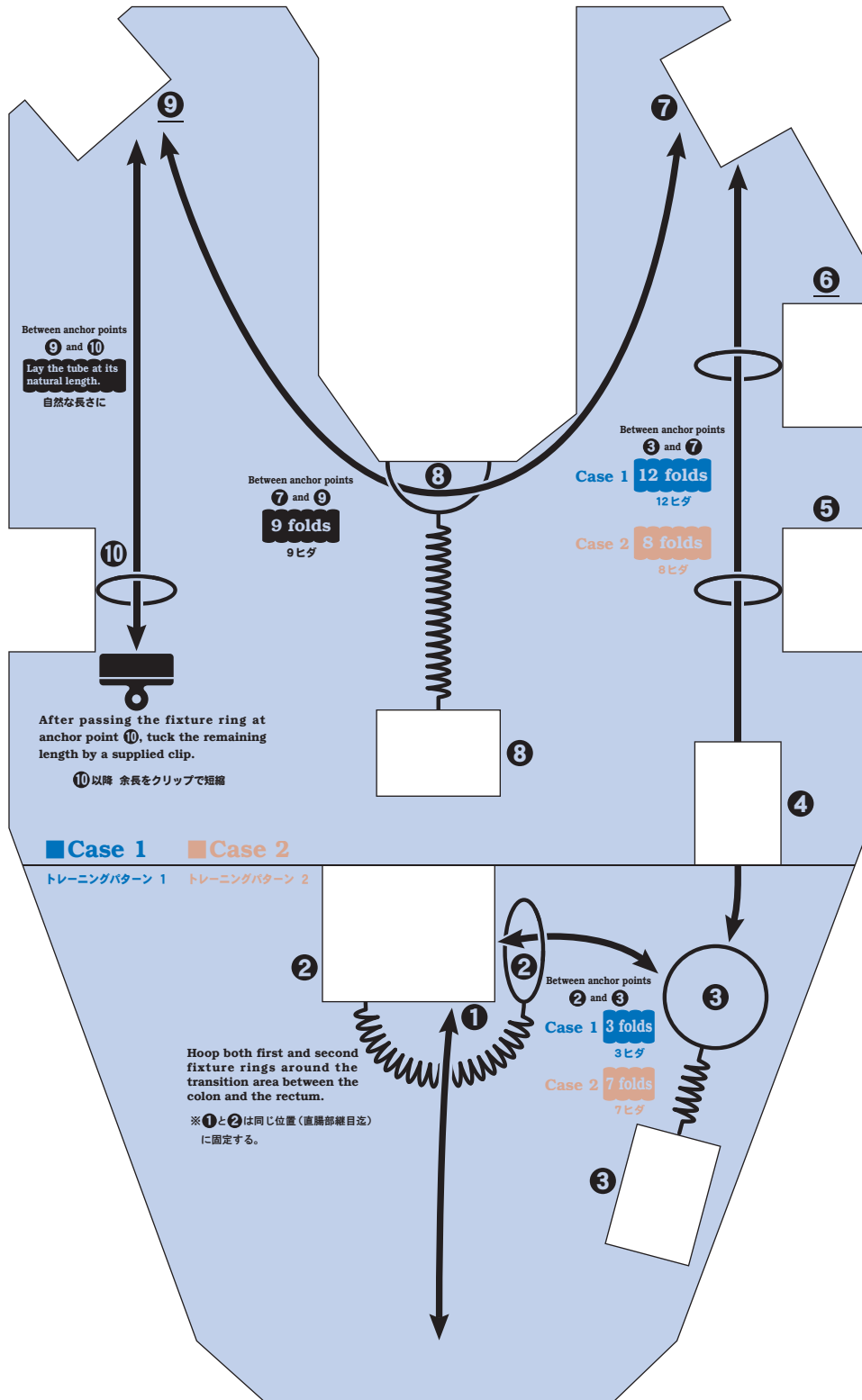
Learn how to insert the colonoscope deeply into the transverse colon and the ascending colon, without forming a loop at the sigmoid colon.

Acquire basic insertion skills required to pass through at each part of the colon.

■ Skills Gained

Learn the "hooking the fold" method to pass through the sigmoid colon.

Learn "withdrawal" manipulation to go through the hepatic flexure.

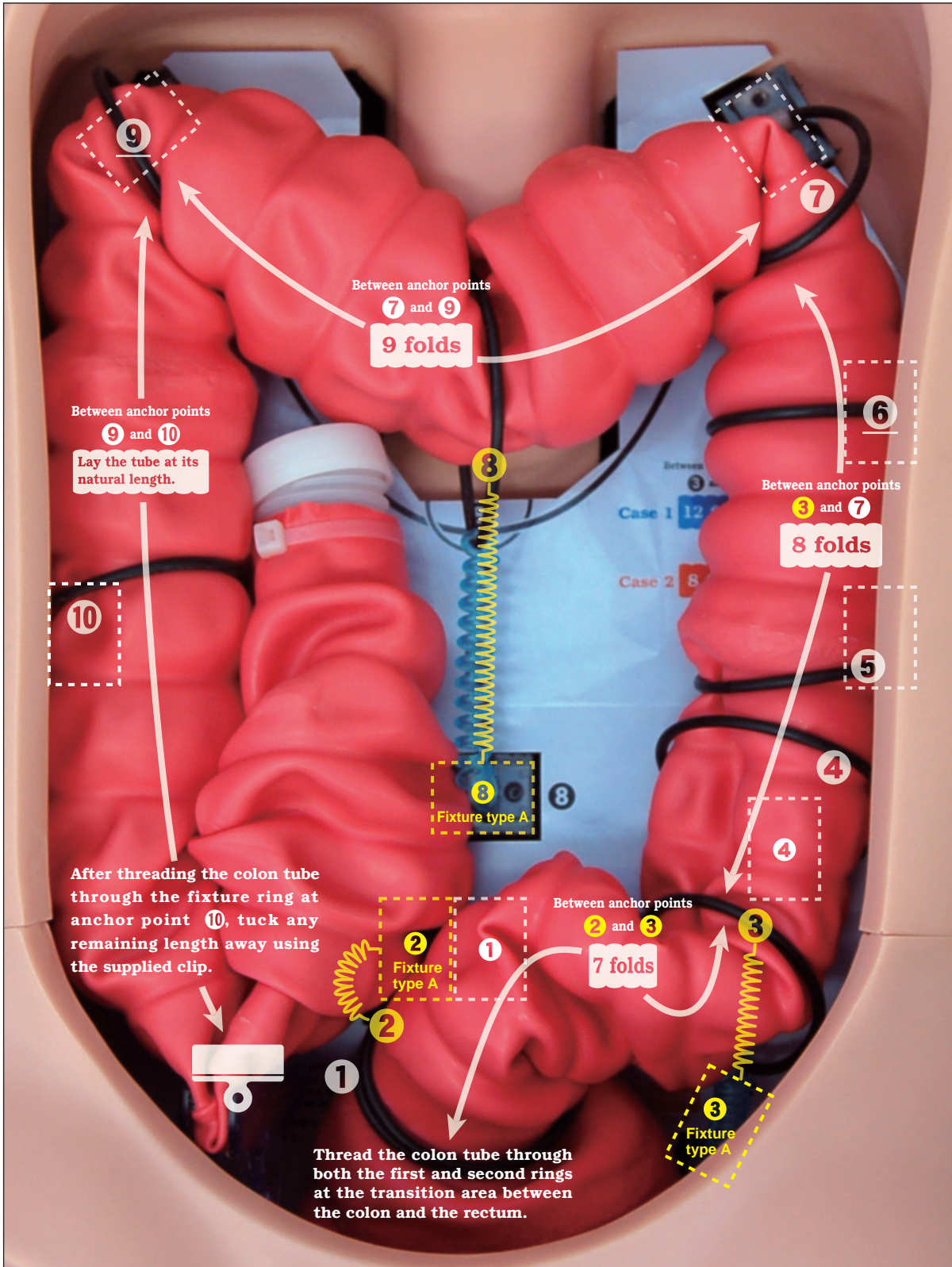


Primary level

Case 2

■ Introductory level II

- Still a simple layout, but with a longer sigmoid colon than in Case 1. An essential training step before moving on to actual patients.

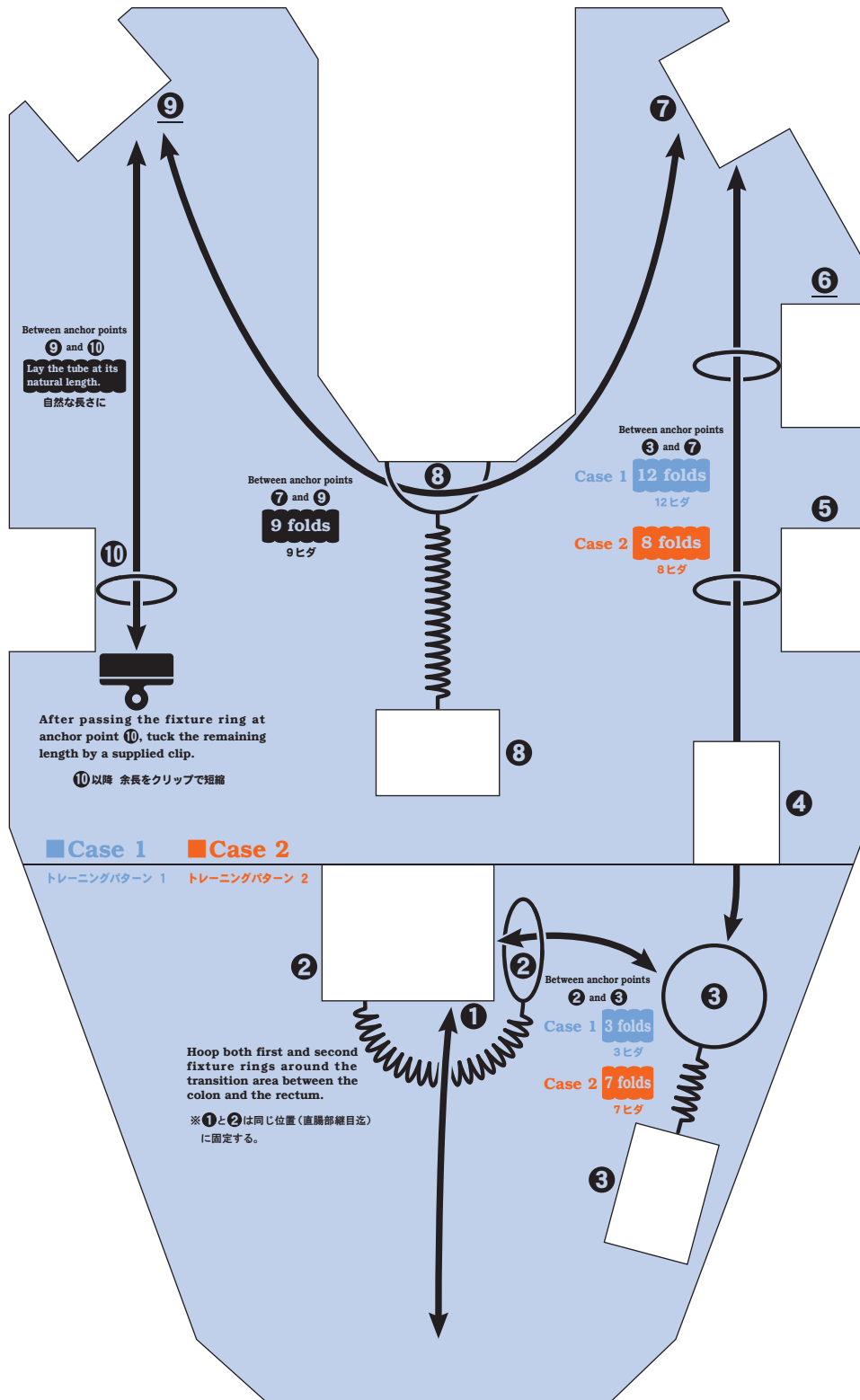


■ Objectives

Pass through the sigmoid-descending colon (S-D) junction without forming a loop, while practicing a right withdrawal with clockwise torque.

■ Skills Gained

Advance the colonoscope into the descending colon without forming a loop while practicing the "hooking the fold" method with sufficient suction and straightening of the scope.

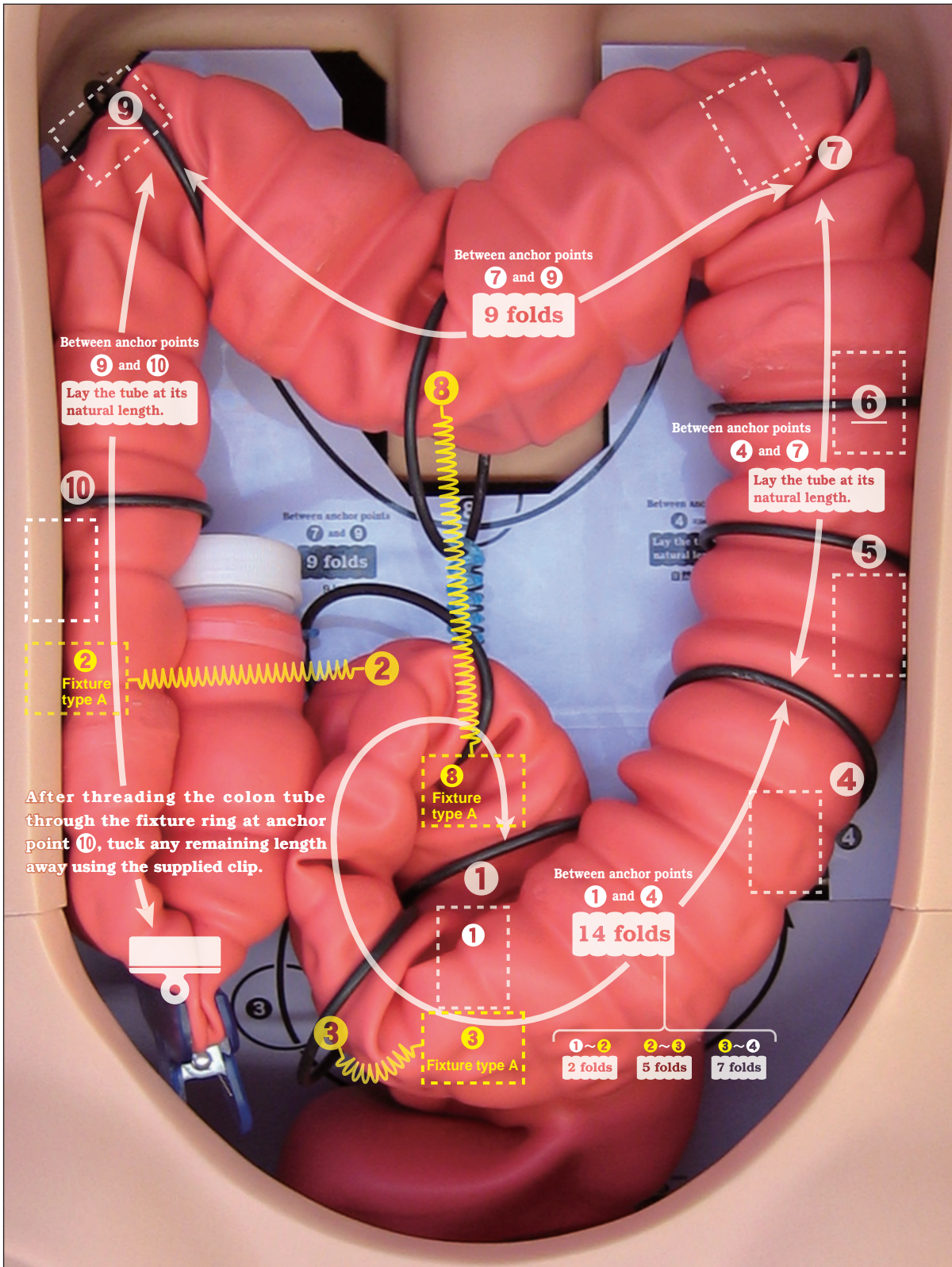


Primary level

Case 3

■ Straighten out the "Alpha" loop

- Still a simple layout, but with a naturally formed "Alpha" loop in a longer sigmoid colon. With insertion, the colonoscope naturally forms an "alpha" loop, and advances toward the splenic flexure.

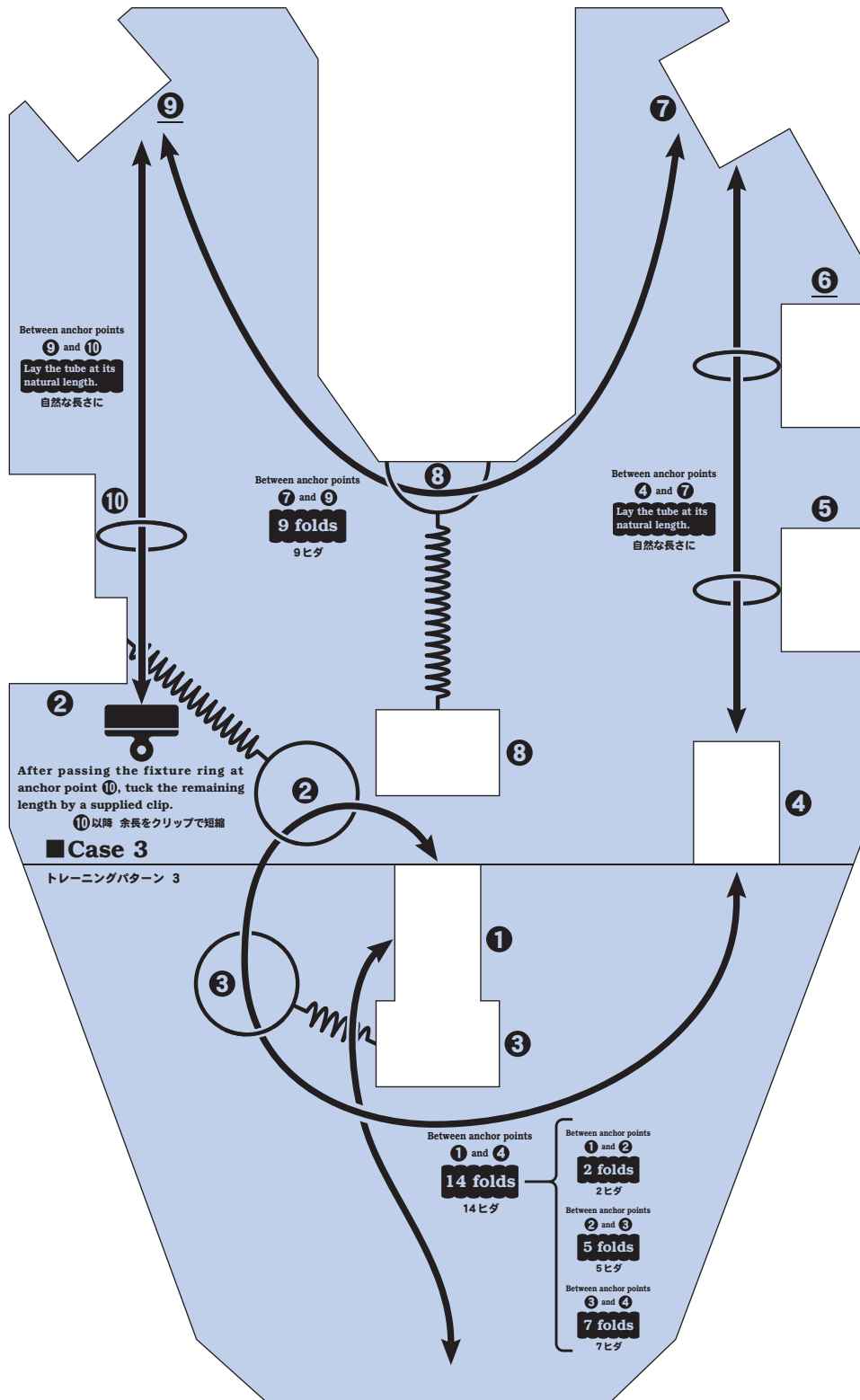


■ Objectives

Learn how to straighten out an "alpha" loop at the sigmoid colon.

■ Skills Gained

Reduce the "Alpha" loop at the sigmoid colon, practicing the "right turn shortening" method (withdrawal with clockwise torque).

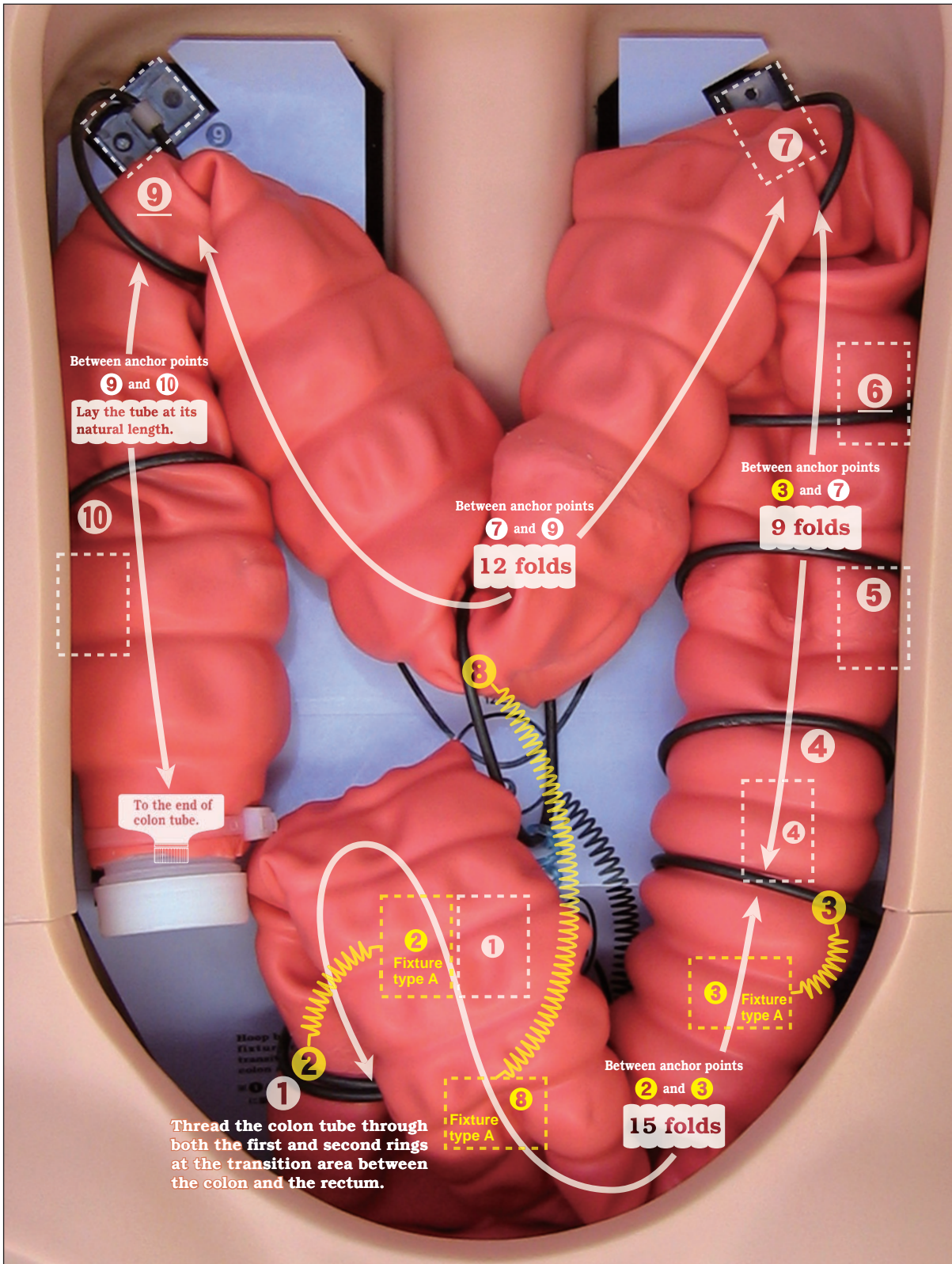


Secondary level

Case 4

■ Redundant sigmoid colon, "N" loop formation and long transverse colon

■ A challenging layout, with a difficult-to-shorten sigmoid colon and a drooping transverse colon.



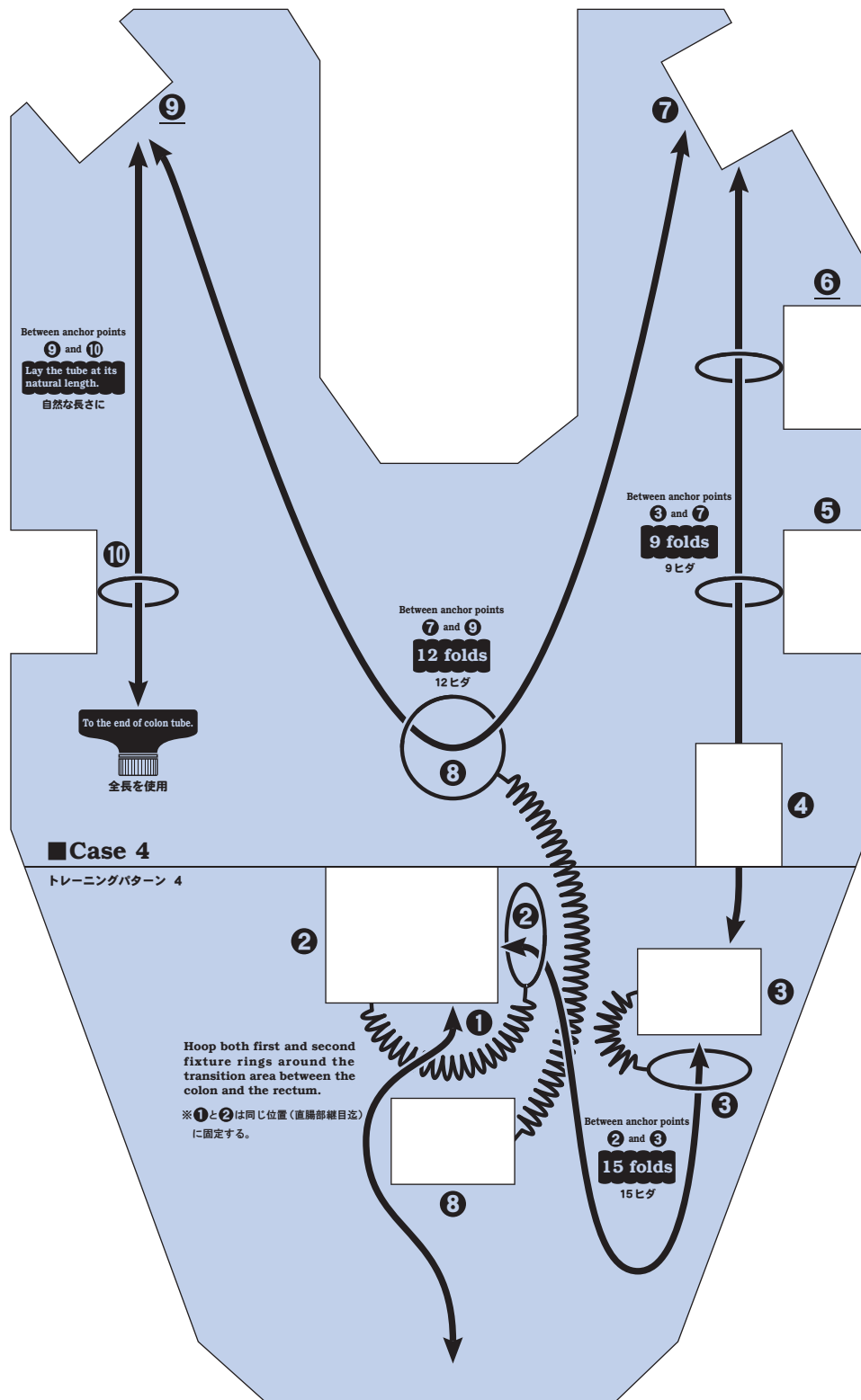
■ Objectives

Manage successful insertion for challenging cases with a long sigmoid colon and drooping transverse colon.

■ Skills Gained

Proper insertion techniques utilizing all skills and methods learned at the primary level.

To accomplish even higher skill, trainees may be able to challenge to insert the colonoscope without forming any loop, which is considered to give less pain to patients.

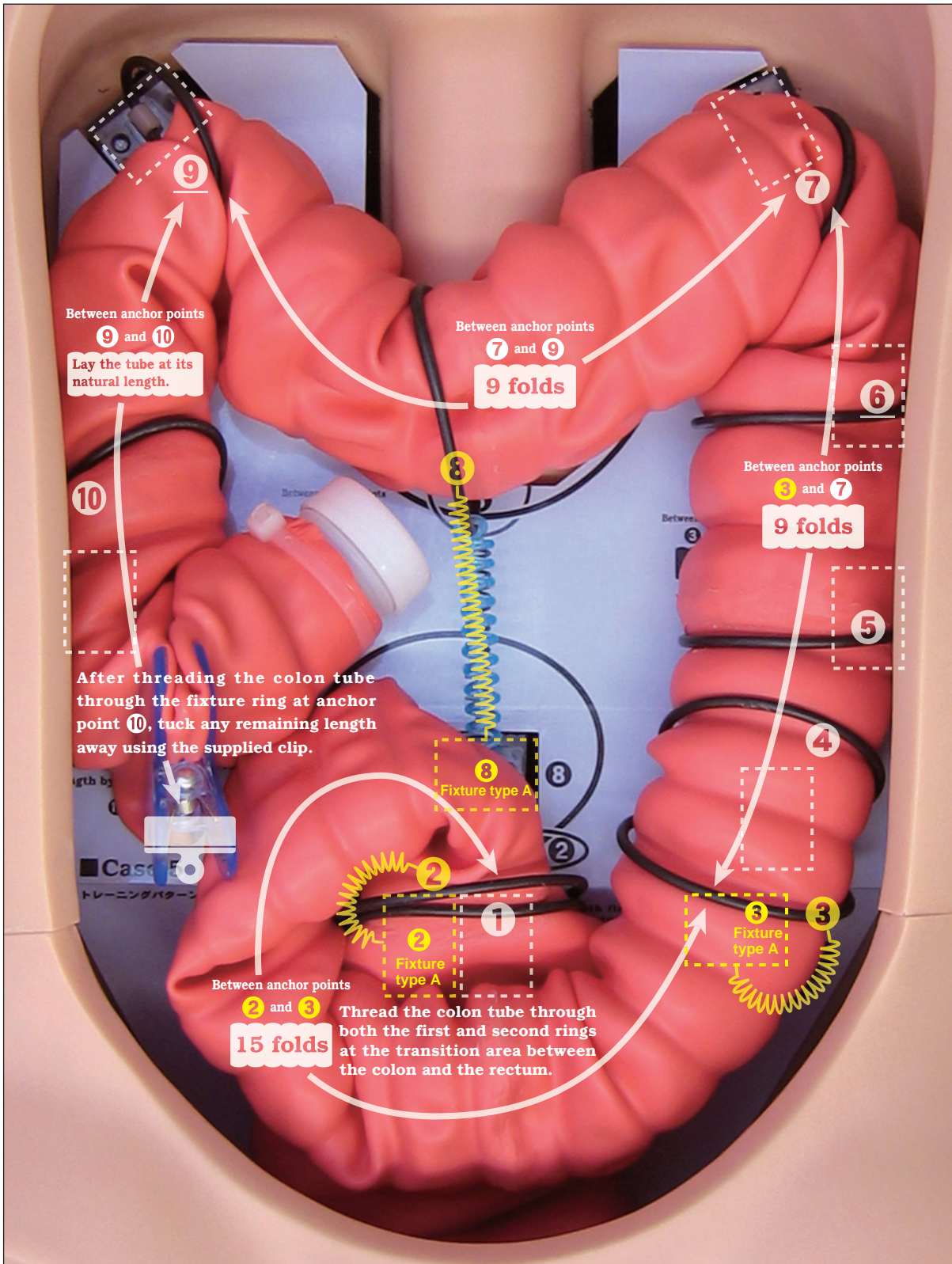


Secondary level

Case 5

■ Redundant sigmoid colon and "alpha" loop formation

- An "alpha" loop is formed by the redundant sigmoid colon, therefore, passing through the sigmoid colon by shortening method is extremely challenging.



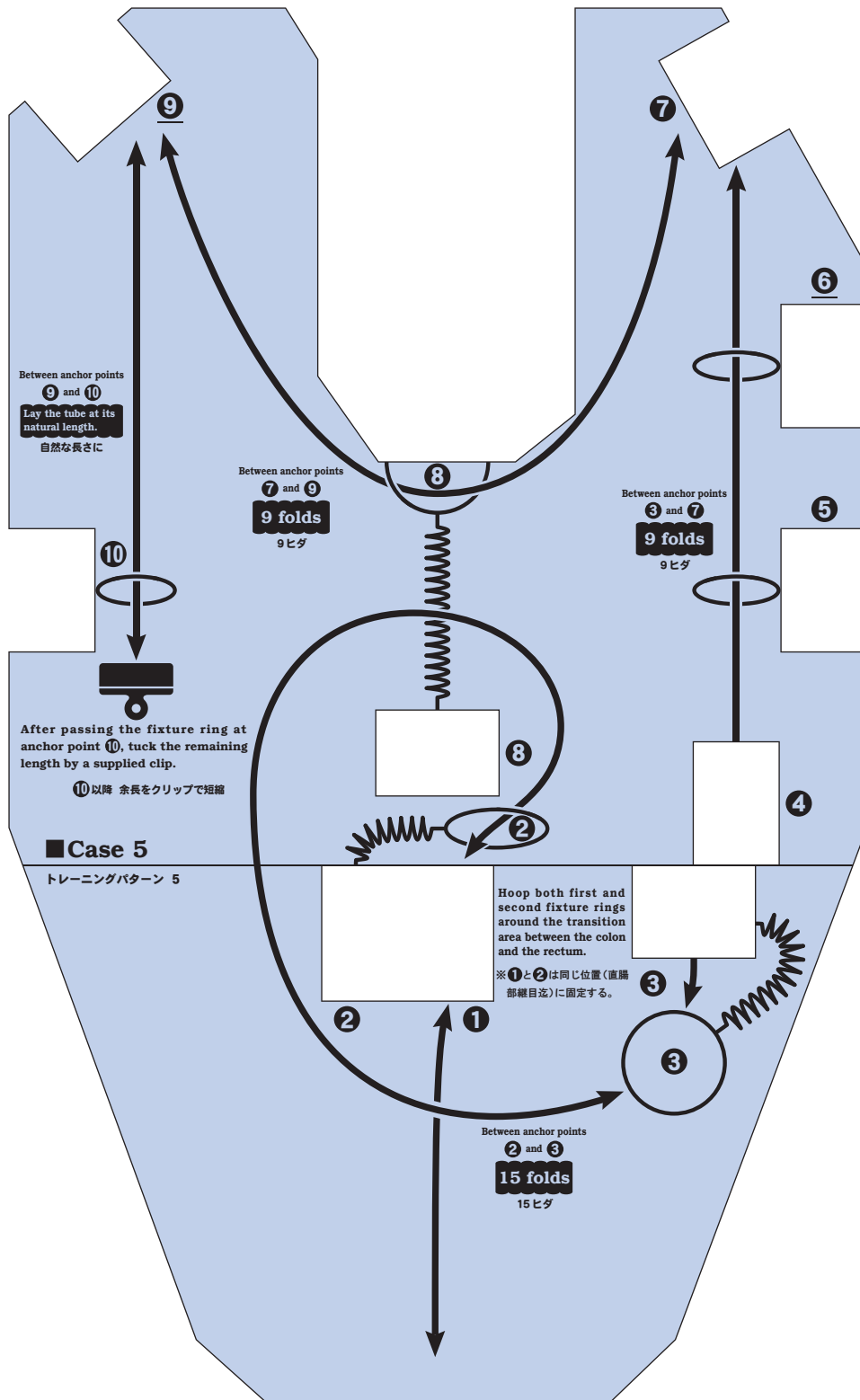
■ Objectives

Learn how to reduce a sigmoid colon loop and how to achieve the "shortening of the colon" when trainee encounter challenging cases.

■ Skills Gained

Proper insertion techniques utilizing all skills and methods learned at the primary level.

To accomplish even higher skill, trainees may be able to challenge to insert the colonoscope without forming any loop, which is considered to give less pain to patients.

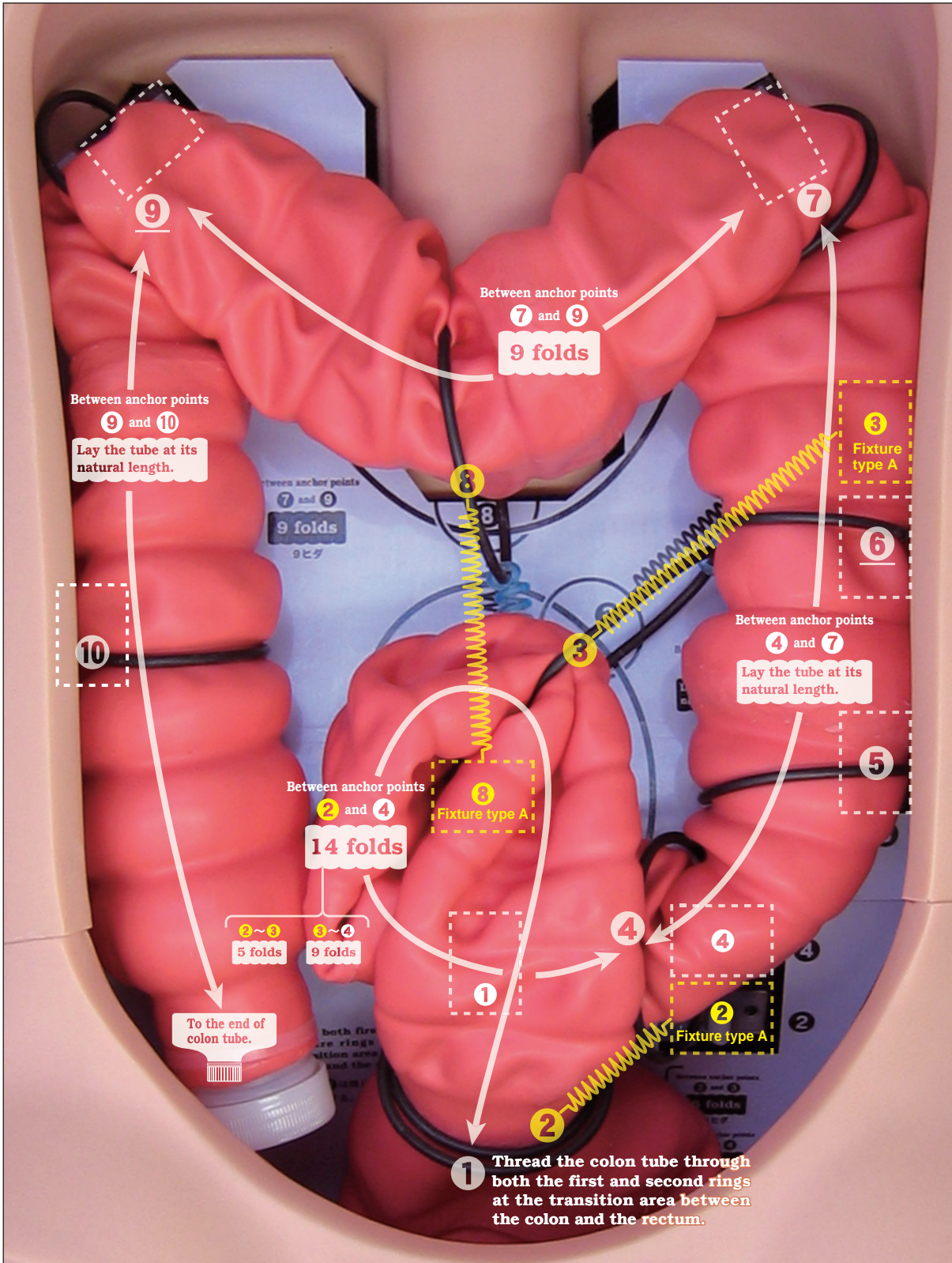


Advanced level

Case 6

■ "Reverse alpha" loop formation

■ Because of the significantly redundant sigmoid colon, a "reverse alpha" loop is formed by insertion of the colonoscope.

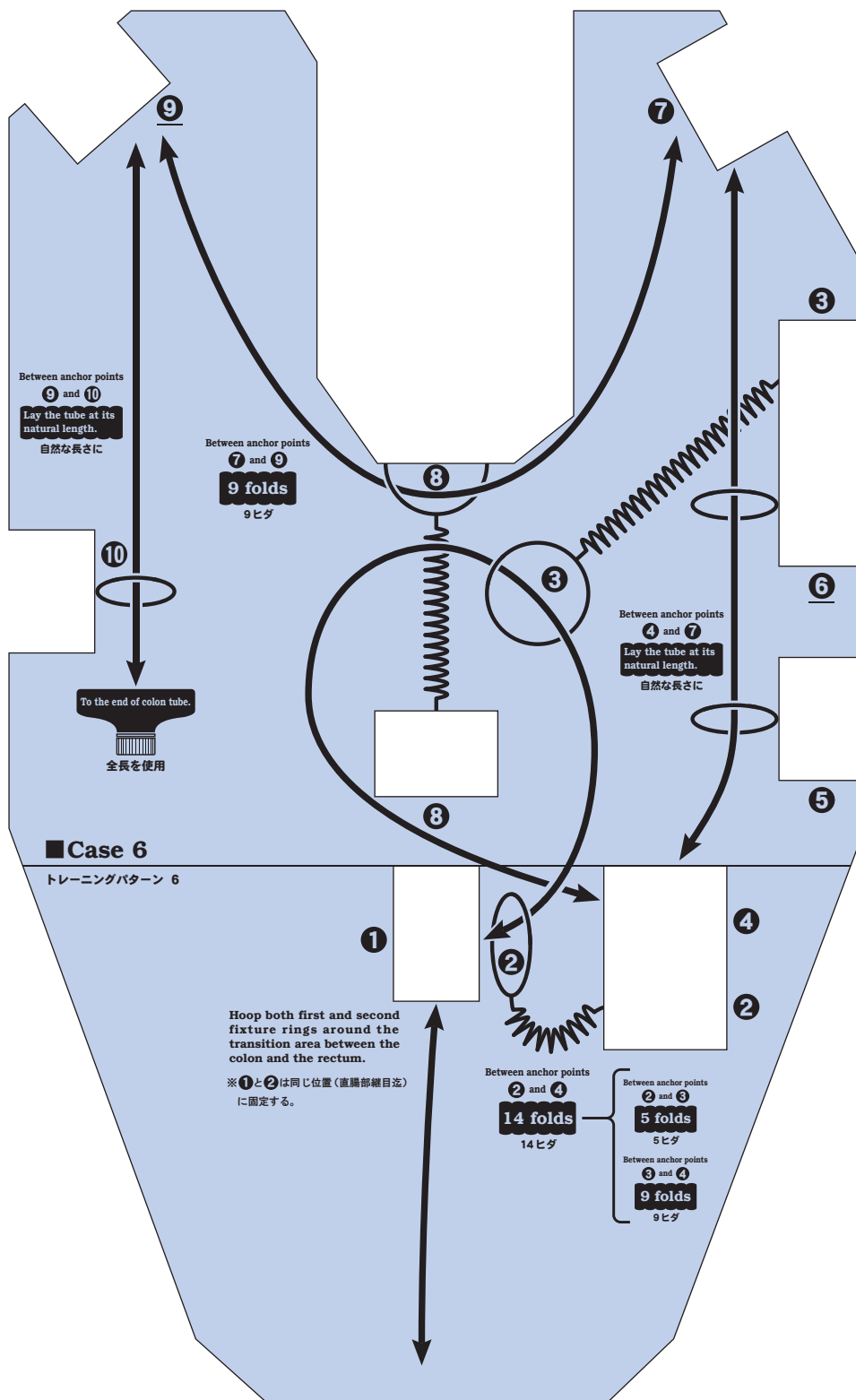


■ Objectives

Acquire skills in reduction of a "reverse alpha" loop, typically seen in lean patients, by using left torque.

■ Skills Gained

Since the shortening of the sigmoid colon is difficult to achieve, insert and advance the instrument first, until the tip reaches to the descending colon. Then straighten out the "reverse alpha" loop by left torque without letting the tip of the colonoscope drop off when it is pulled back.



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