

# BOWEL MANAGEMENT FOR FECAL INCONTINENCE

**Andrea Bischoff, MD**

The 65<sup>th</sup> Workshop for the Surgical Treatment of Colorectal Problems in Children



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# The problem we all live with



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# Patients

- Anorectal malformation
- Hirschsprung disease
- Myelomeningocele
- Sacrococcygeal teratoma
- Trauma



# Fecal incontinence is normal at birth



# What are our recommendations until the age of formal bowel management (before 3 yo)?

- A. Give a suppository every night
- B. Give an enema every night
- C. Give baby lax every night
- D. Avoid and treat constipation
- E. Constipating diet



How do you decide if a patient with anorectal malformation needs laxatives or enemas?







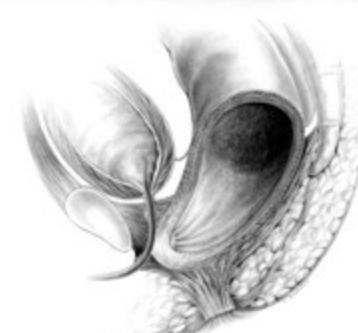
1. Recto-perineal fistula: 100% chances of bowel control\*~



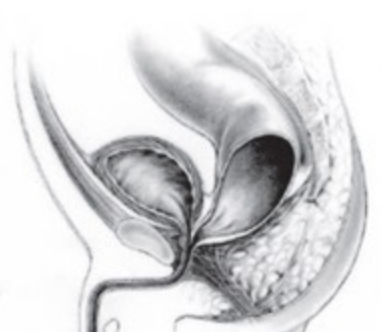
2. Recto-vestibular fistula: 95% chances of bowel control\*~



3. Recto-urethral bulbar fistula: 85% chances of bowel control\*~



4. Imperforate anus without fistula: 80 – 90% chances of bowel control\*~^



5. Recto-urethral prostatic fistula: 65% chances of bowel control\*



6. Recto-bladderneck fistula: 15% chances of bowel control\*



7. Cloaca with common channel length less than 3cm: 70% chance of bowel control\*

\*Provided patients have a normal sacrum (Sacral Ratio > 0.7), no tethered cord, and that they receive a technically correct operation

~Patients with good bowel functional prognosis are the ones who suffer from the most severe type of constipation

^High incidence of Trisomy 21.



# Concept Number 1:

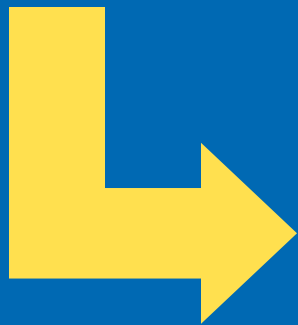
- Differentiate :
  - pseudo-incontinence
- VS.
- true fecal incontinence





# Fecal pseudo-incontinence

- Malformations with good prognosis (perineal, vestibular, bulbar, cloaca with common channel < 3cm),
- Normal sacrum,
- No tethered cord.



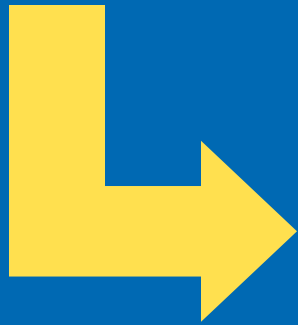
**CONSTIPATION AND OVERFLOW IS THE PROBLEM.**

**THE CLINICIAN MUST DETERMINE THE ADEQUATE LAXATIVE DOSAGE.**



# True Fecal Incontinence

- Malformations with bad prognosis (bladderneck fistula, cloaca with common channel > 3cm),
- Sacral ratio < 0.4,
- Tethered cord, myelomeningocele.



**PATIENT HAS NO POTENTIAL FOR BOWEL CONTROL.  
NEEDS BOWEL MANAGEMENT WITH ENEMAS.**



30 yo, male patient, born and operated due to recto-bladderneck fistula, complaining of fecal incontinence.



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# What does he suffer from?

1. True fecal incontinence
2. Fecal pseudo-incontinence





**What treatment does this patient need?**

**A. Laxatives**

**B. Enemas**

# What treatment does this patient need?

- A. Laxatives
- B. Enemas





# What treatment does this patient need?

- A. Laxatives
- B. Enemas

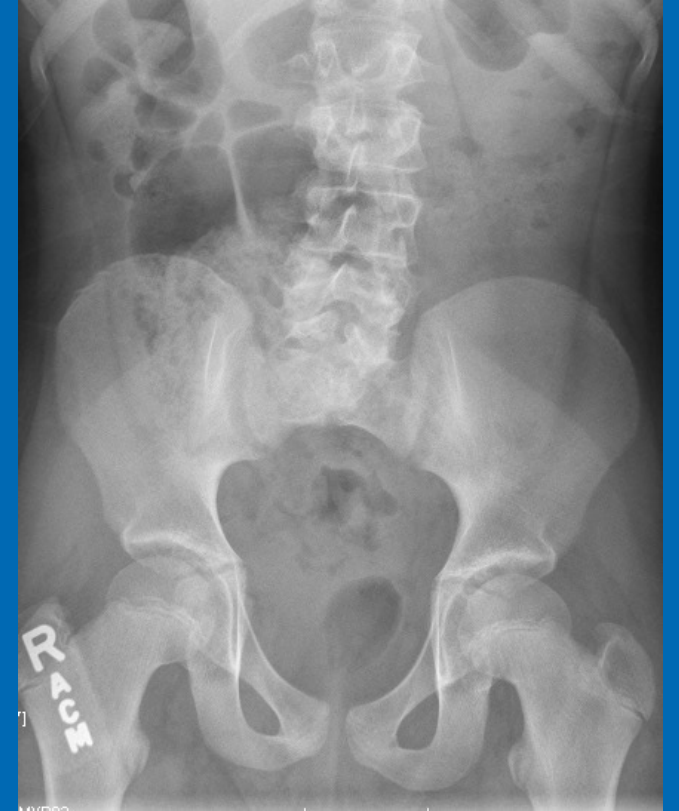


Before the operation



# What treatment does this patient need?

- A. Laxatives
- B. Enemas



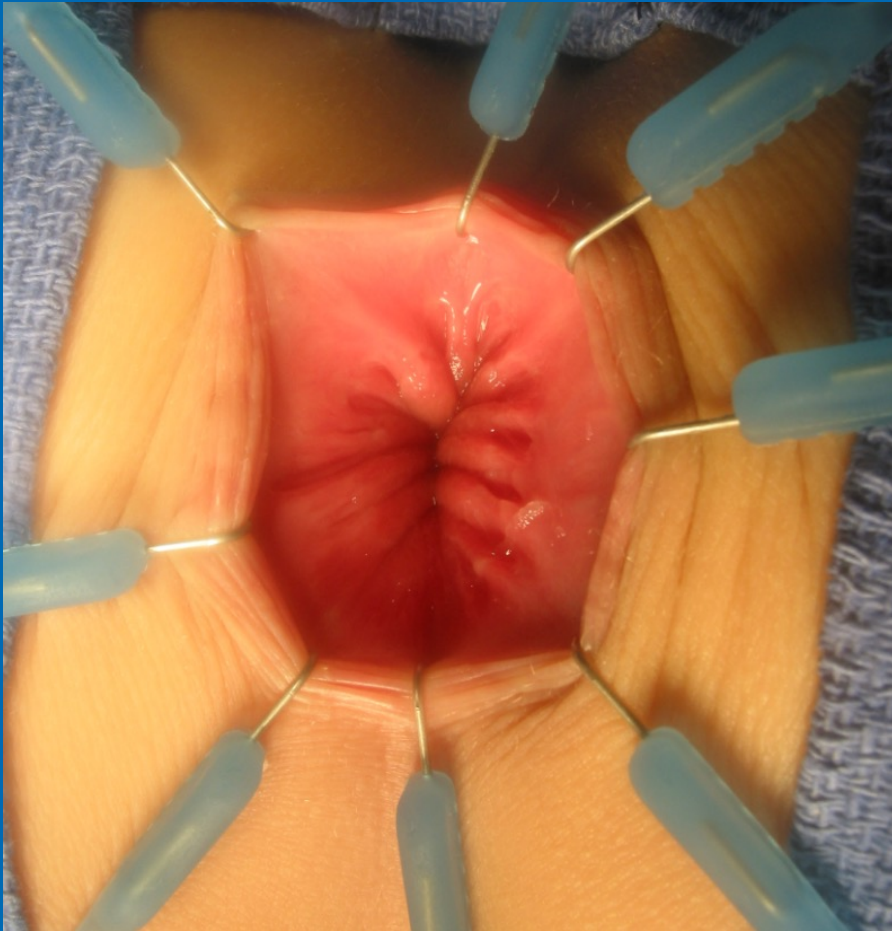
# How do you decide if a patient with Hirschsprung needs laxatives or enemas?

- A. Based on the integrity of the anal canal examined under anesthesia.
- B. Based on the characteristics of the colon on the contrast enema
- C. Patients with Hirschsprung should not receive enemas
- D. I don't know

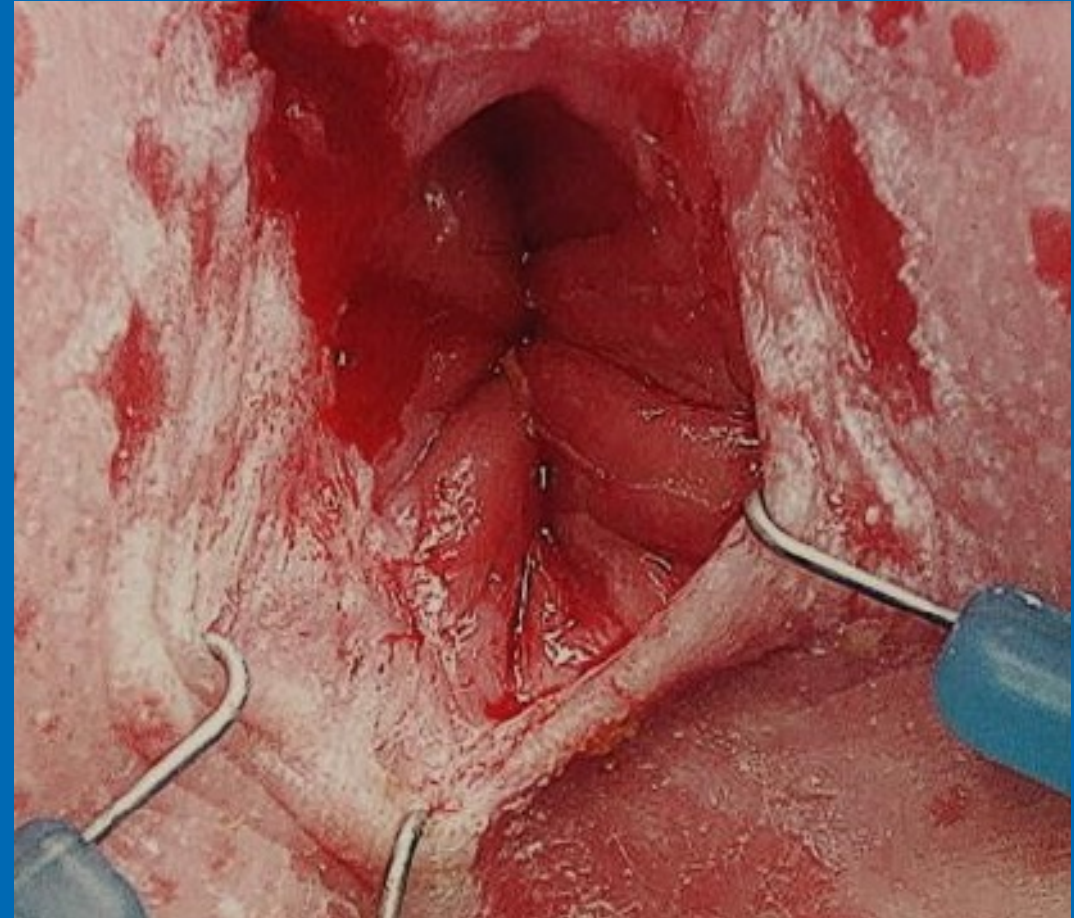




# Normal anal canal



# Damaged anal canal



# Concept Number 2:

- Determine the characteristics of the patient's colon by looking at the contrast enema and dividing the patients into two groups:

**FECALLY INCONTINENT WITH A DILATED COLON (tendency to constipation)**

**FECALLY INCONTINENT WITH A NON DILATED COLON (tendency to diarrhea)**



# Fecally Incontinent with a Dilated Colon



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# Dilated Colon (hypomotility)



Large volume and  
concentrated  
enemas



# Bowel Management



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# Fecally Incontinent with a NON Dilated Colon



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# NON Dilated Colon

(hypermotility)



Small Enema  
Constipating Diet  
Loperamide



# Bowel Management Hyperactive Colon



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# Enema components

- Saline Solution (200 - 1000ml),
- Glycerin (10 - 60ml),
- Castile soap (10 - 50ml),
- Phosphate (Fleet®)
  - < 4 years - 33 ml
  - > 4 < 10 years - 66 ml
  - > 10 years - 133 ml





# Concept Number 3

- Regularly monitor the result of the enema with abdominal radiographs to check the amount of stool in the left colon.



**TRIAL AND ERROR!**



# Concept Number 4

- Modify the type of enema daily, during a one week period, depending on the clinical results and the abdominal radiograph.

# Concept Number 5

- Do not administer laxatives and enemas in the same patient.

# Enema Administration Technique



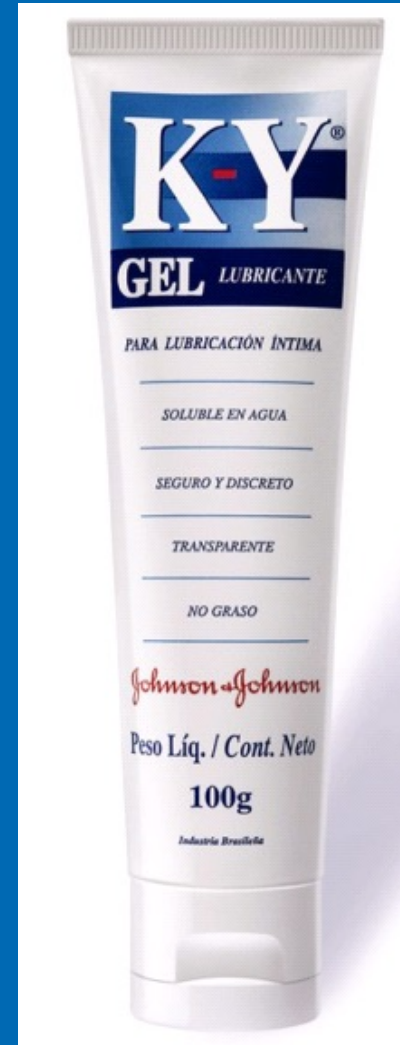
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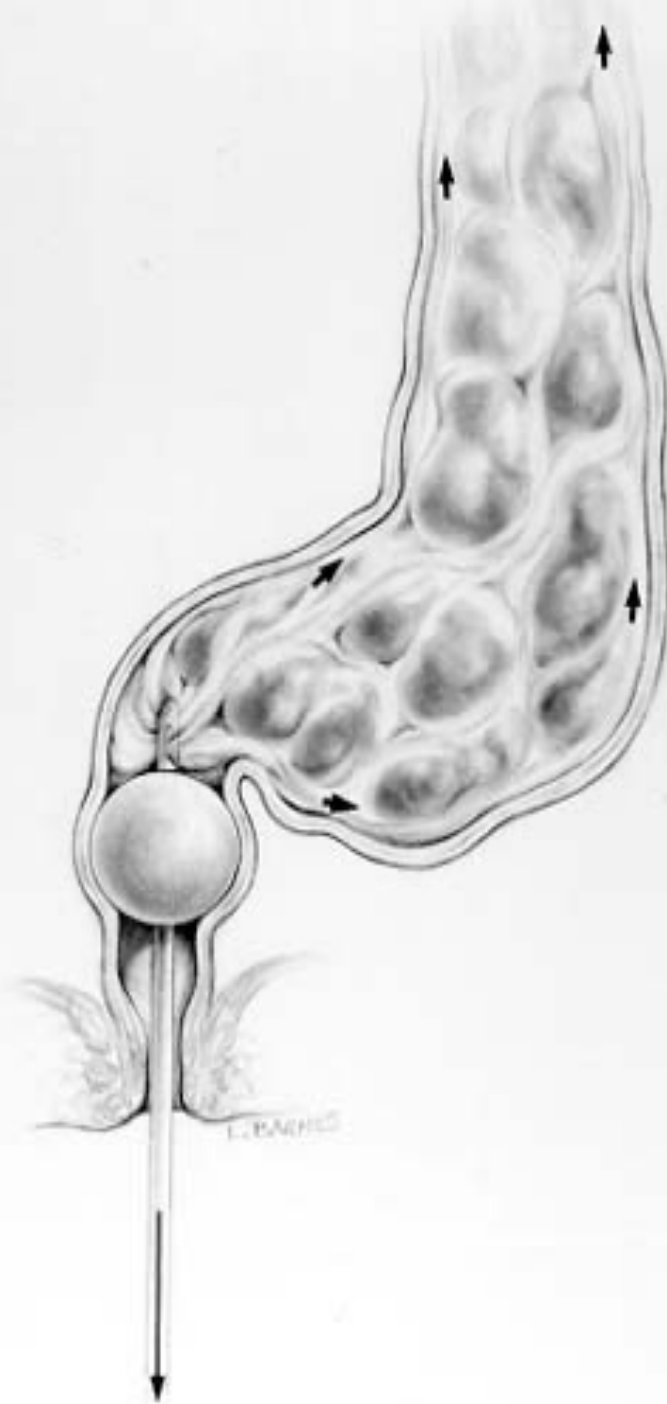


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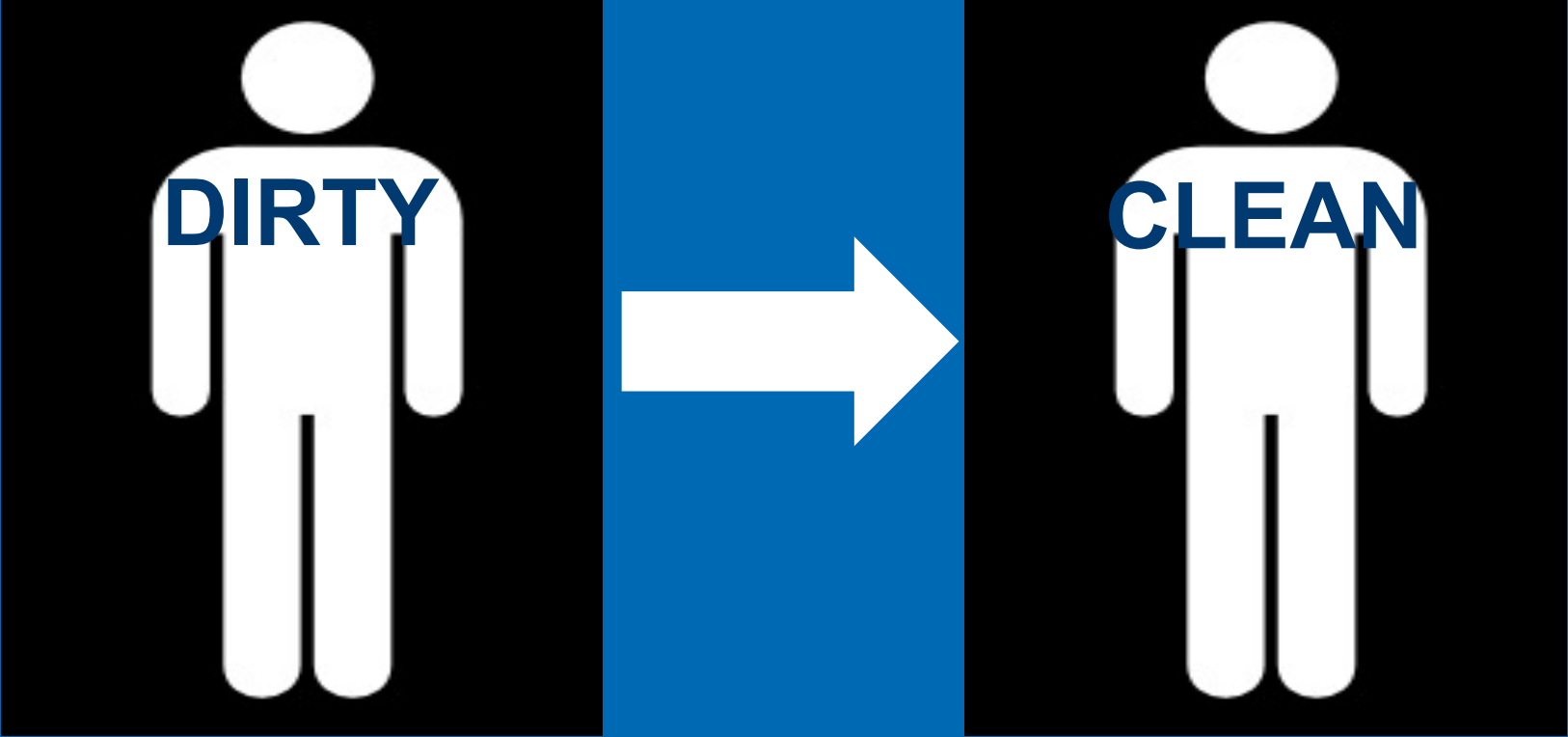
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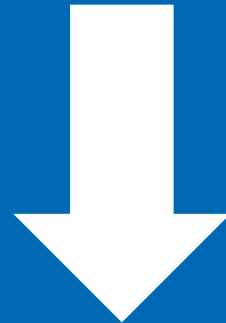


# Bowel Management Troubleshooting



# How to adjust the enema

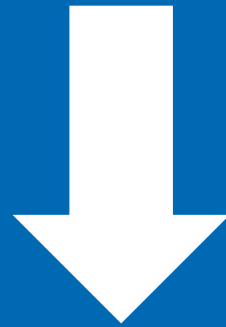
- Patient's underwear is not clean and abdominal film shows significant amount of stool in the left colon



- Increase volume and/or concentration of the enema

# How to adjust the enema

- Parents report that it took more than one hour, after receiving the enema, to have a bowel movement



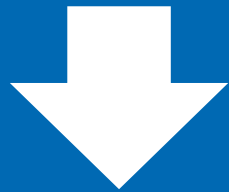
- Increase the concentration of the enema



# How to adjust the enema

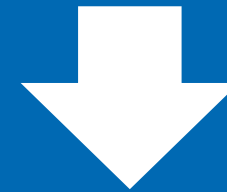
- Pain, nausea or vomiting during the enema with abdominal film that is:

clean



Decrease  
enema's  
concentration

stool in the left colon

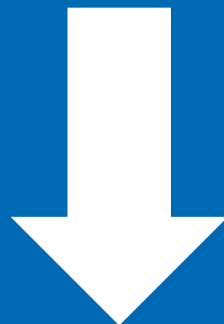


Slow administration  
and warm the solution



# How to adjust the enema

- Clear liquid accident just after the enema

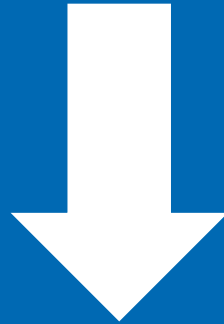


- Decrease the volume or pass a Foley catheter after the bowel movement or decrease the concentration.



# How to adjust the enema

- Child cannot handle the amount of volume prescribed.

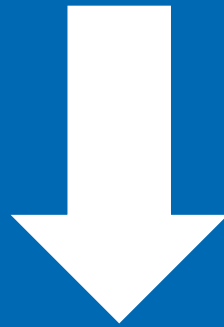


- Decrease the volume and increase the concentration.



# How to adjust the enema

- Clean colon in abdominal x-ray and the child is still passing stool (having accidents) between enemas



- Add Loperamide and constipating diet

# Our Results

overall 95% success



Hypomotility  
(dilated colon)

**97%** success



Hypermotility  
(non dilated colon)

**81%** success

# “New” Concept:

- Bowel Management through the stoma.
  - Cloacal exstrophy patients
  - Patients with anorectal malformation that received a “colostomy for life”



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# New Concept

- Bowel management for diaper rash (after colostomy closure).



Residual contrast from the previous day's exam. Enema: 500ml normal saline + 10 ml of glycerin.

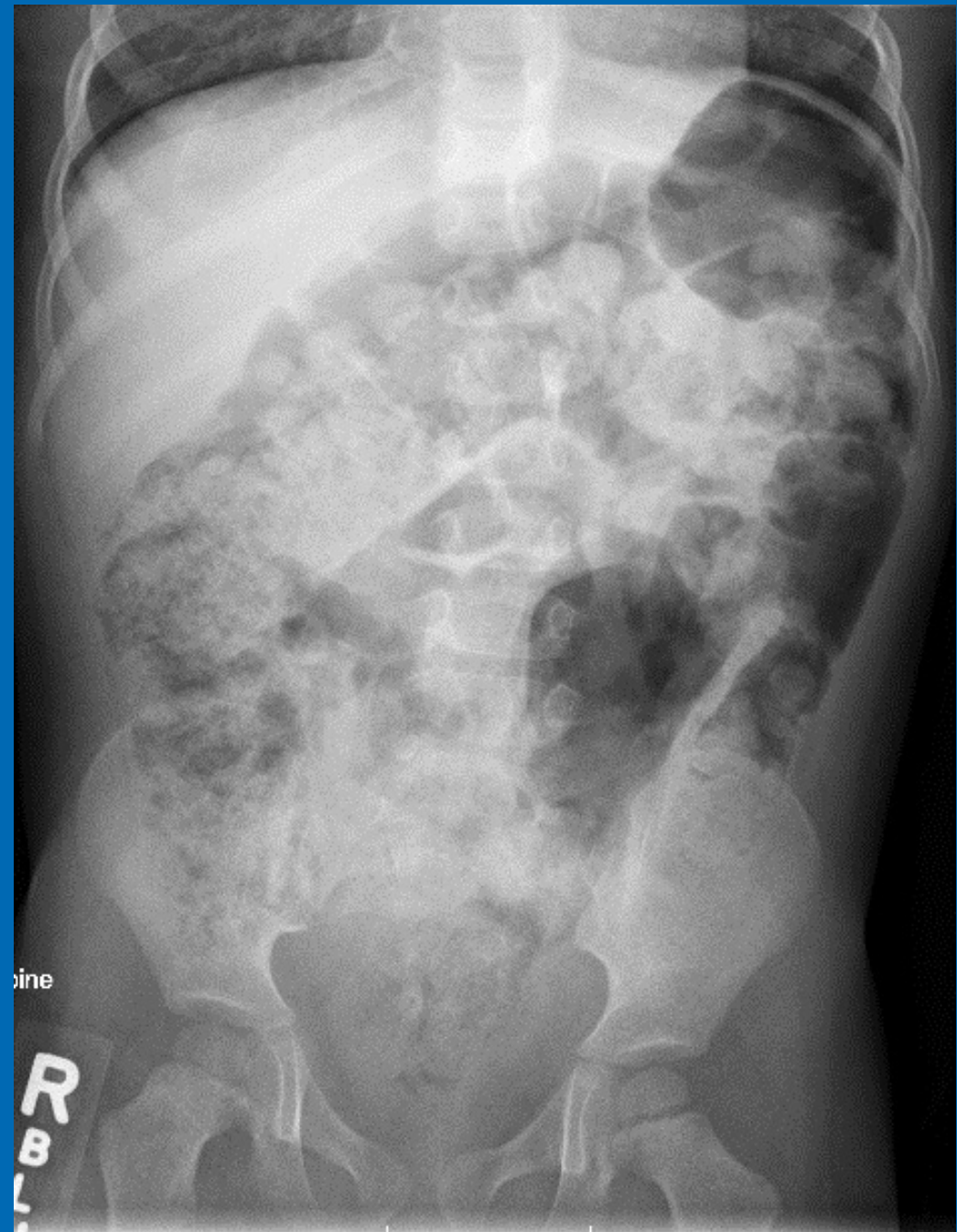


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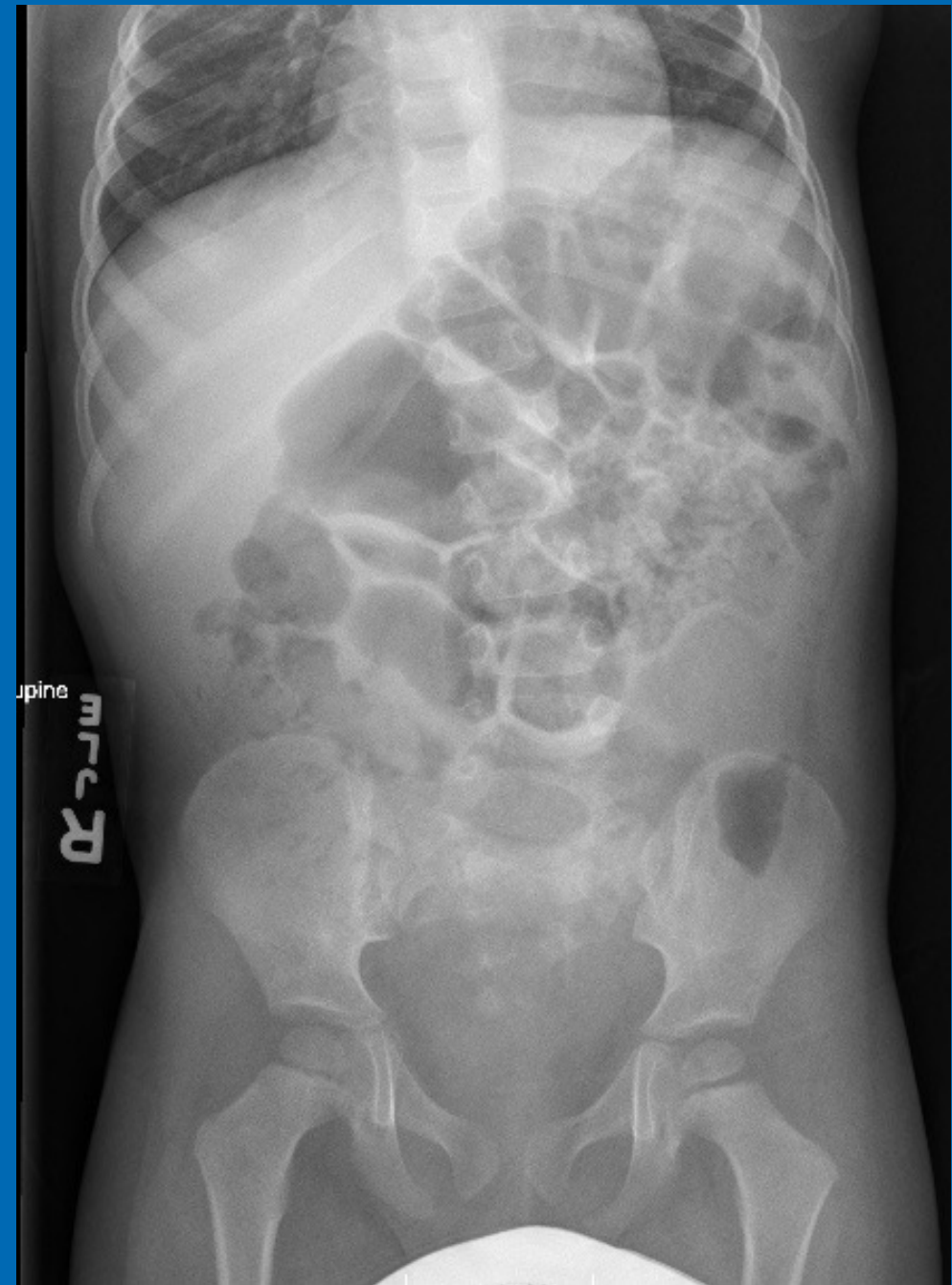
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No more contrast but still a significant amount of stool.  
Parent's report: still passing stool between enemas.  
Decision: 500 ml of saline + 20 ml of glycerin.



Colon almost clean, reported less accidents. Decision: 500 ml of saline + 30 ml of glycerin.



Clean colon,  
clean child.



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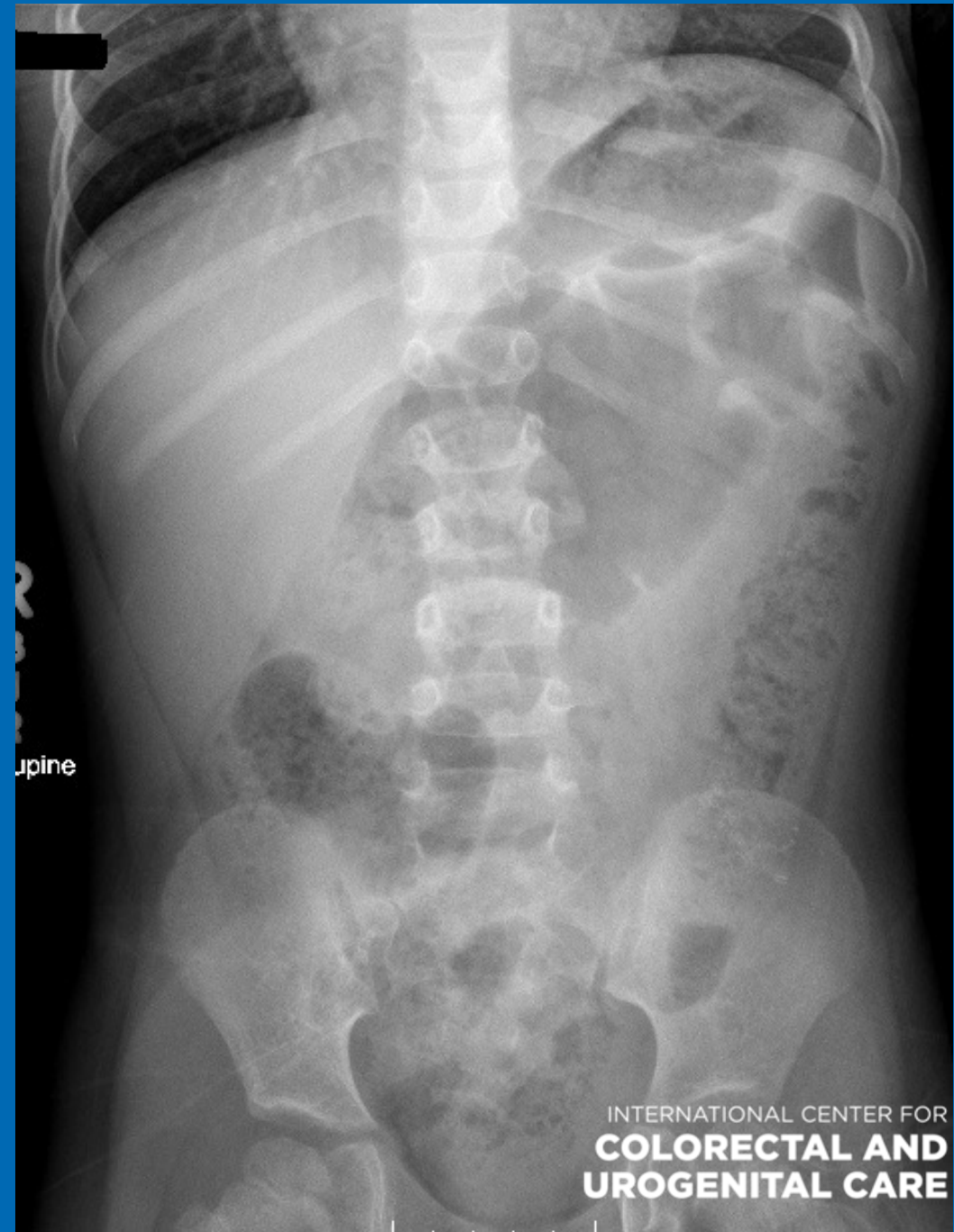
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**10 yo, female  
patient with fecal  
incontinence.**

**What enema do you  
want to start her on?**

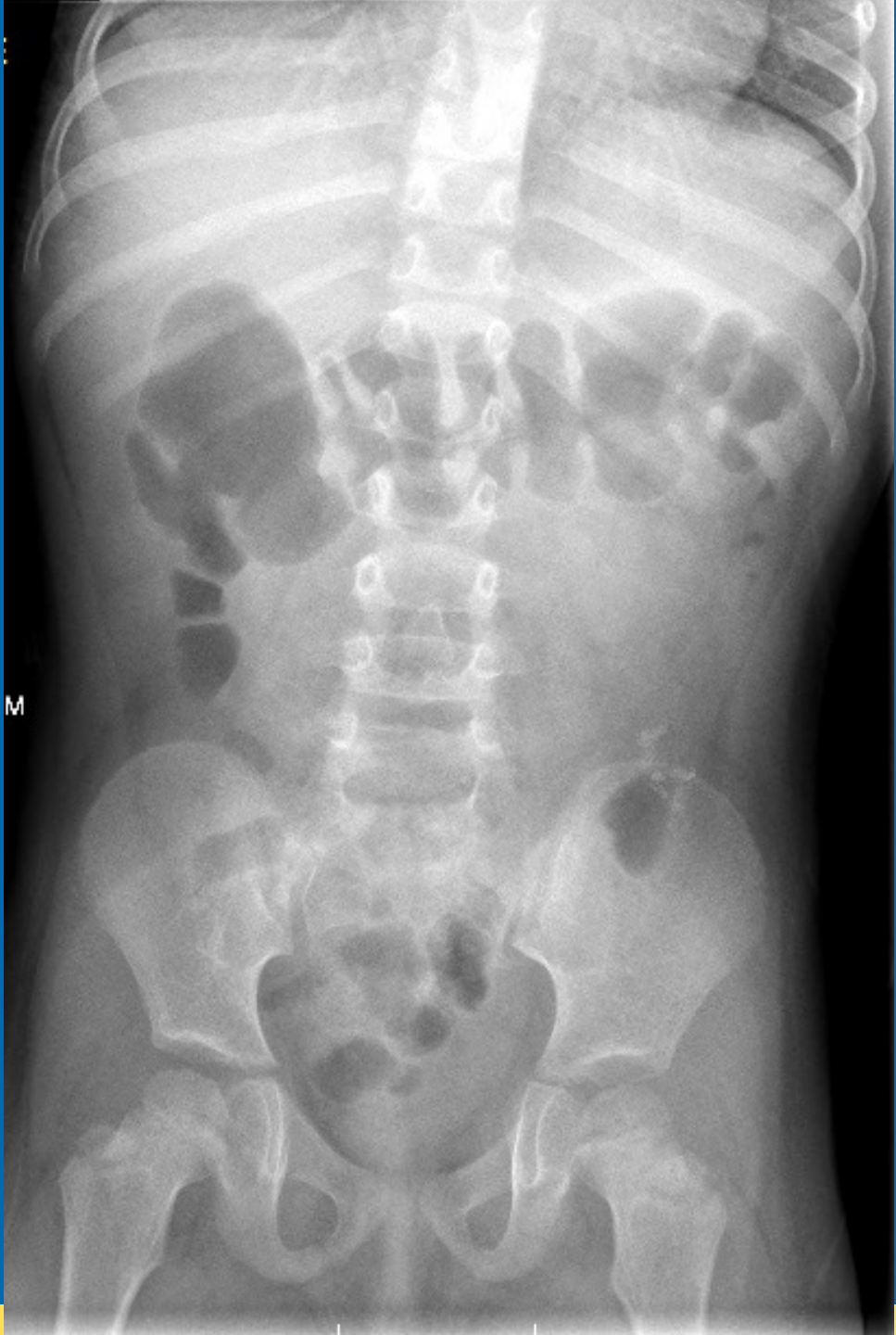


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11 yo, ARM

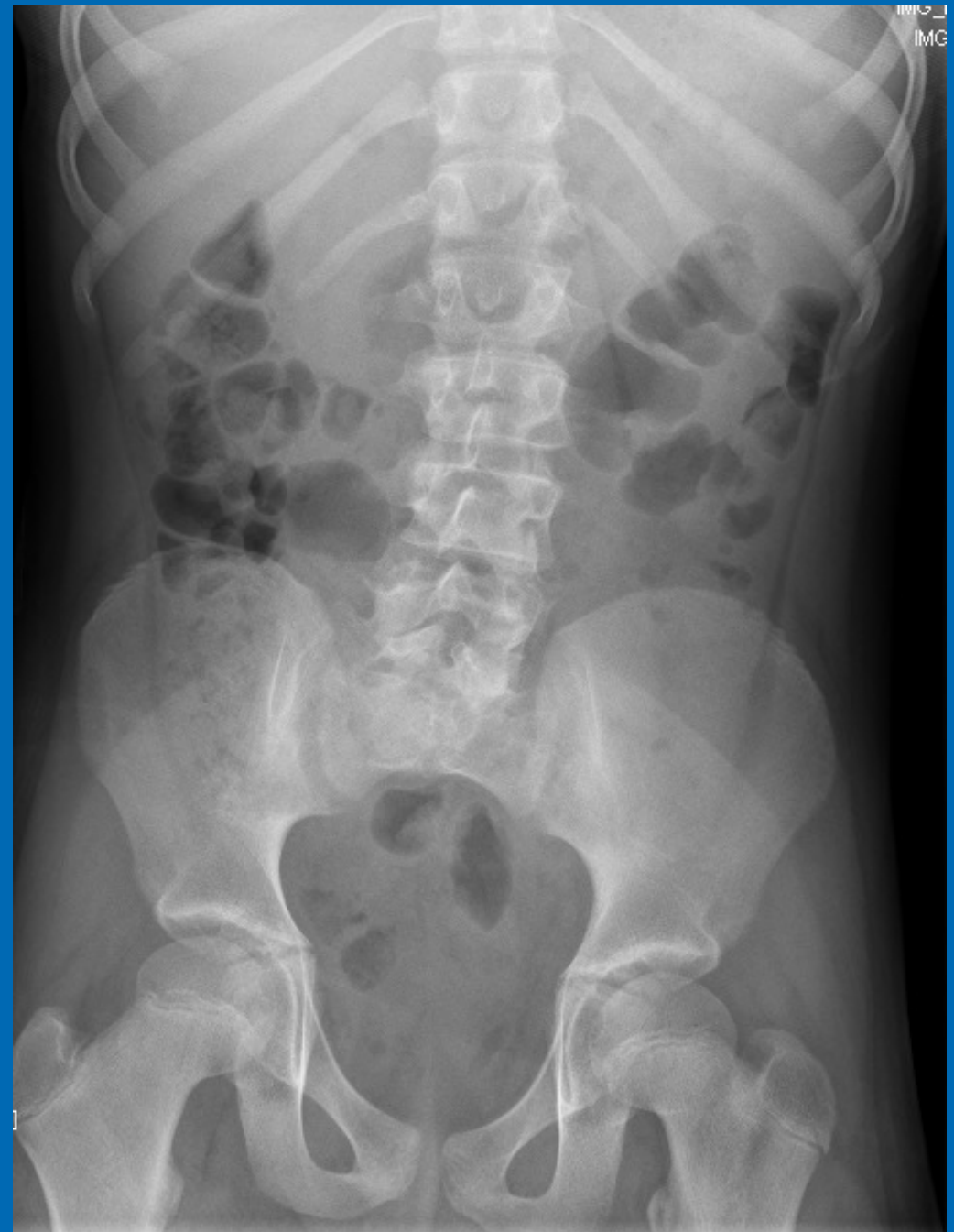


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# Abdominal radiograph one day after the contrast enema



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# Based on the contrast enema:

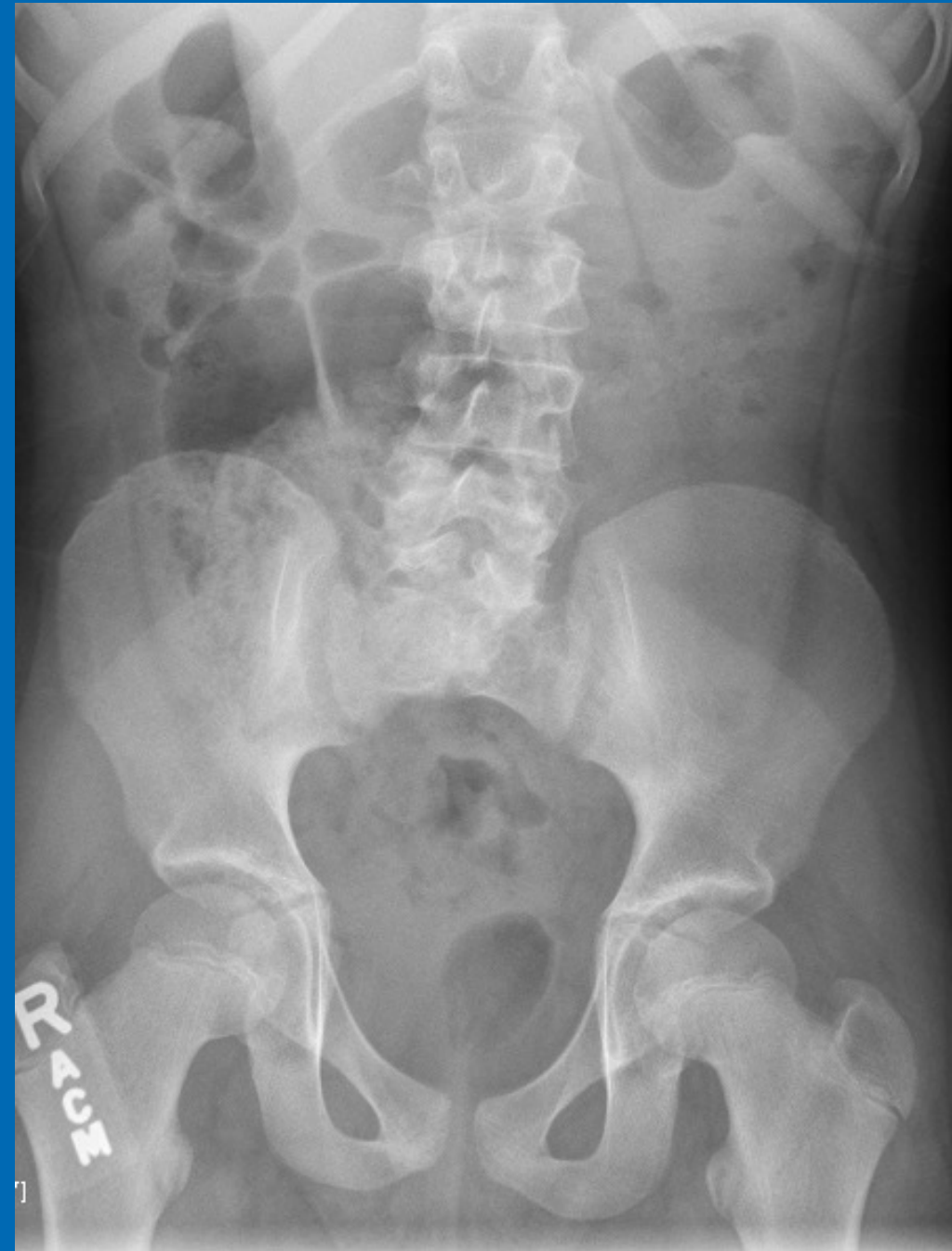
- A. Hypermotile (non-dilated)
- B. Hypomotile (dilated)

# What enema do you want to start him on?

- A. 300 ml of saline only
- B. 300 ml of saline + 1 pediatric fleet
- C. 1000 ml of tap water
- D. 300 ml of saline + 30 of glycerin + 27 ml of soap



6 accidents



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# What changes do you want to make on his enema?

- A. Increase the concentration to 300 ml of saline + 30 ml of glycerin
- B. Decrease the volume to 100 ml of saline
- C. Add Imodium

# Clean patient



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**A 5-year-old girl who has severe constipation and soiling and who was born with a myelomeningocele and absent sacrum, with sensory and motor dysfunction of the lower extremities, can be described as having:**

- A. Aganglionosis
- B. Capability of having voluntary bowel movements.
- C. Overflow fecal incontinence with constipation.
- D. True fecal incontinence with constipation.
- E. True fecal incontinence with hypermotility.





# The treatment for the previously described 5-year-old girl should include:

1. A daily enema.
2. Laxatives.
3. Loperamide and pectin.
4. Potty training strategies.
5. Surgical correction.

# Among these patients, the patient *most likely* to have fecal incontinence is:

- A. Hirschsprung disease with a transition zone in the splenic flexure.
- B. Rectovestibular fistula with normal sacrum and good midline groove.
- C. Idiopathic constipation and occasional soiling.
- D. Recto-bladderneck fistula with sacral ratio of 0.35 and tethered cord.
- E. Cloaca with common channel 1.5cm and sacral ratio 0.60.



**You are on call and a mother calls at 2 am saying that she put the enema in her daughter today and nothing came out. Patient is a little uncomfortable but stable. What do you recommend?**

- A. Give another enema
- B. Keep the child seated in the toilet
- C. Give laxatives
- D. Pass a Foley catheter and get as much fluid out, x-ray tomorrow
- E. Come to the emergency room



**For the same girl in the previous slide, the x ray sent the following morning showed accumulation of stool. What is your recommendation?**

- A. She needs a Malone to improve the enema administration
- B. She needs colonic resection
- C. She needs a more concentrated enema
- D. She needs a less concentrated enema
- E. She needs laxatives

**You are on call and a father calls at 8 pm saying that his son is currently on bowel management but is having a lot of diarrhea. He wants to know what to do with the enema that he is suppose to give at 9 pm?**

- A. Give the same enema but add Imodium
- B. Give the same enema but add fiber
- C. Do not give the enema until diarrhea resolves
- D. Come to the emergency room
- E. Do not give the enema anymore, come back for a full bowel management week



**A patient of yours has been on successful bowel management for the last 3 years. During the pass week he started having daily accidents. What do you propose?**

1. Stop the enemas for one week and see how he does
2. Add Imodium and constipating diet
3. Increase the enema concentration
4. Decrease the enema concentration
5. Send an abdominal X-ray film



## ↑ Dosage (Usual) Oral:

Acute diarrhea:

Children: Initial doses (in first 24 hours):

2-5 years (13-20 kg): 1 mg 3 times/day

6-8 years (21-30): 2 mg twice daily

9-12 years (>30 kg): 2 mg 3 times/day

After initial dosing, 0.1 mg/kg doses after each loose stool but not exceeding initial dosage

Children >12 years and Adults: 4 mg initially, followed by 2 mg after each loose stool, up to 16 mg/day

Chronic diarrhea:

Children: 0.08-0.24 mg/kg/day divided 2-3 times/day, maximum: 2 mg/dose

Adults: 4 mg initially followed by 2 mg after each unformed stool until diarrhea is controlled; reduce dosage to meet individual requirements. When optimal dosage is determined, may administer total dosage once daily or in divided doses. Average daily maintenance dosage: 4-8 mg; if improvement is not seen with 16 mg/day for at least 10 days, symptoms are unlikely to be controlled by further therapy

## DIETS

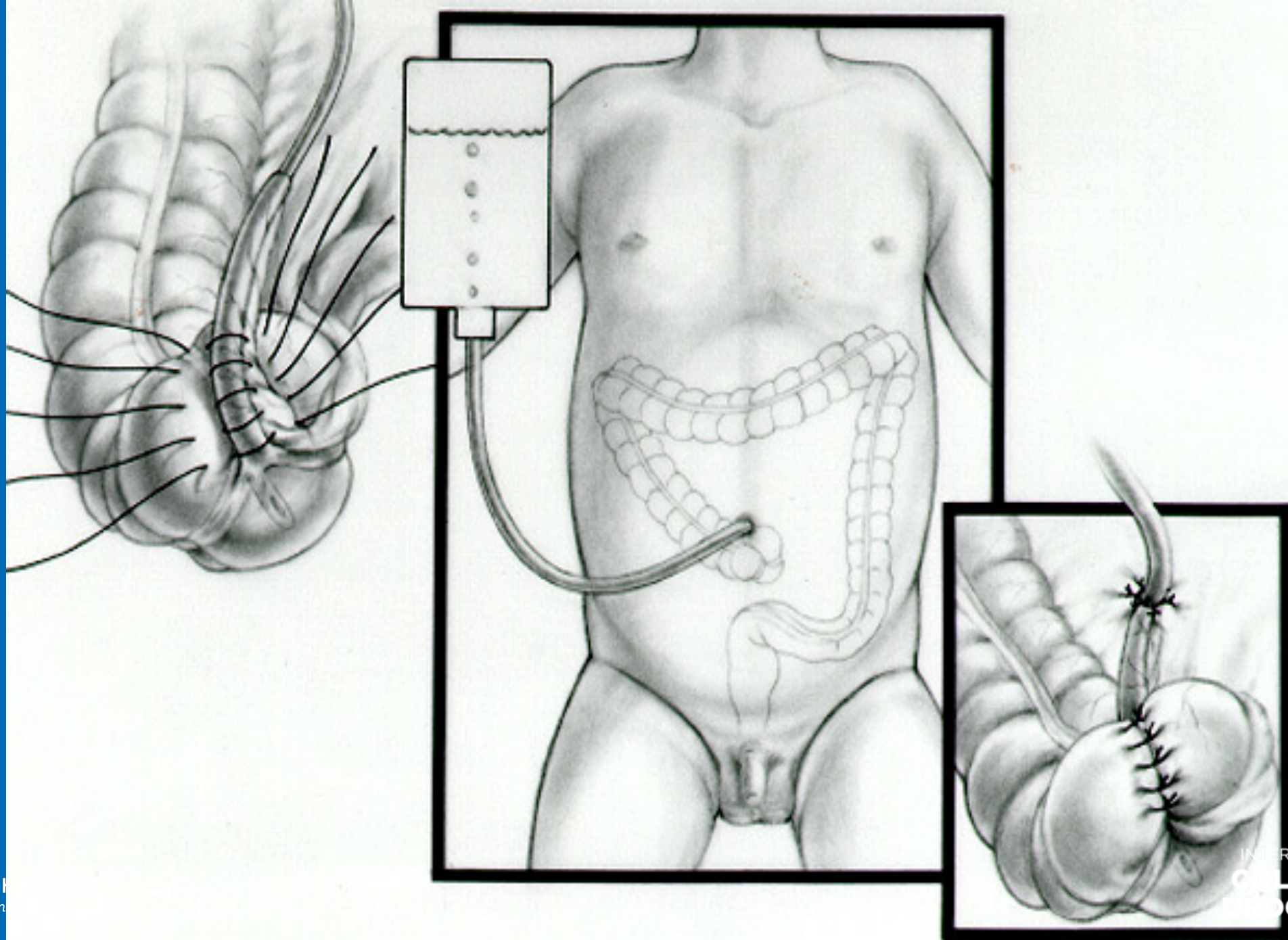
### Laxative Foods

Milk or Milk Products  
Fats  
Fried Foods  
Fruits  
Vegetables  
Spices  
Fruit Juices  
French Fries  
Chocolate

### Constipating Foods

Apple Sauce  
Apple Without Skin  
Rice  
White Bread  
Bagels  
Boiled, Broiled, Baked Meat, Chicken or Fish  
Soft Drinks  
Banana  
Pasta  
Pretzels  
Tea  
Potato  
Jelly (No Jam)



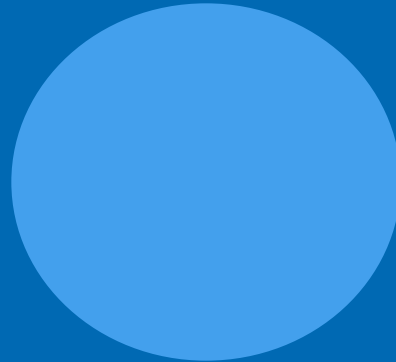


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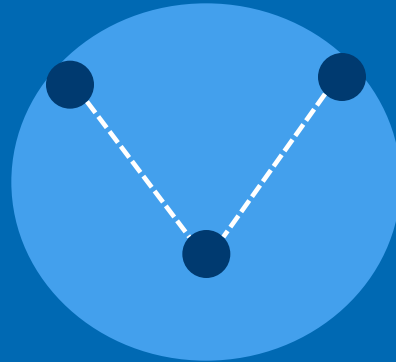
# Malone Procedure

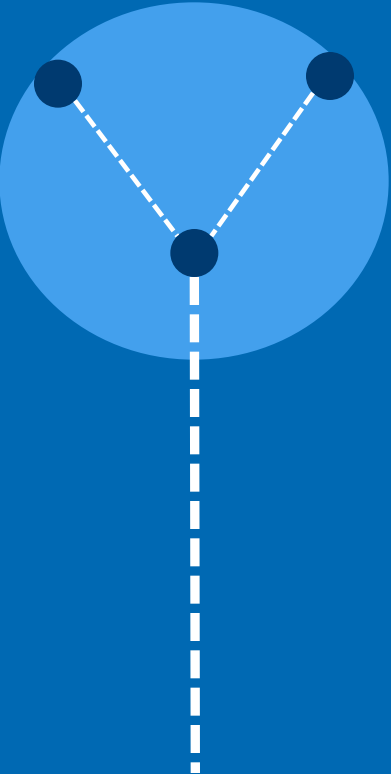


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# Malone Procedure



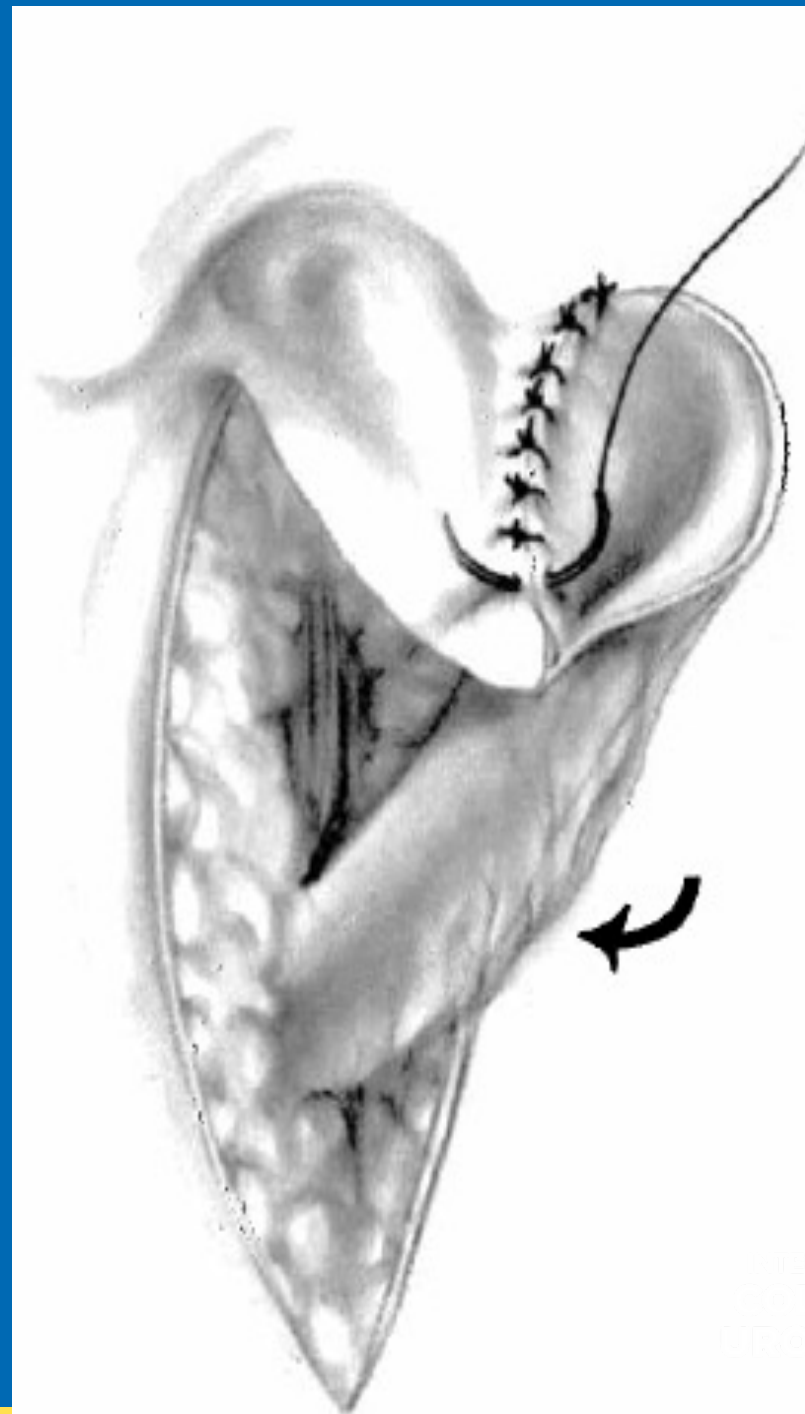
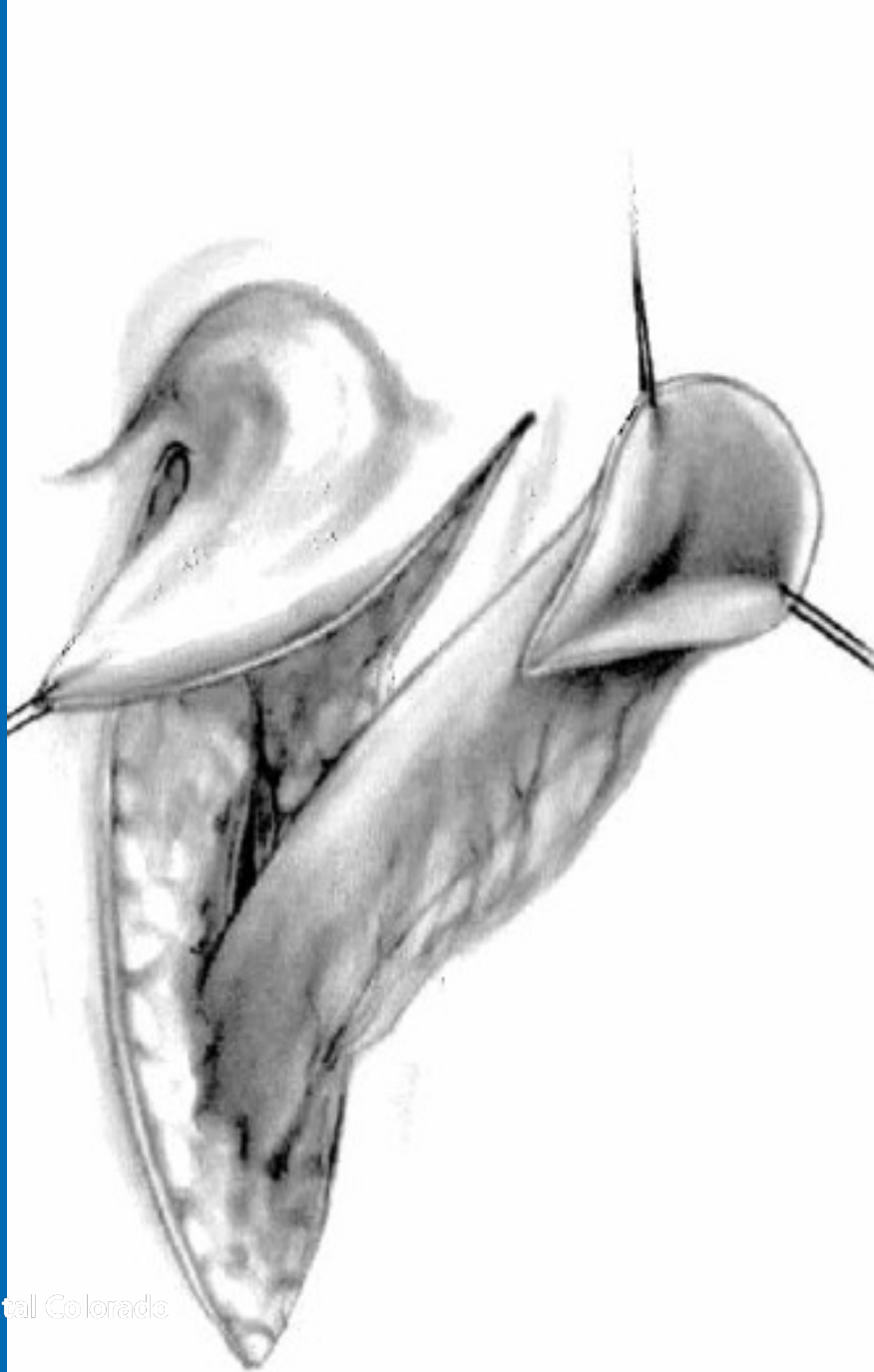


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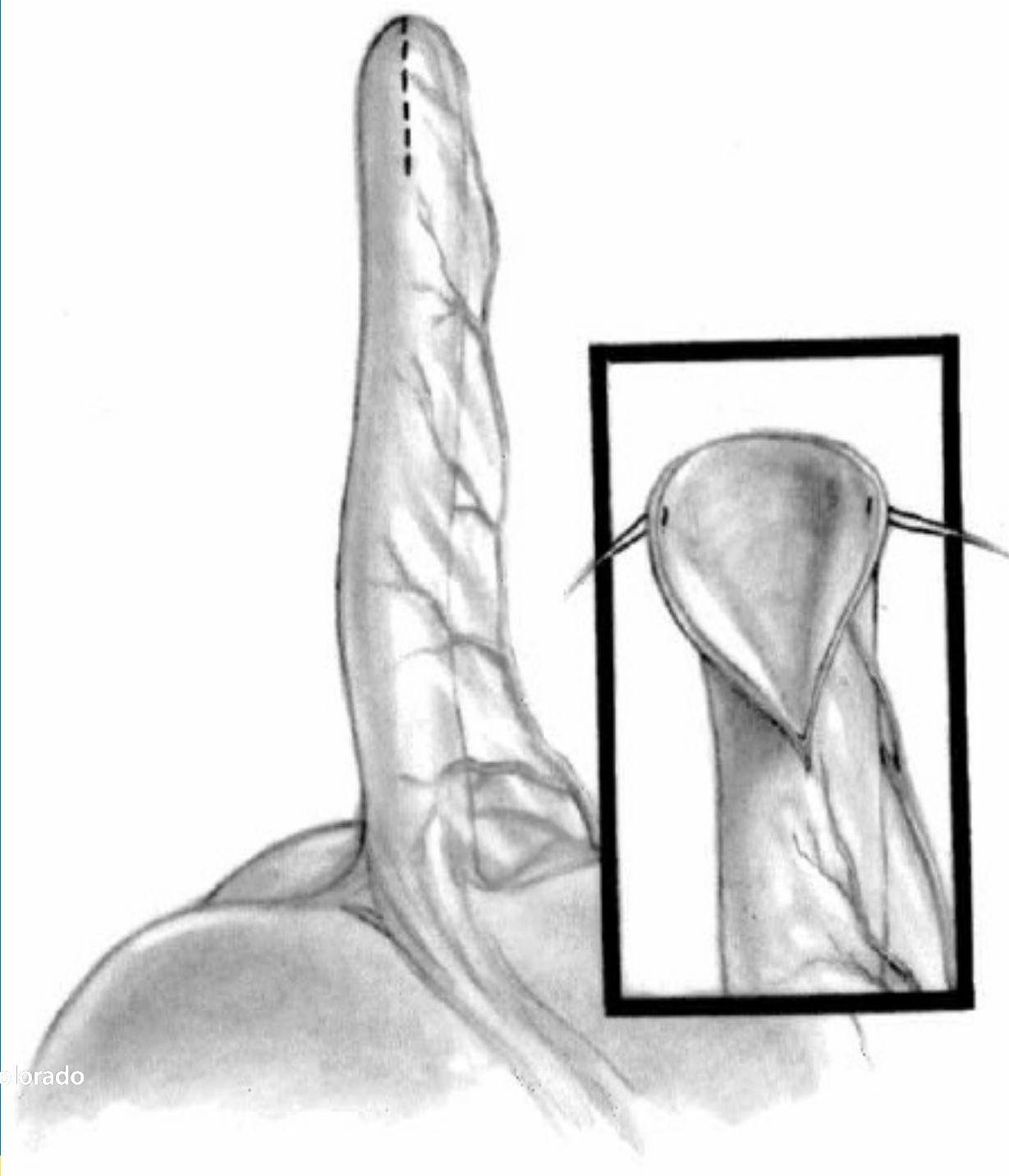
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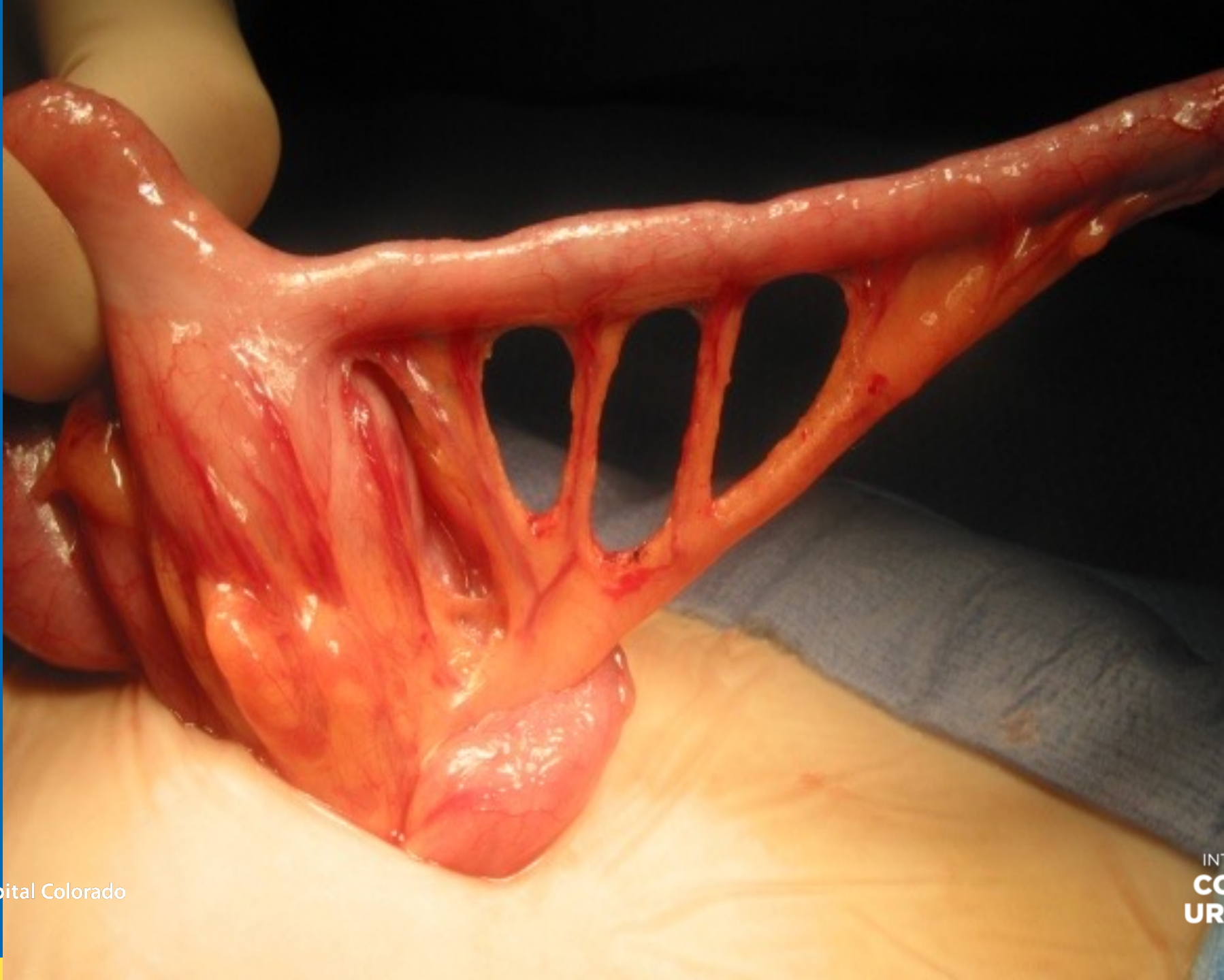
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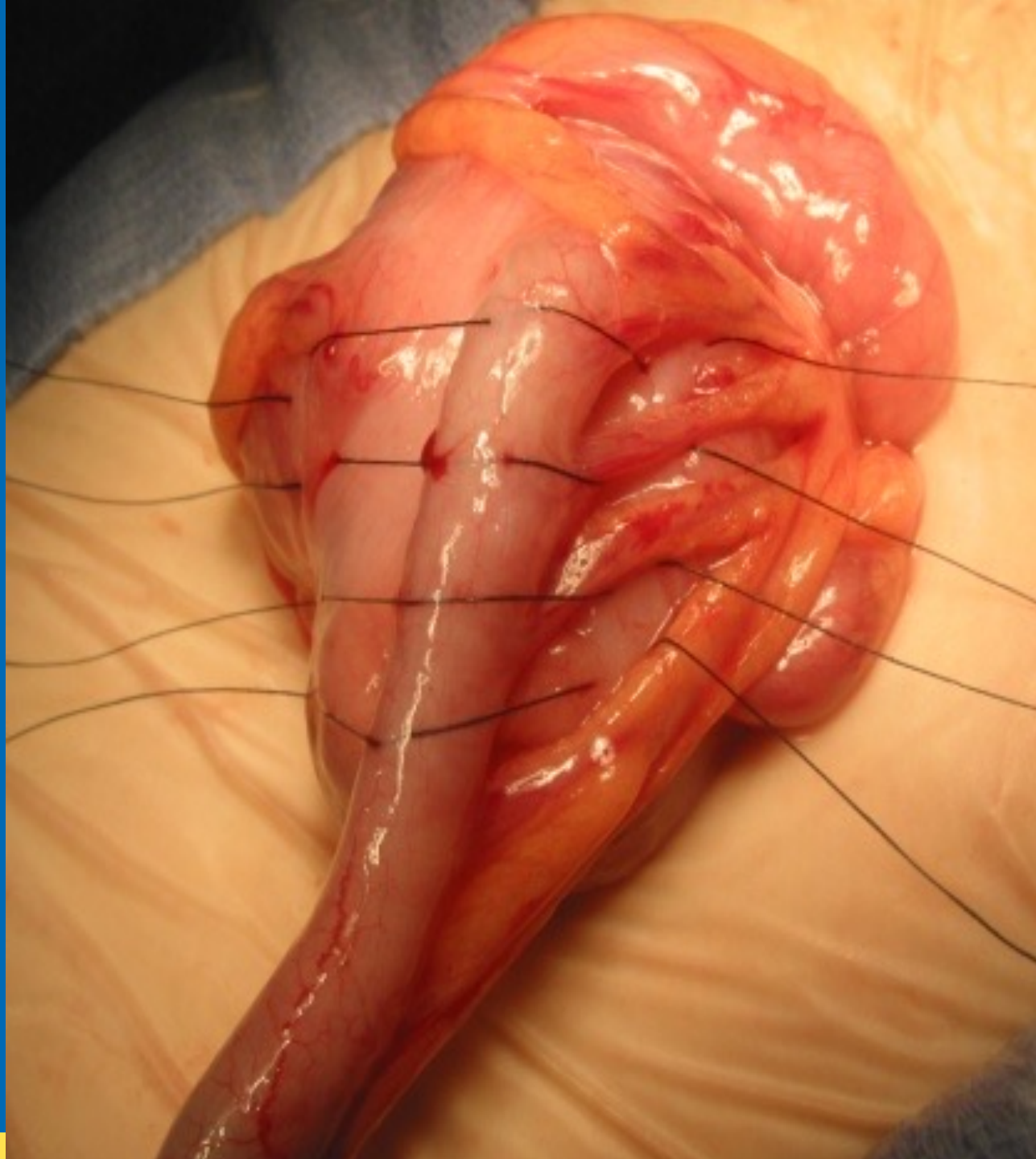
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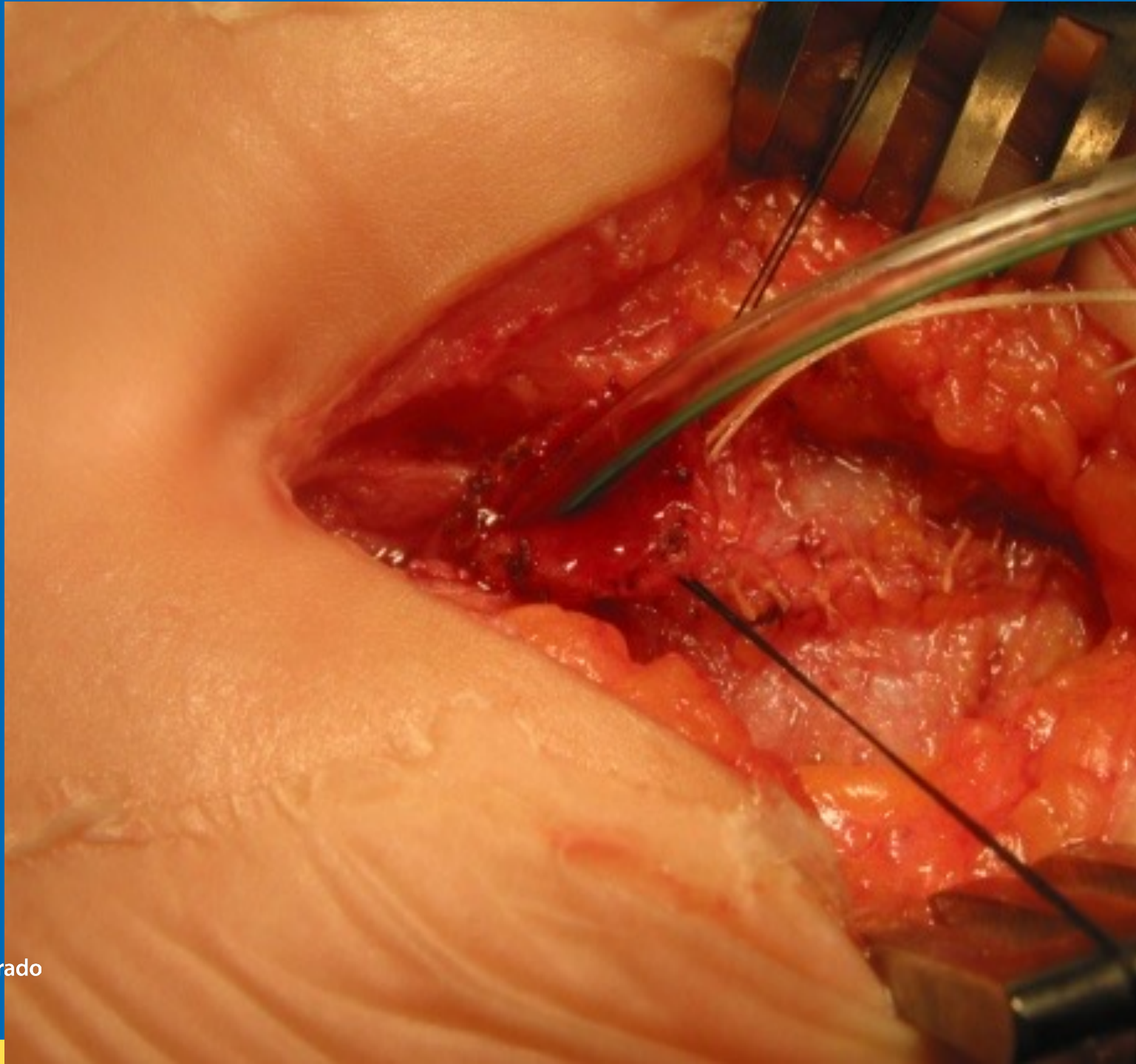
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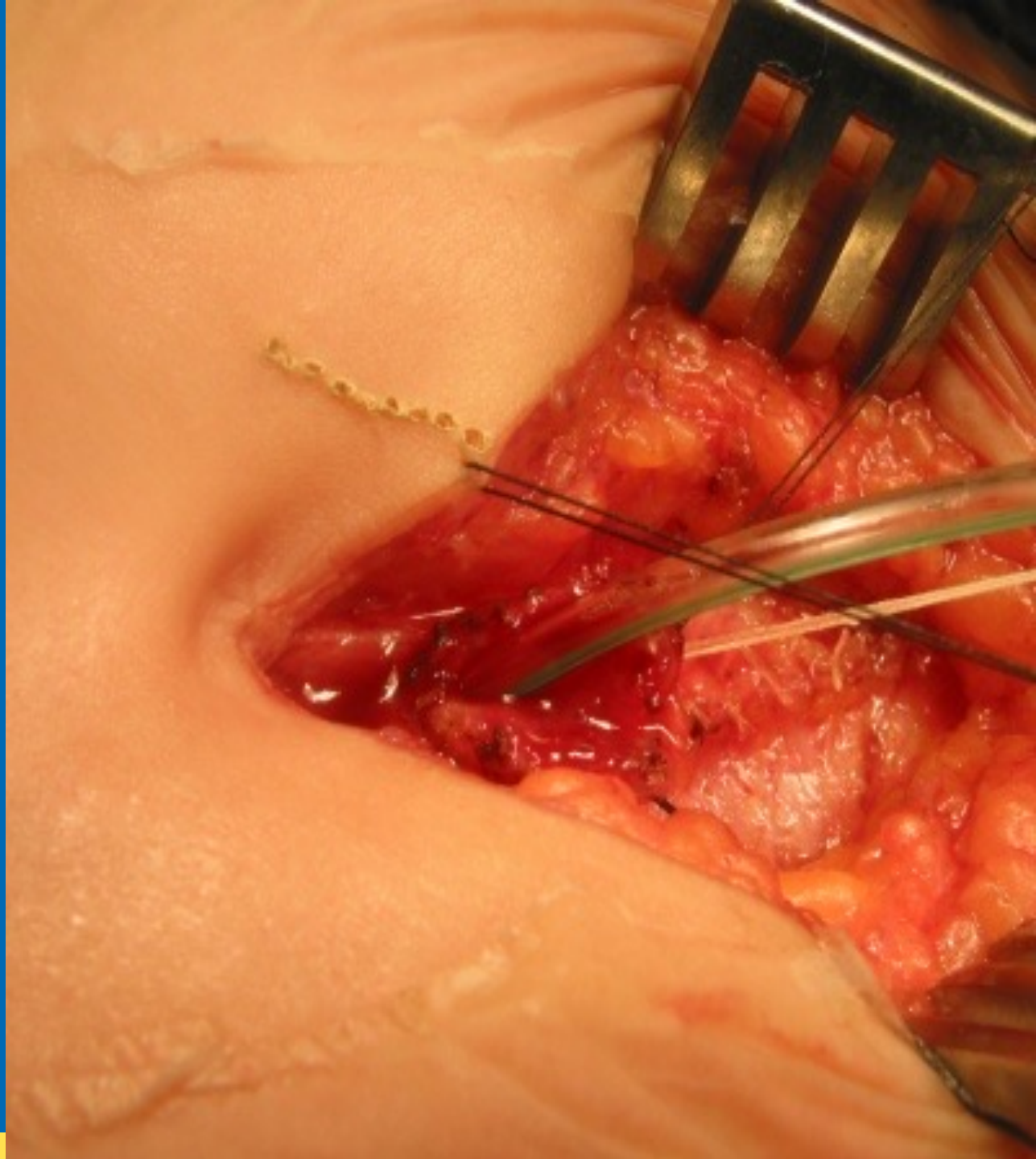
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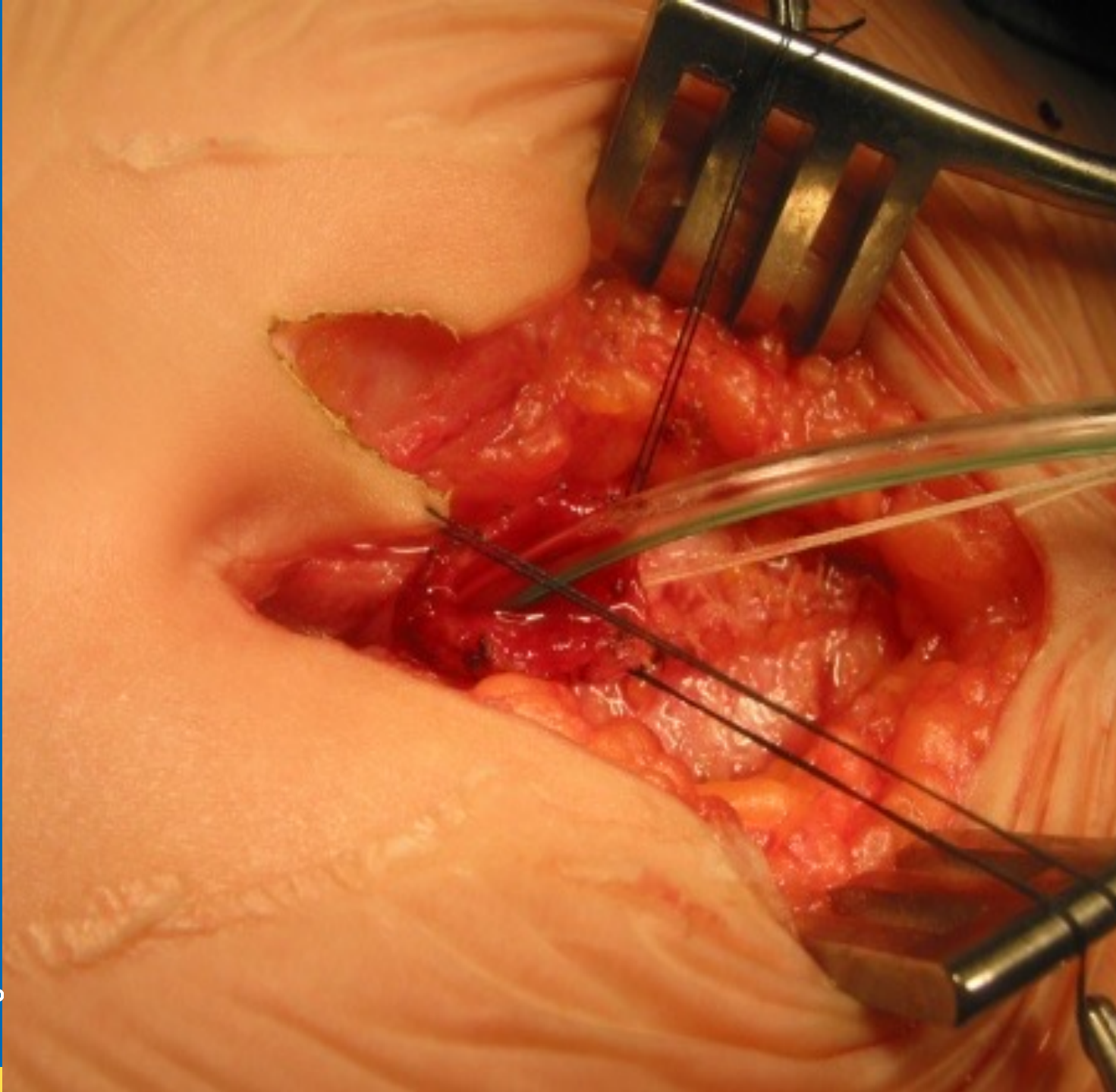
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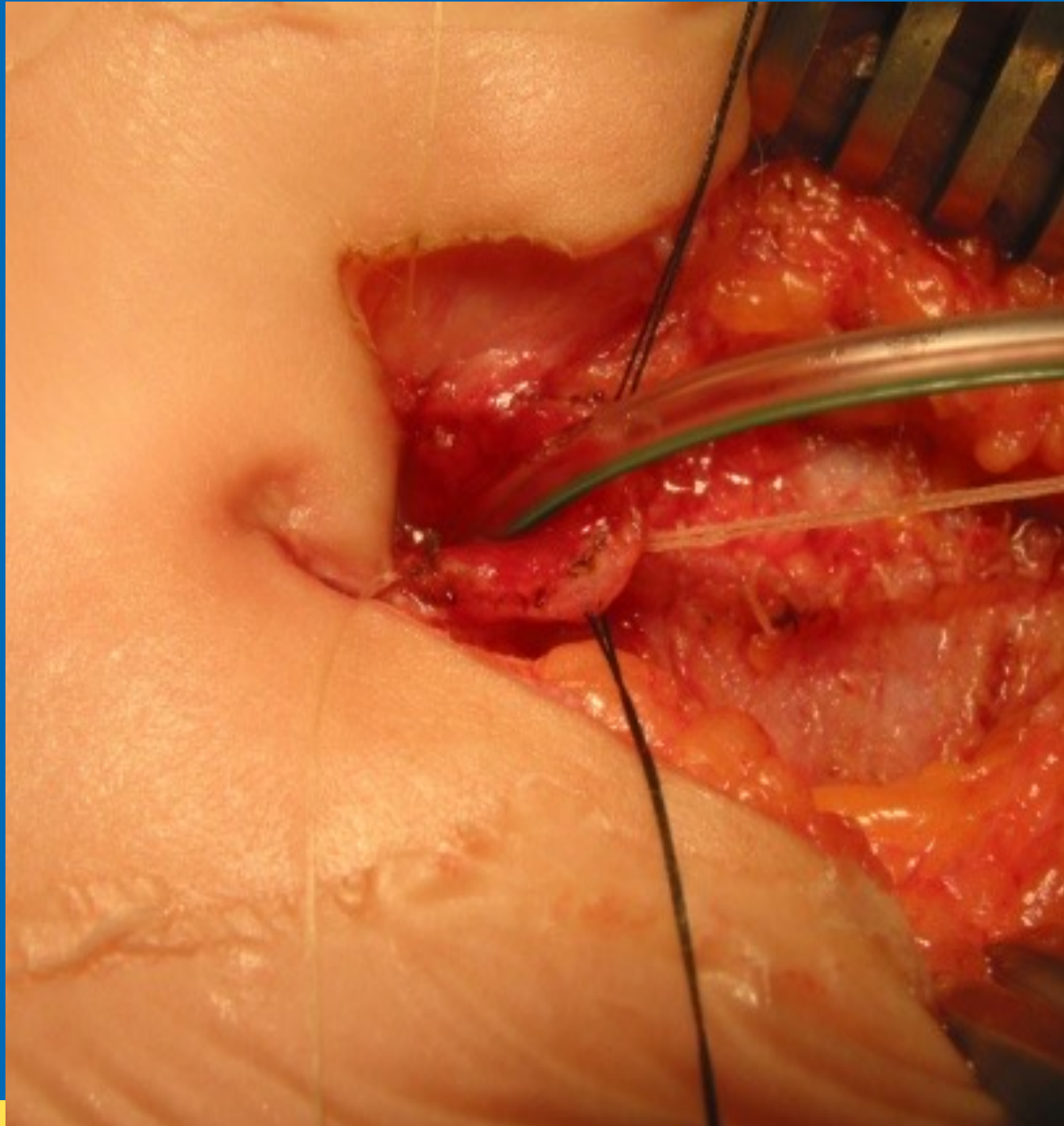




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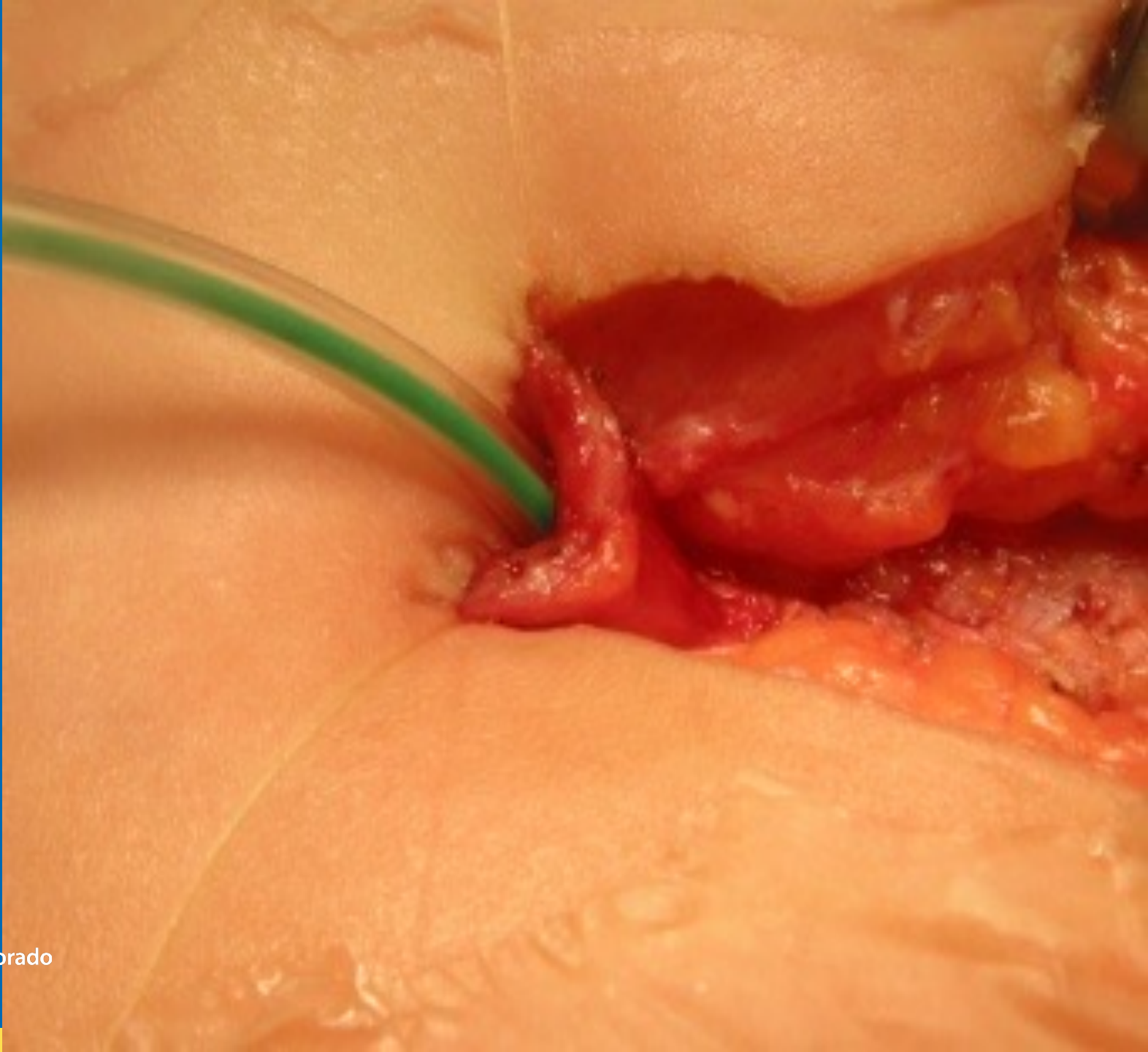
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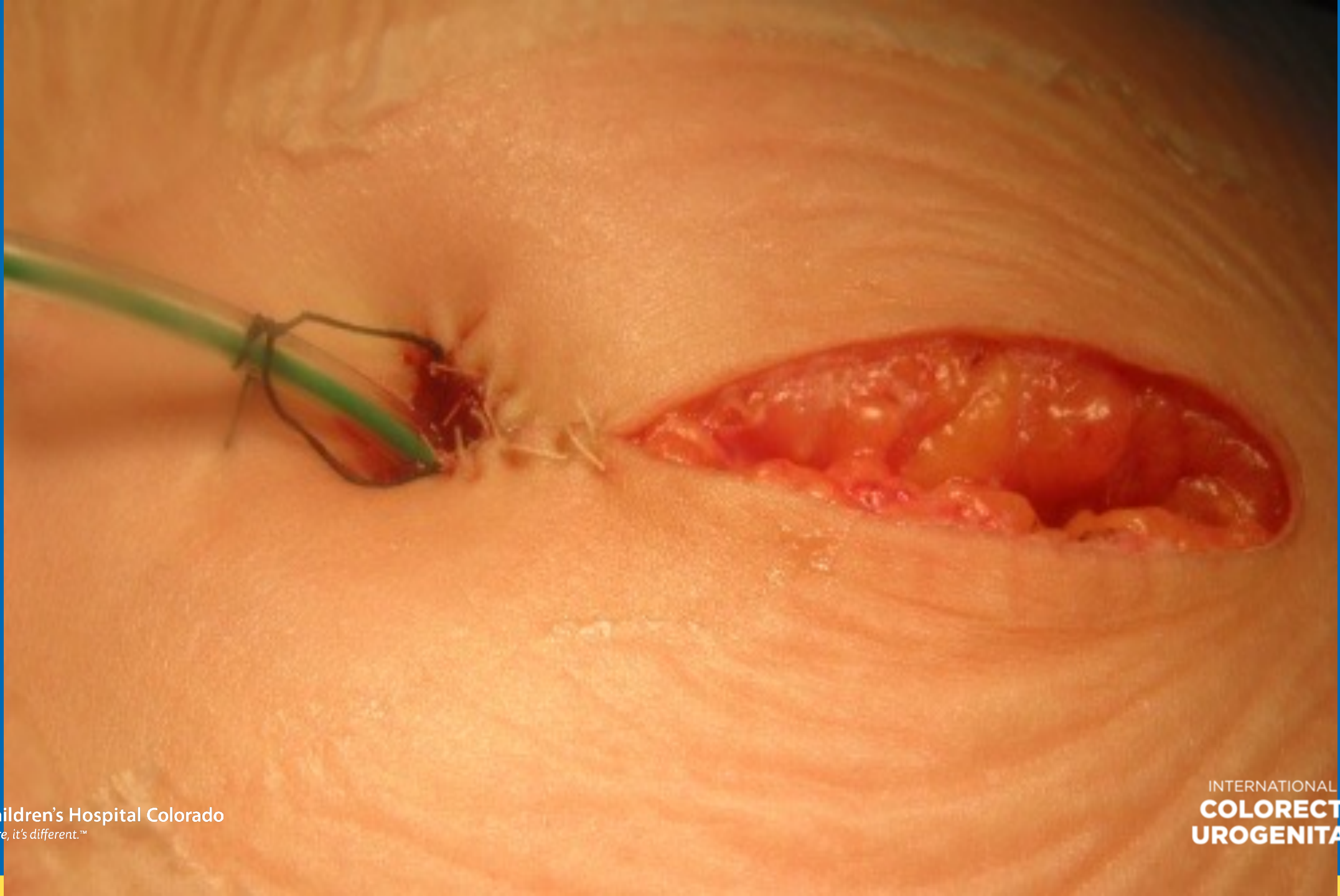
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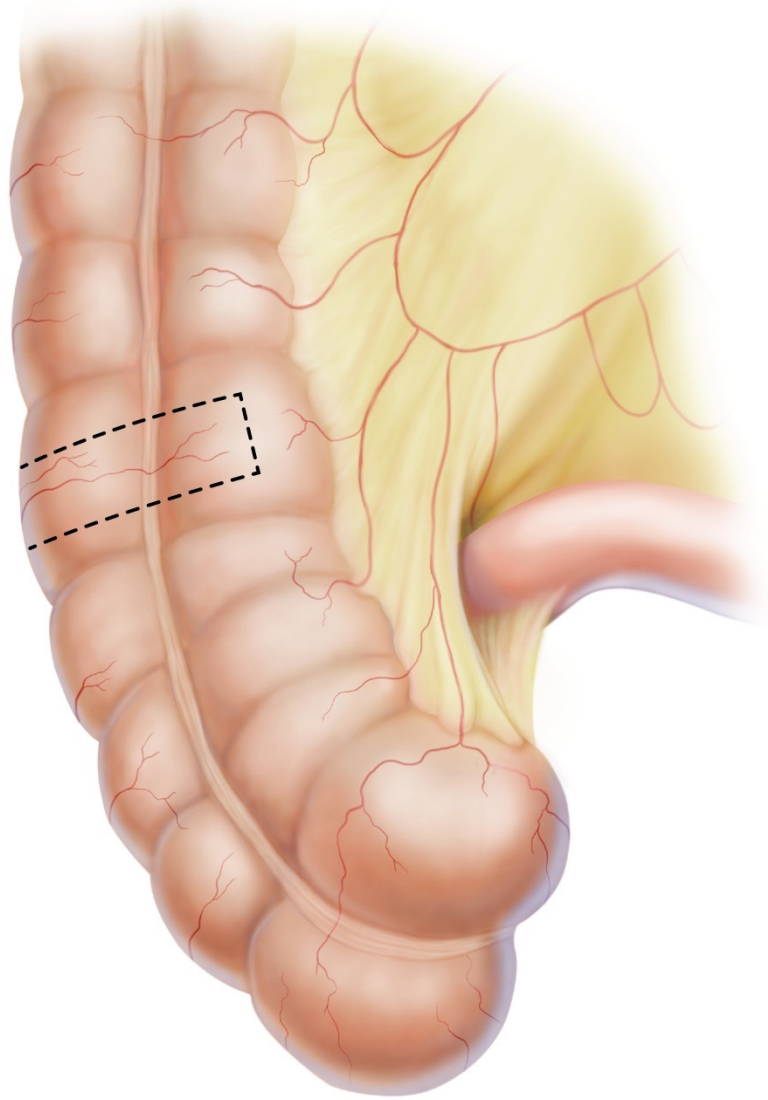
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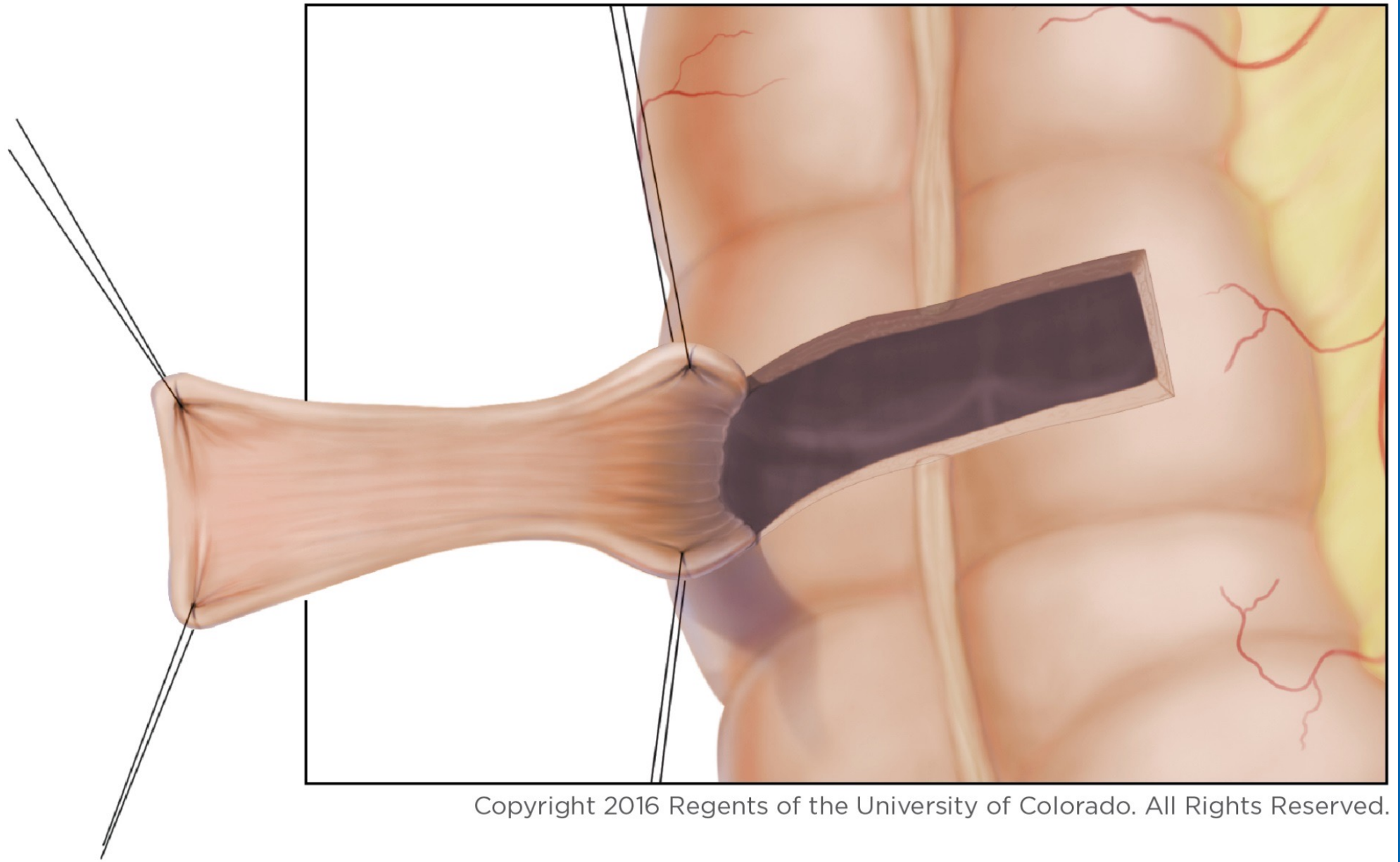
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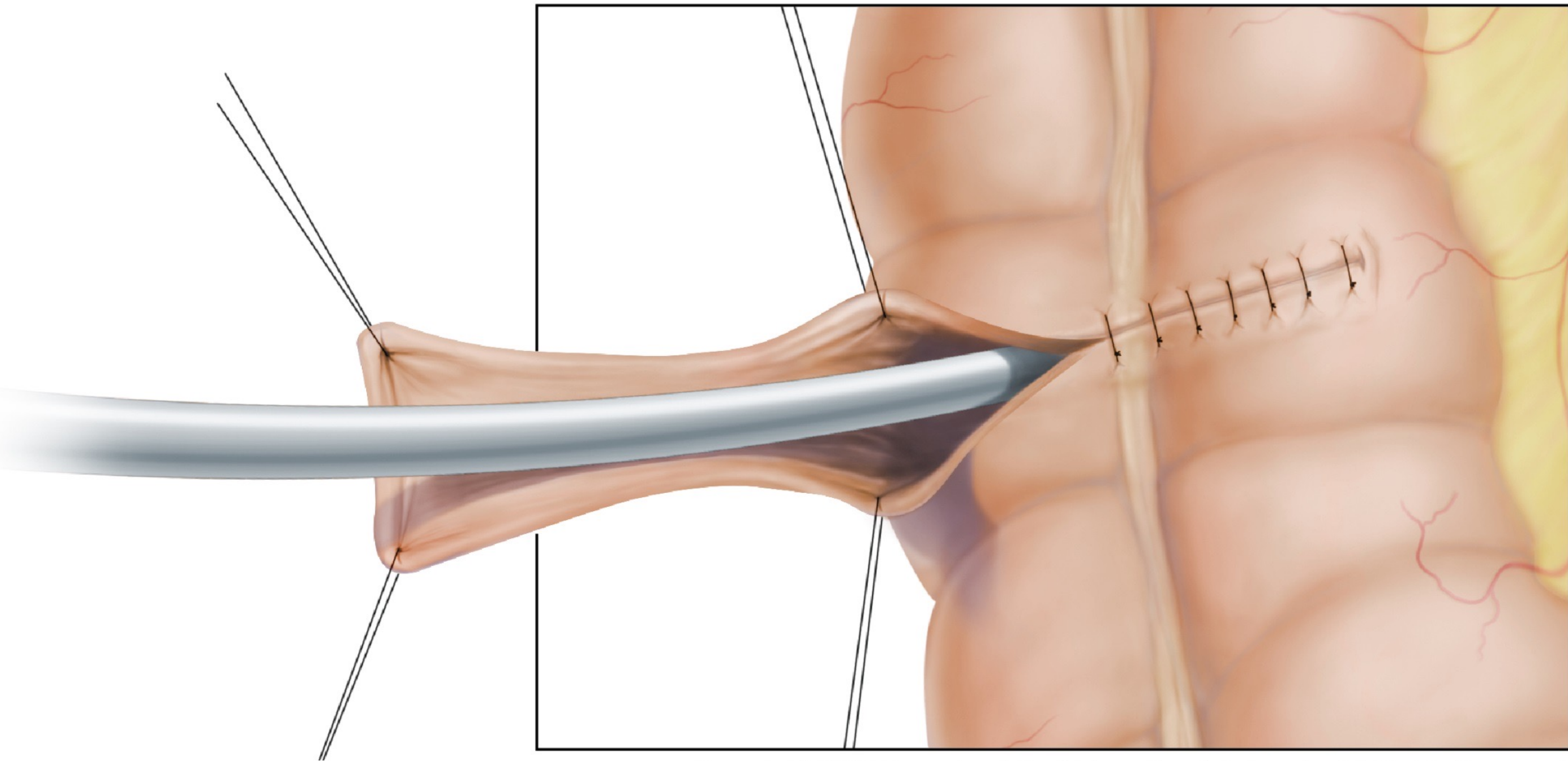
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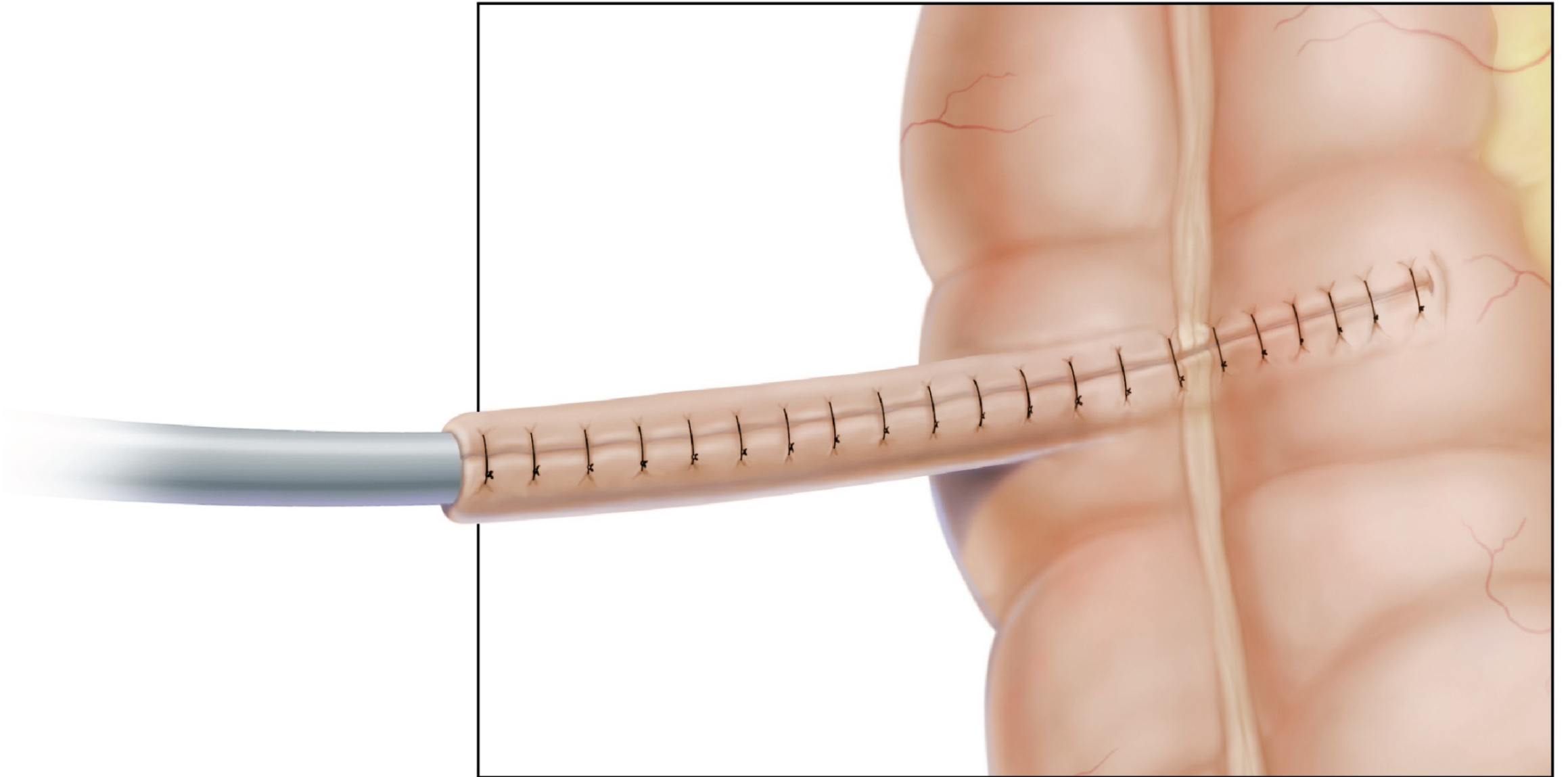


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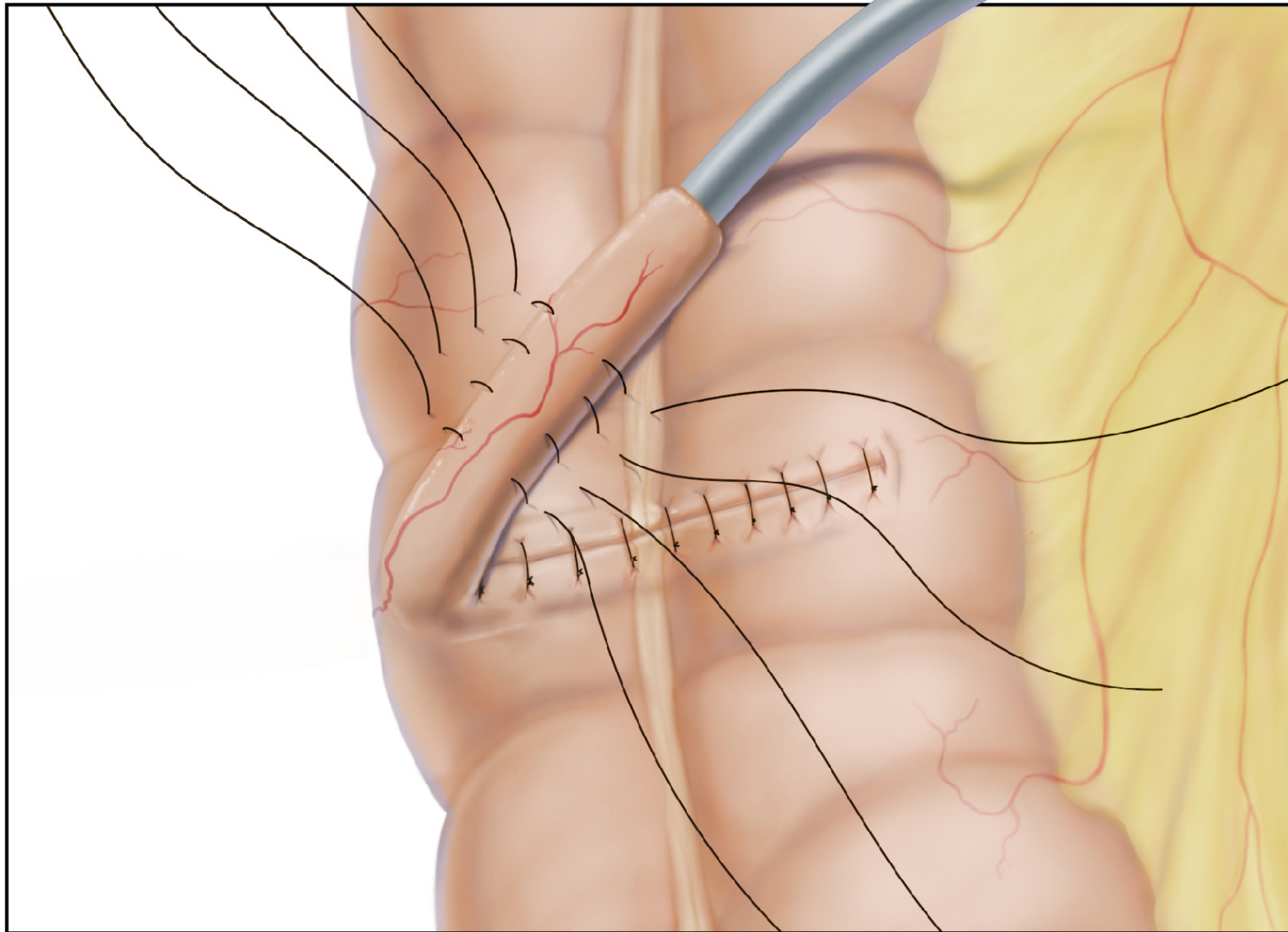
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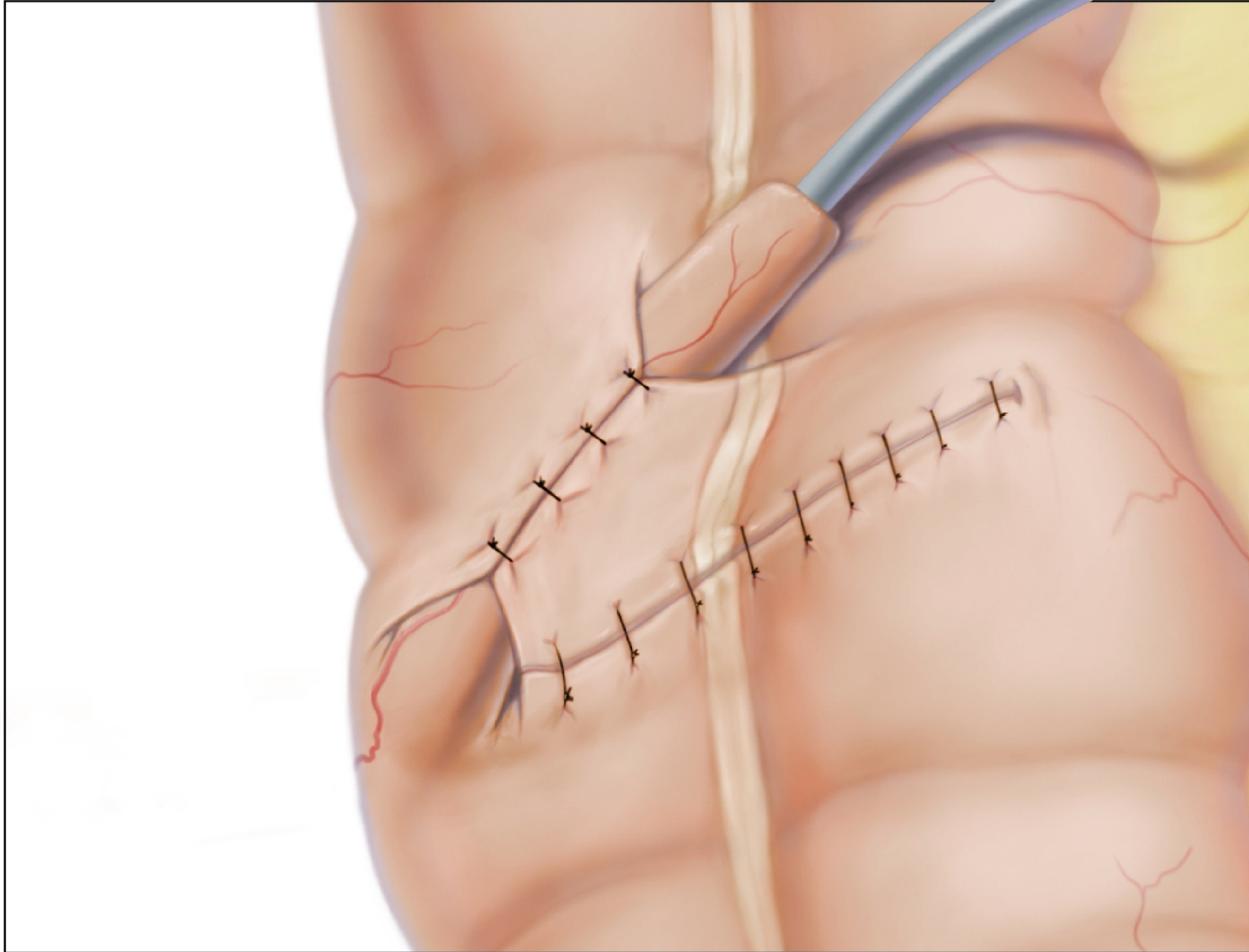




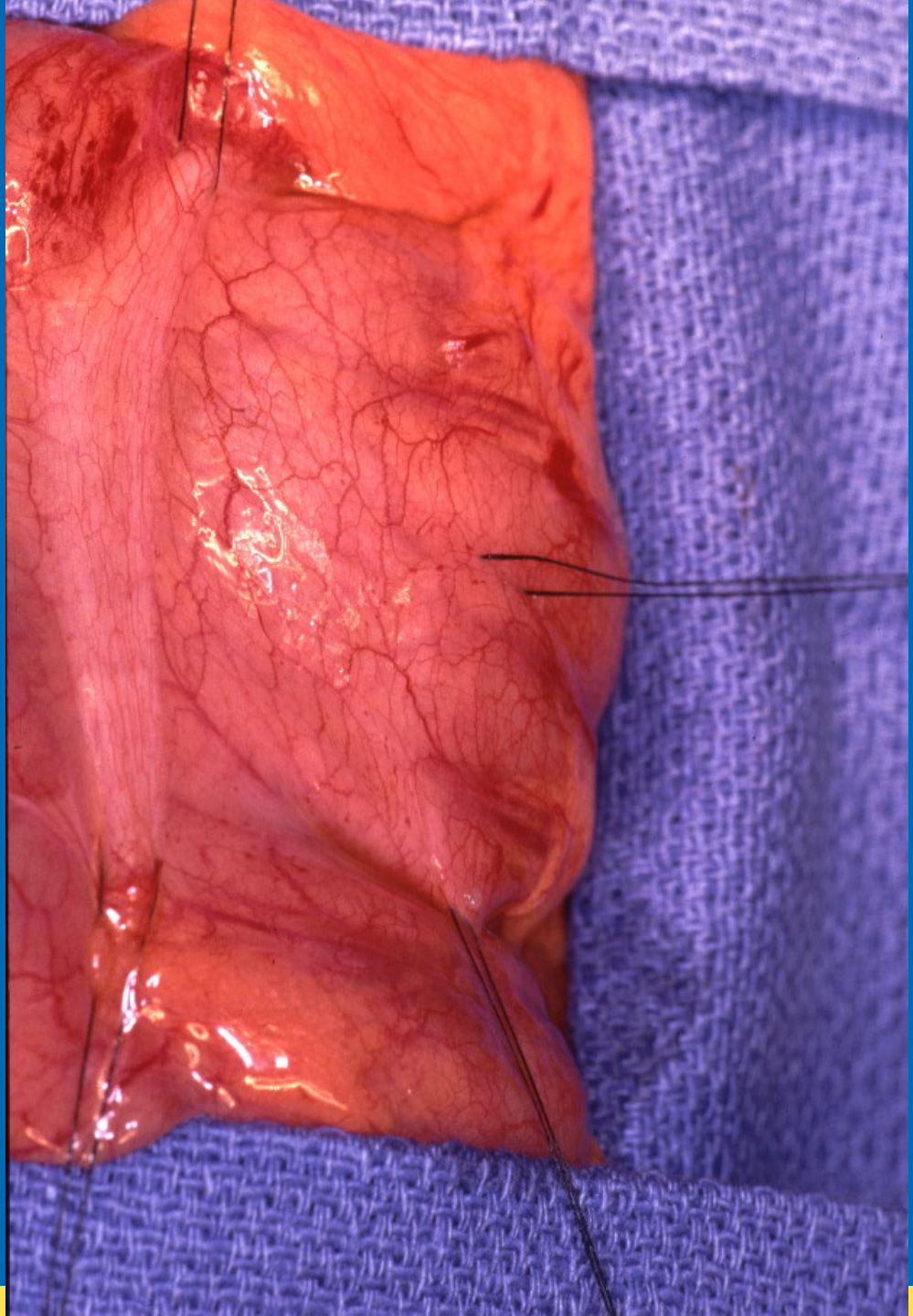


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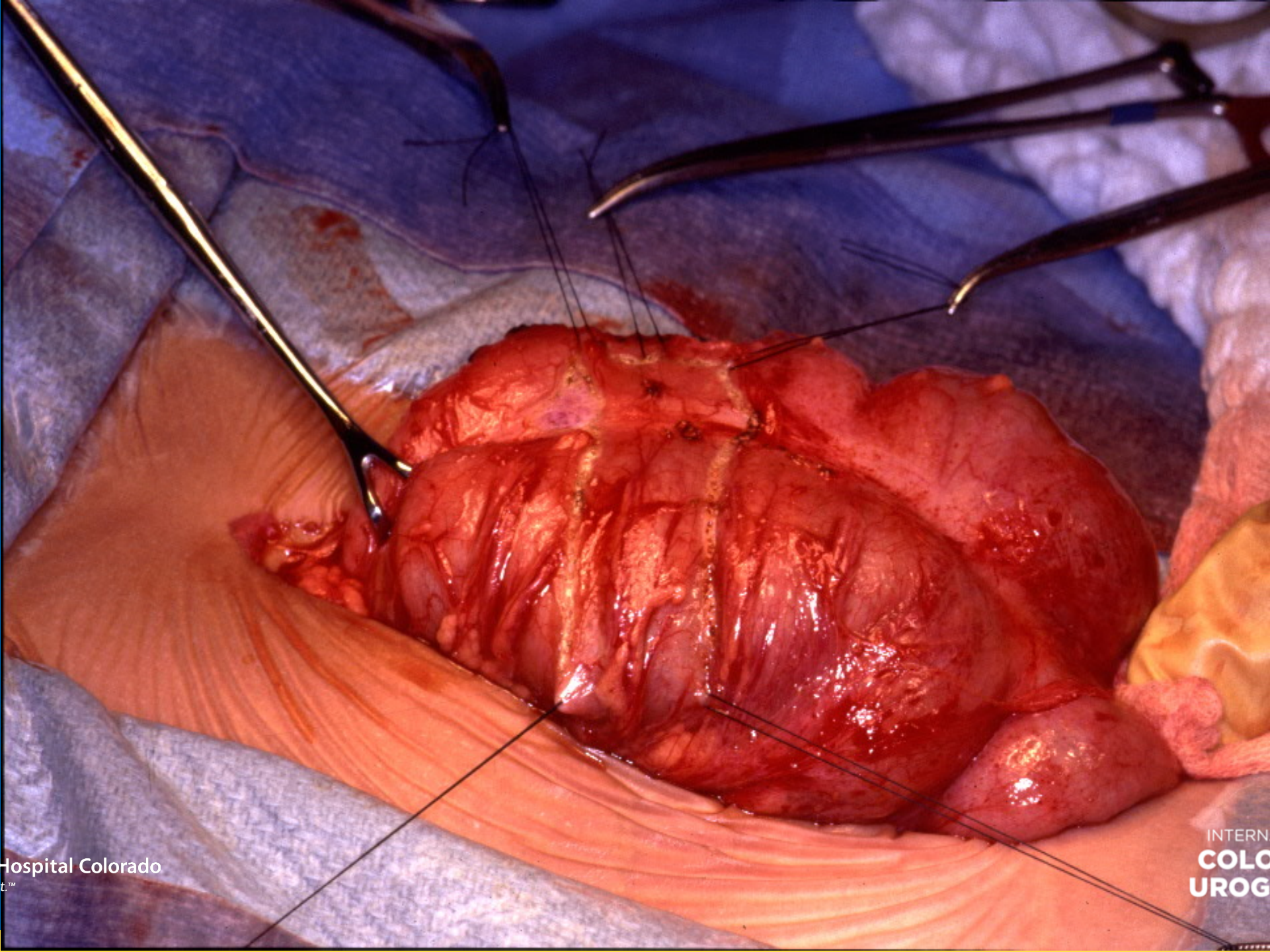




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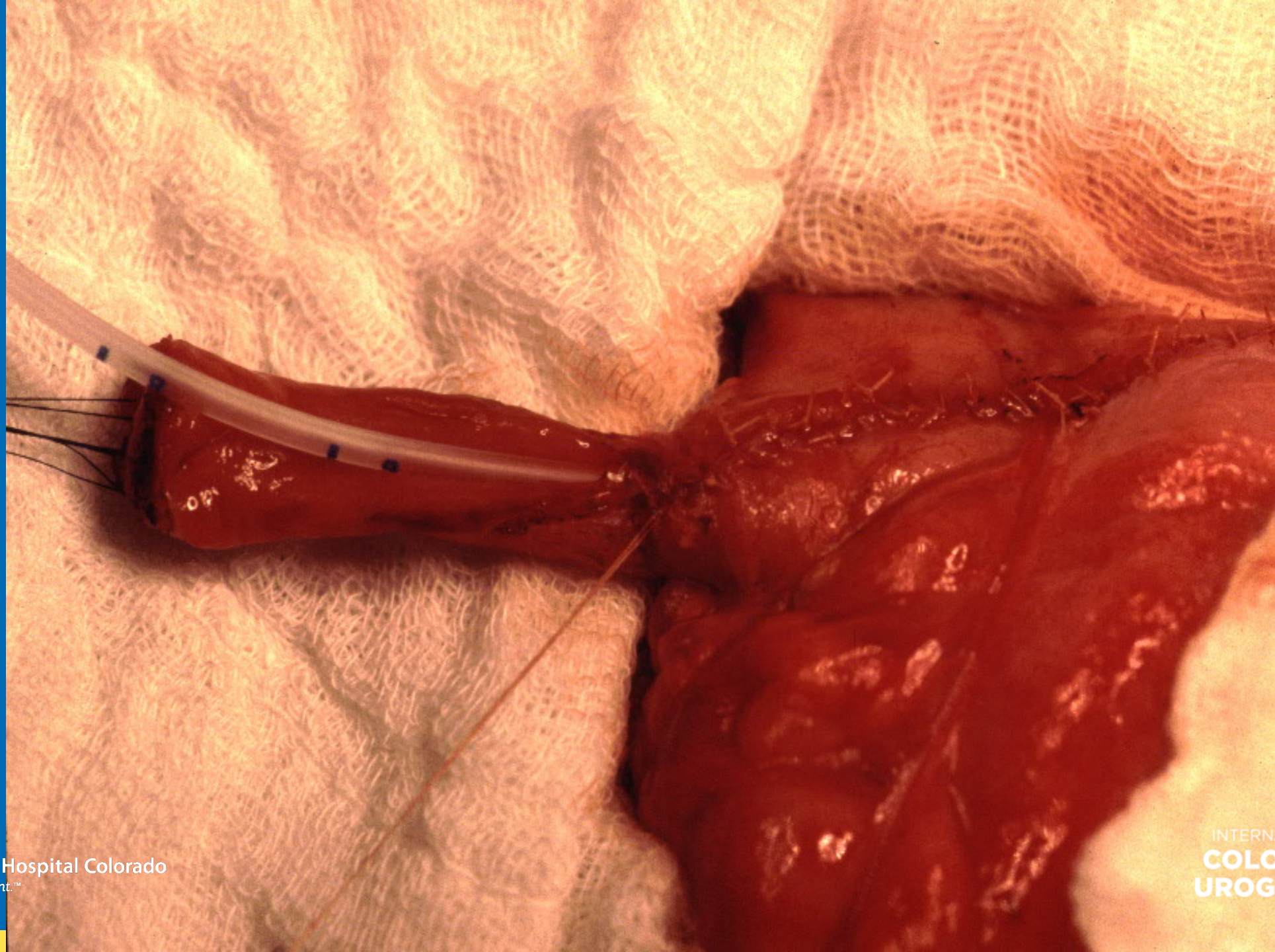




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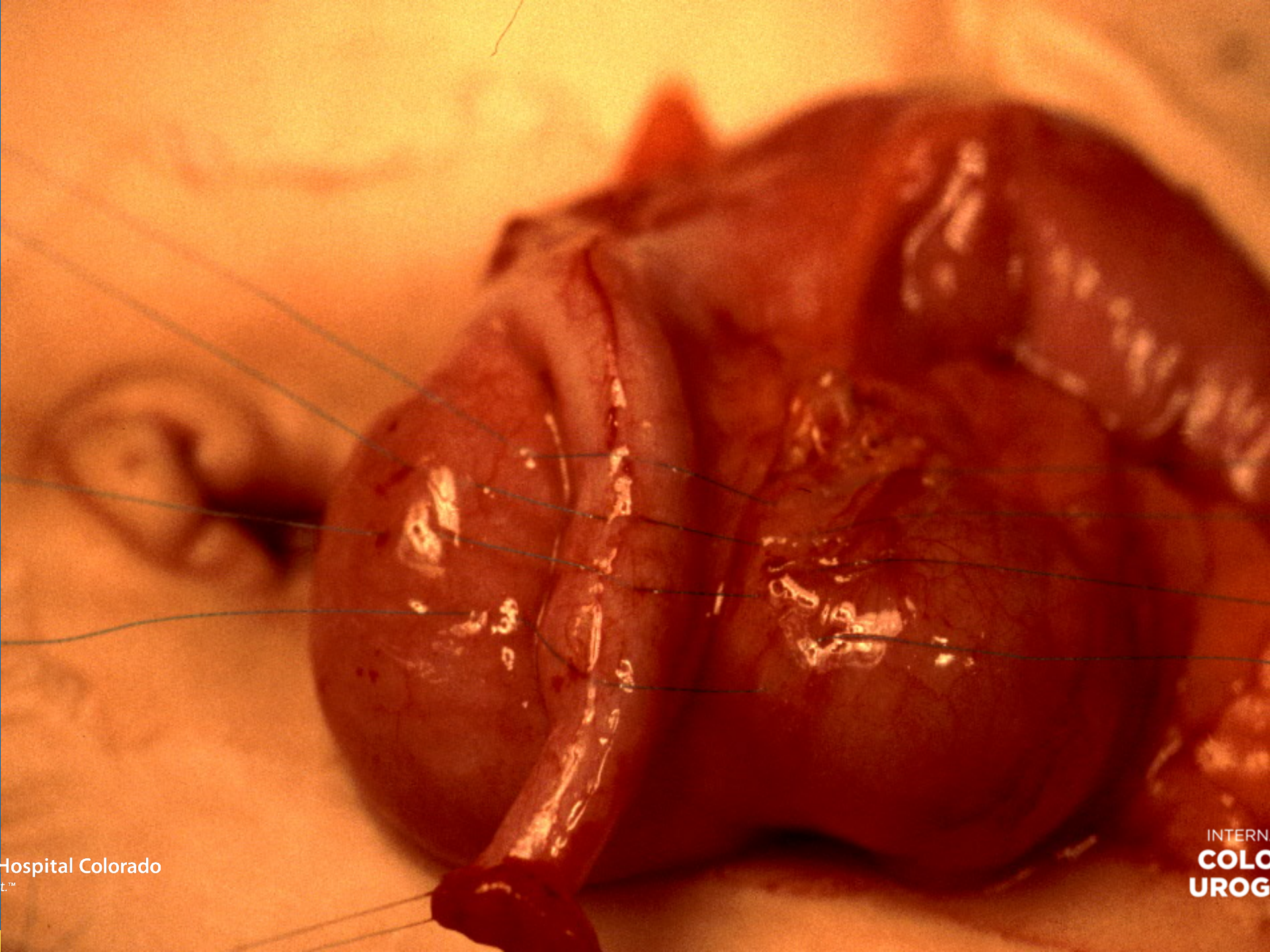




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