

Primary pull-trough

How, When and Where



Children's Hospital Colorado

INTERNATIONAL CENTER FOR
**COLORECTAL AND
UROGENITAL CARE**



1. Resection of aganglionic segment
2. Pull-through a ganglionated segment
3. Anastomosis proximal to dentate line

Staged pull-through



Colostomy and biopsies

Operation #1

Proctocolectomy and Pull-through

Operation #2

Colostomy Closure

Operation #3

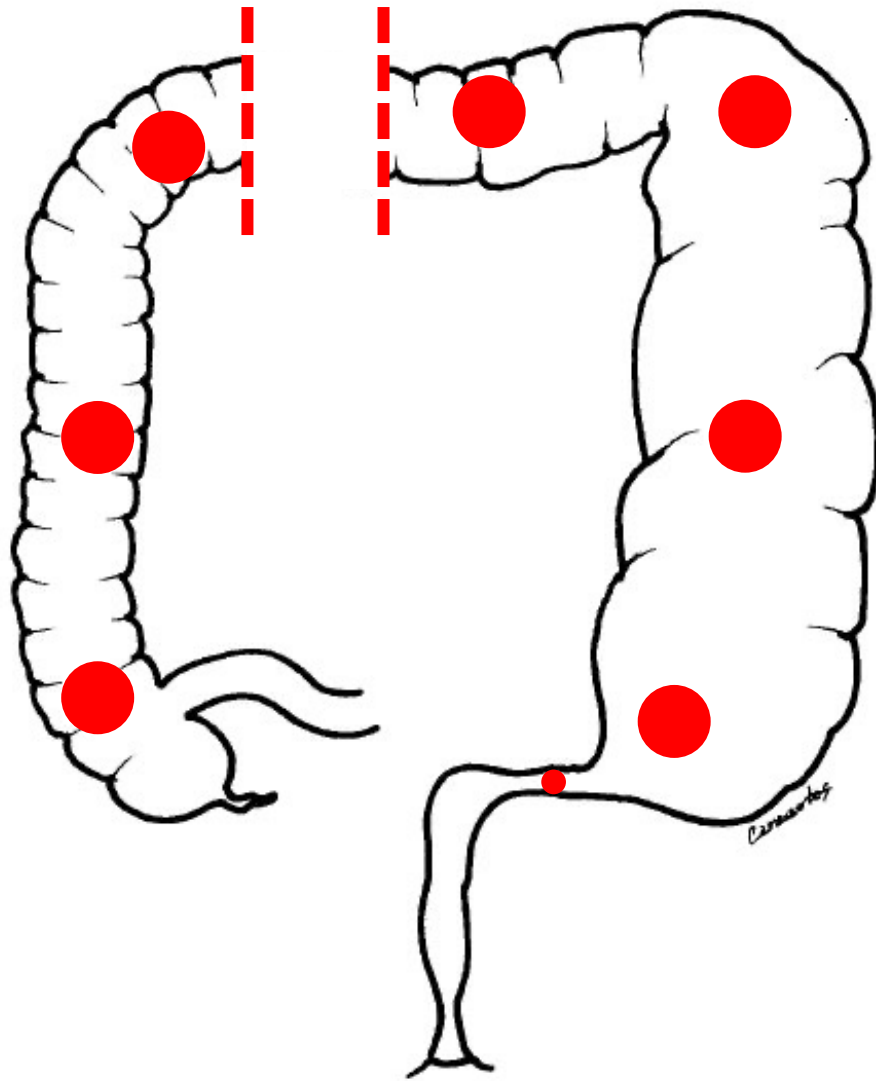


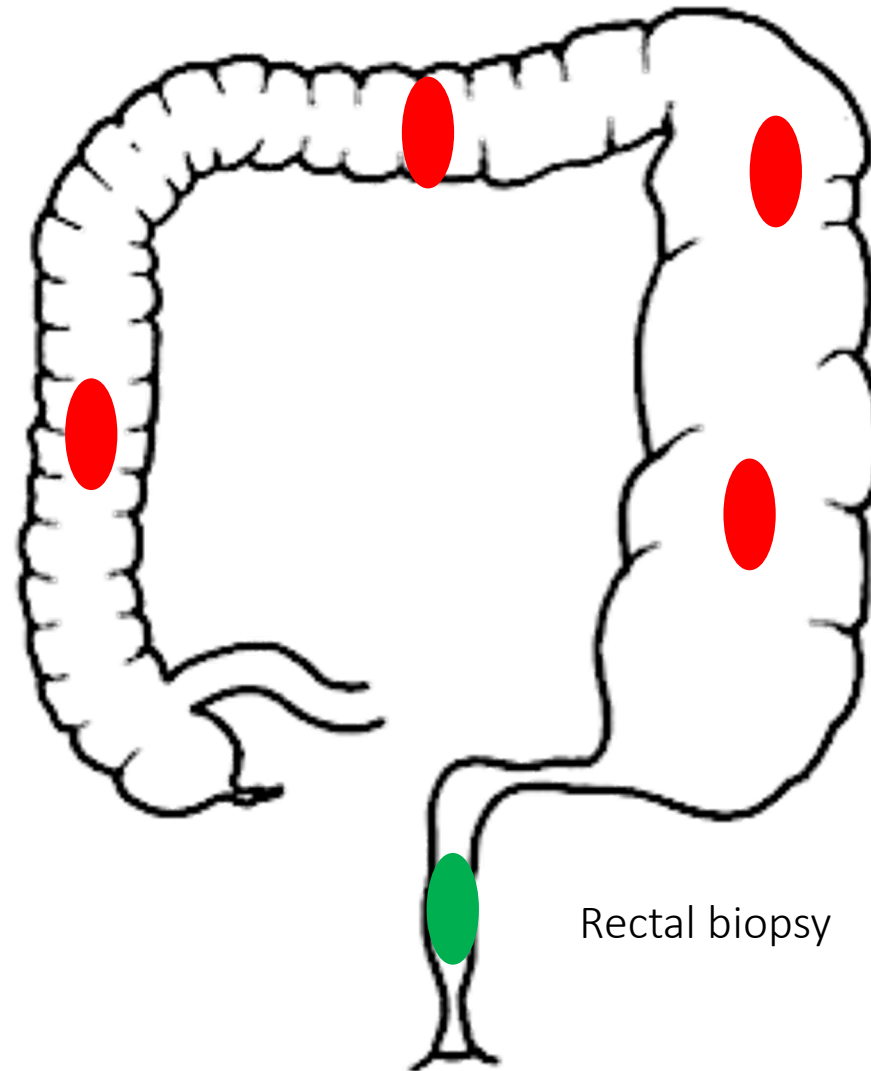
Primary pull-through (No colostomy or ileostomy)

Colectomy
Pull-through
Anastomosis



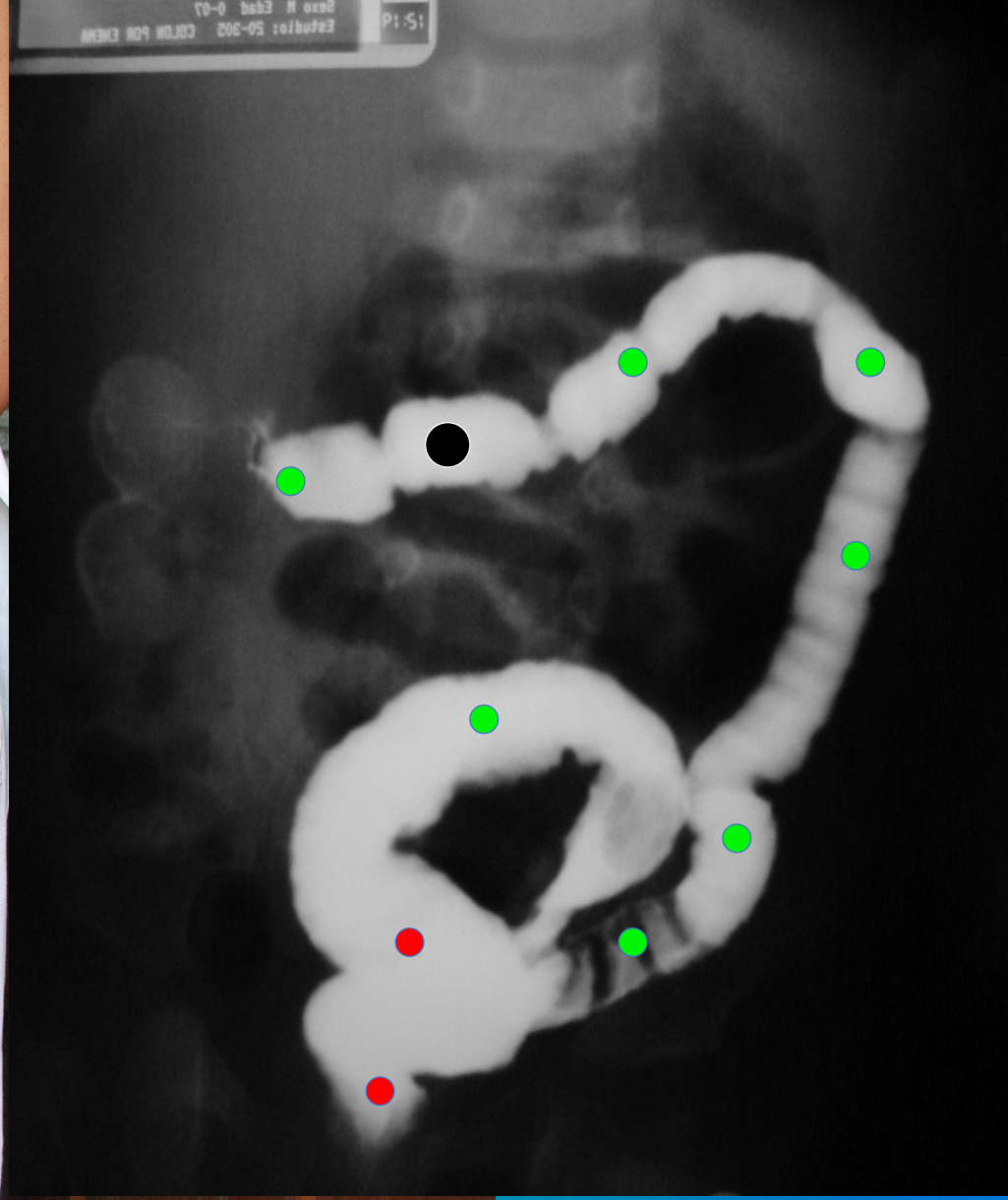
ONE OPERATION





A rectal biopsy is mandatory after the biopsies of the colon



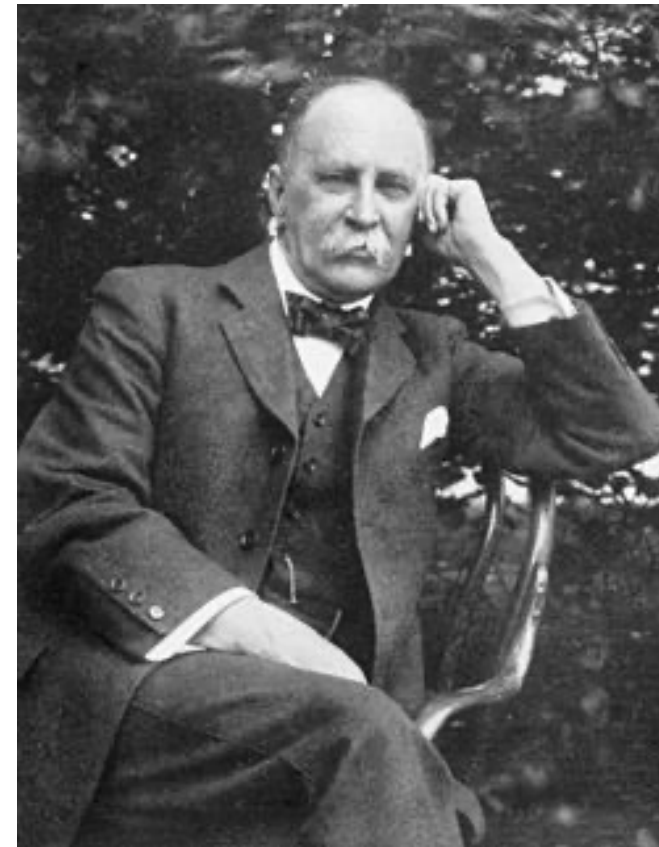
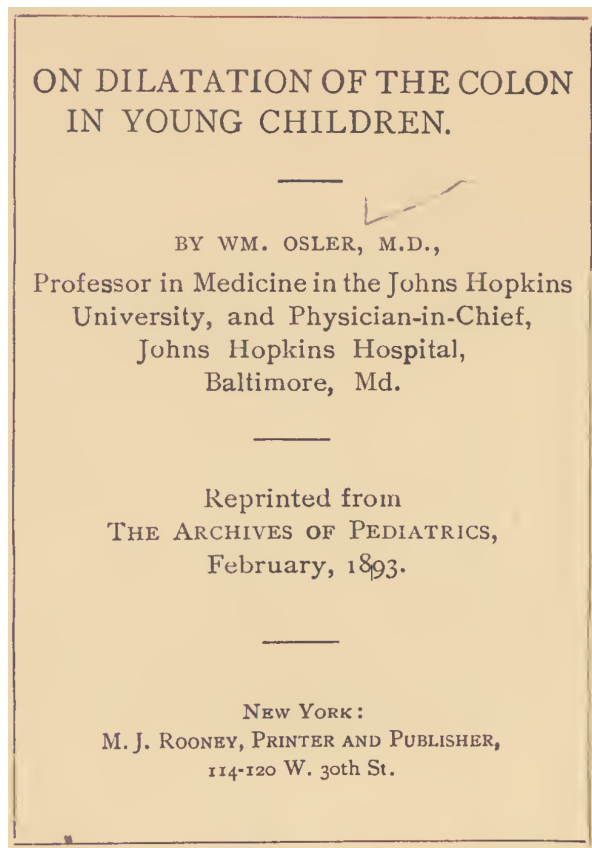




Is there any difference in the **functional outcome** performing a primary vs. staged pull-through?

No

“...introducing the tube far up and irrigating the bowel thoroughly, and with this a large quantity of fluid came away...”





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Experience with this procedure

Unquestionable diagnosis of Hirschsprung

Reliable Pathology team for frozen sections

Skilled Radiology team

Appropriate hospital organization and resources

nurses, surgeons, physicians, iv care, tpn...

“The surgeon and its circumstances.”



“Parents need to be expert
doing rectal irrigations,
BEFORE the pull-through.”



Pre-operative

Adequate preparation of the patient

Intra-operative

Trusted study of the FROZEN biopsy

Post-operative

Care protocol

“All in one.”

Pre-operative evaluation for a primary pull-through



1.-Is a patient with Hirschsprung disease?

- Rectal biopsy

2.-What is the length of the aganglionic segment?

- Pre-operative contrast enema

- Intra-operative frozen biopsy

- Transanal only or also needs an abdominal approach

3.-Is the proximal colon mild, moderate, or severe dilated and hypertrophic?

- Contrasted radiological study

- Intra-operative evaluation

Pre-operative evaluation for a primary pull-through



4.-Is it a good candidate for a primary pull-through?

- it is well controlled with irrigations

(keep the colon without dilation, the patient is eating well and gaining weight)

- experience of the surgeon

- pathologist experience

5.-What surgical options are there for a primary pull-through?

- Transanal

- Transanal + umbilical approach

- Transanal + laparoscopy

- Transanal + laparotomy

- Open, abdominoperineal approach



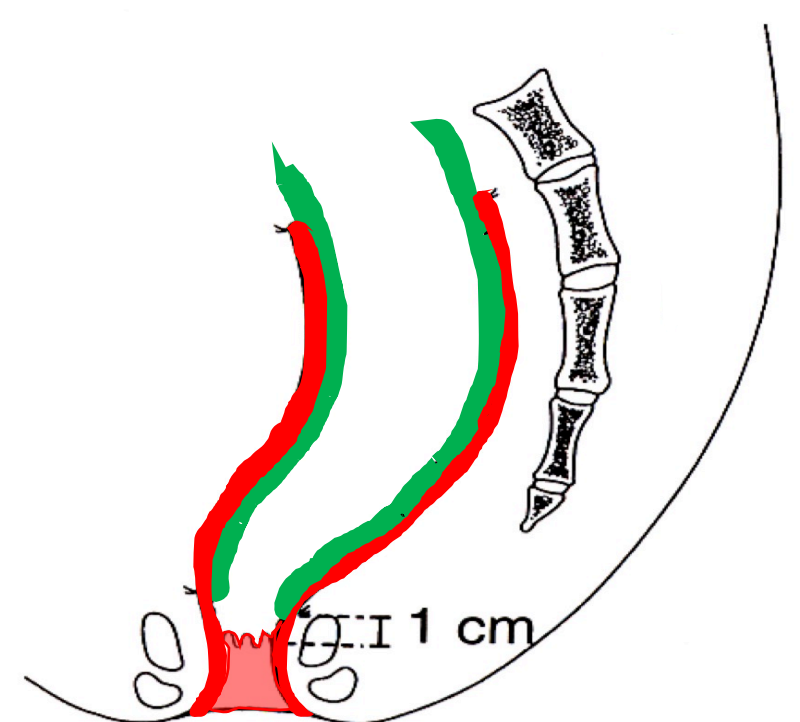
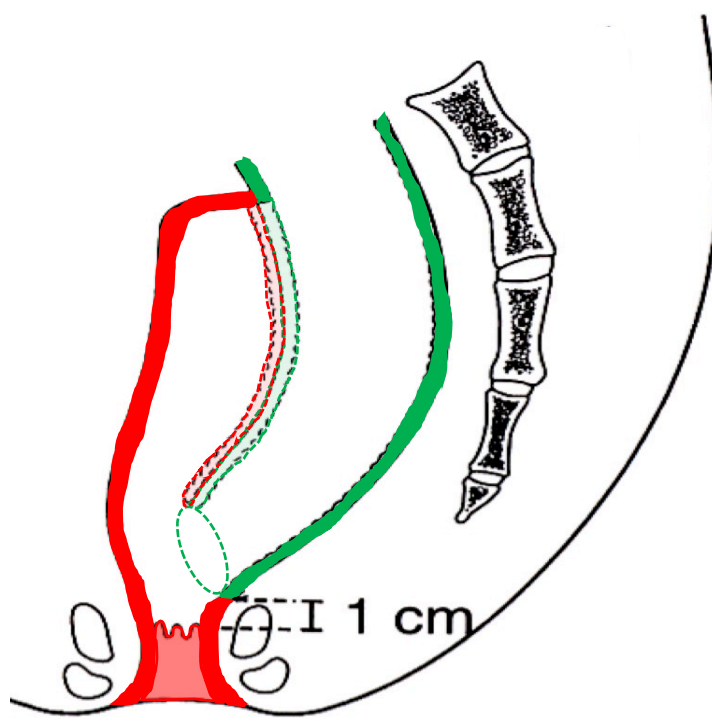
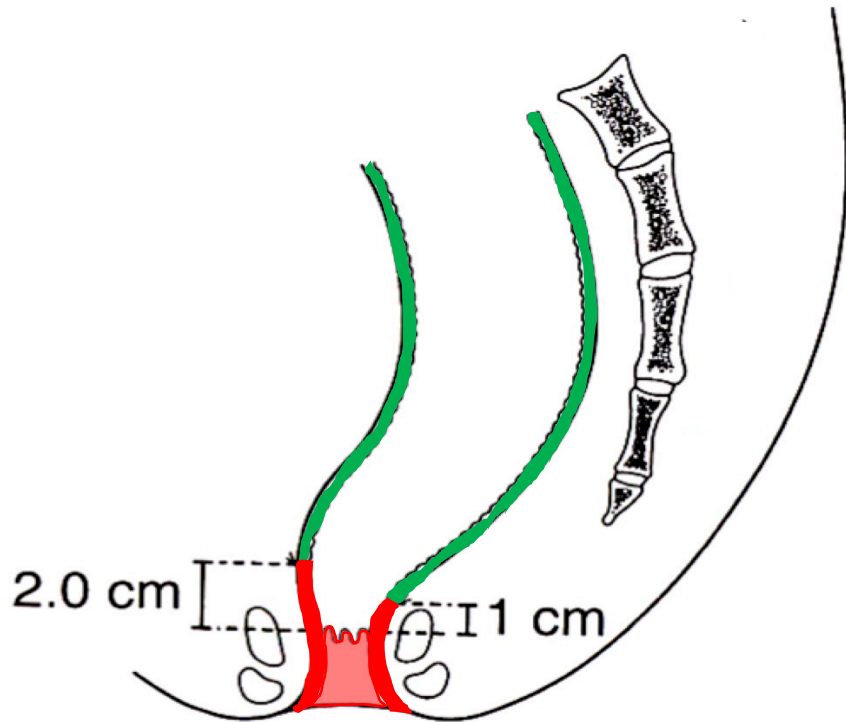
Orvar Swenson
Chicago, USA
1948



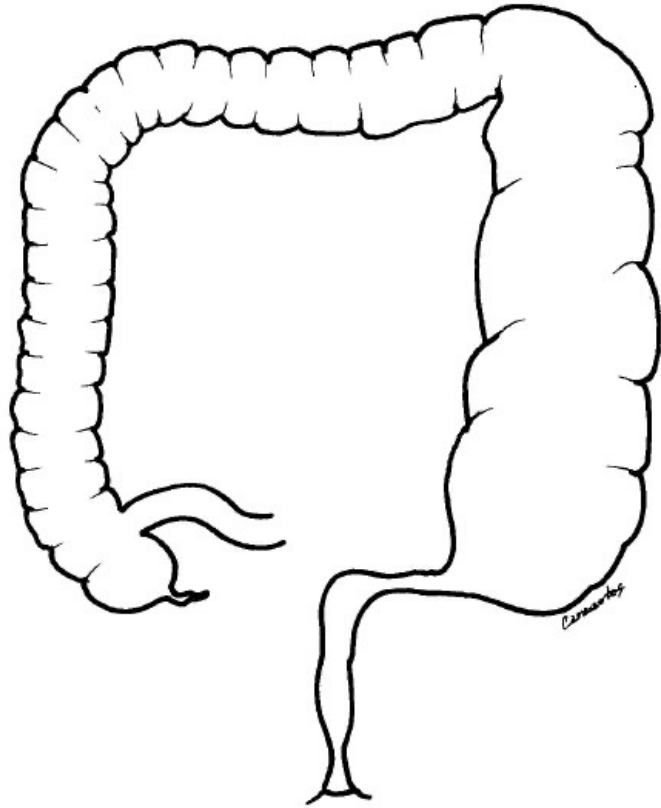
Bernard Duhamel
Paris, Francia
1956



Franco Soave
Génova, Italia
1960

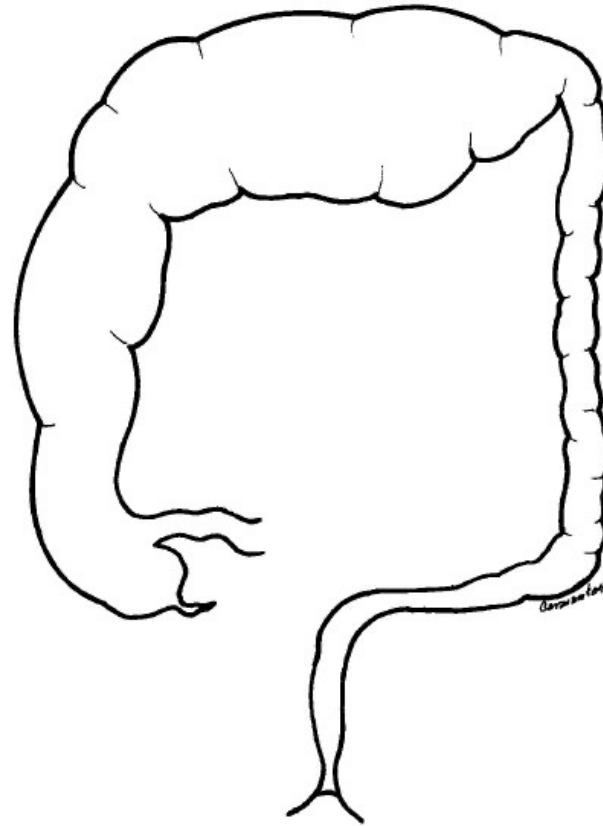


Primary



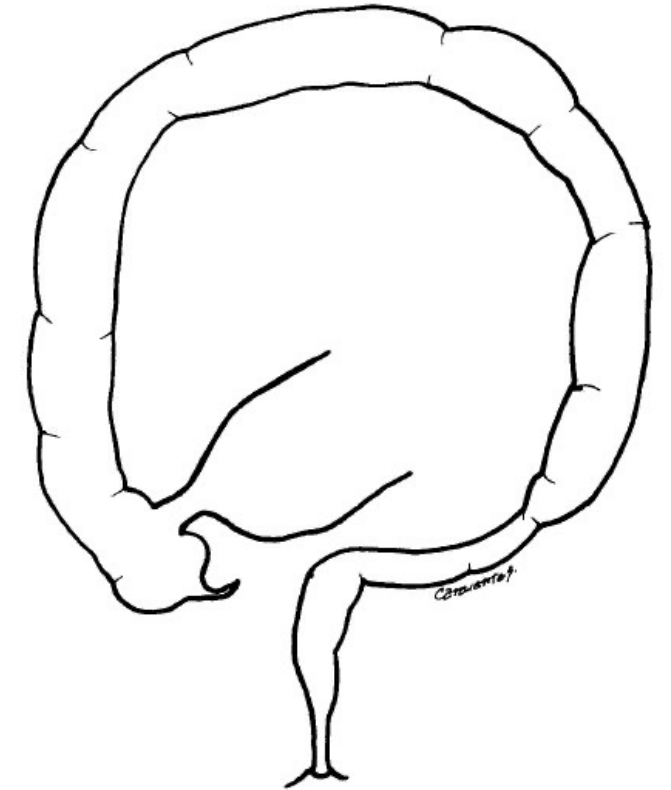
Rectosigmoid

Primary
Staged



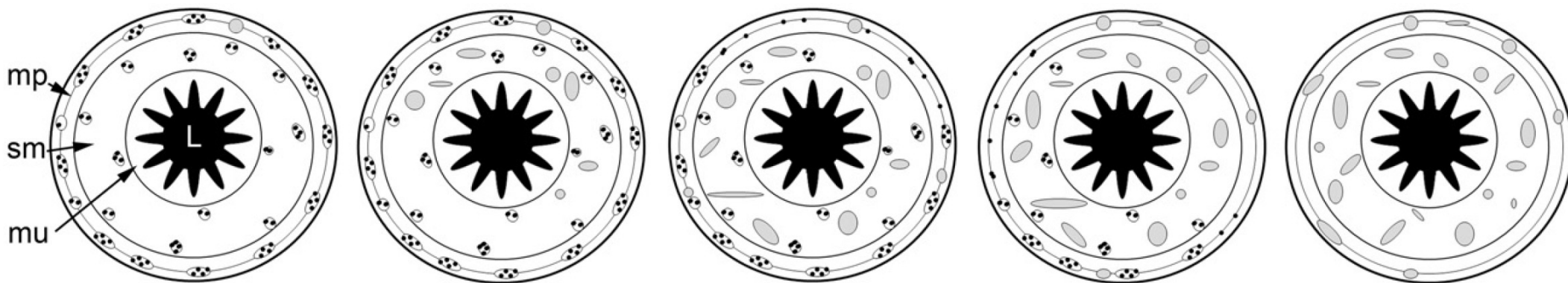
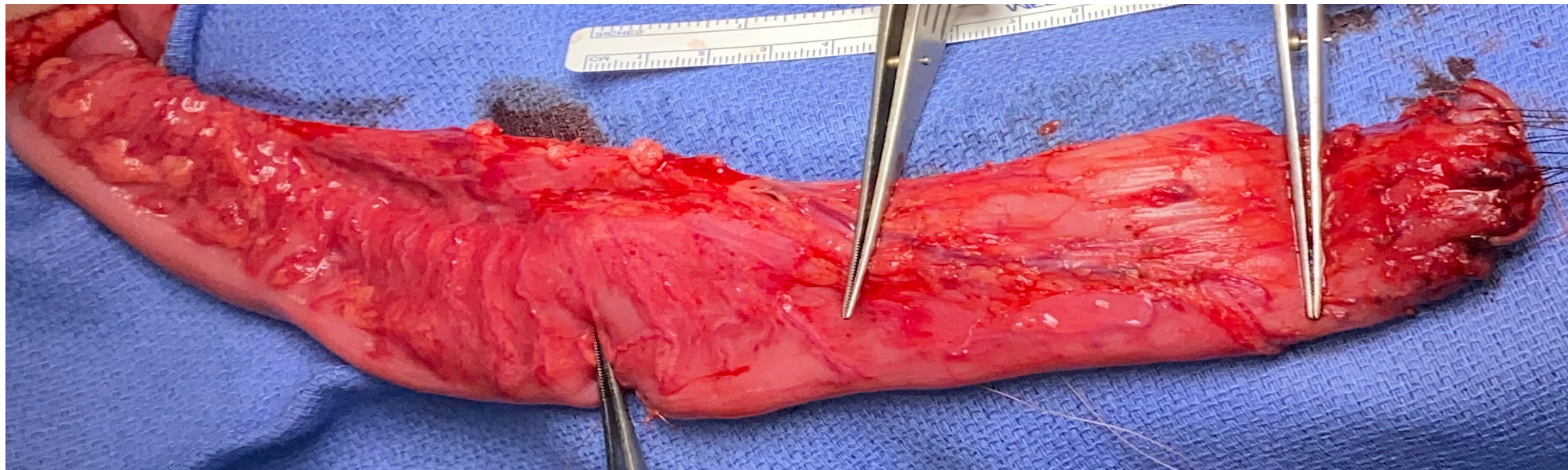
Left colon

Staged



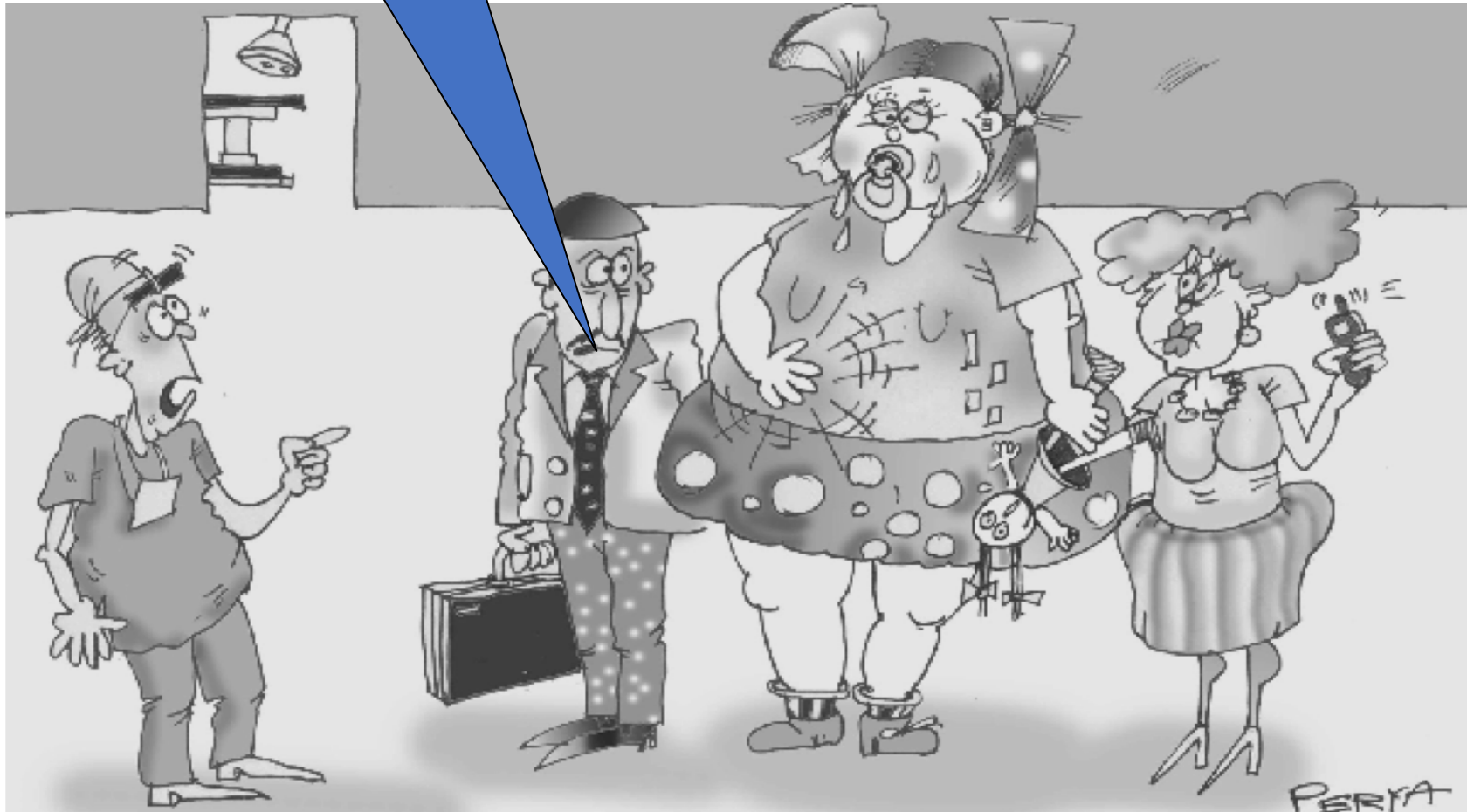
Total colonic aganglionosis







*My baby has
Hirschsprung*





Late diagnosis and proximal “true megacolon”

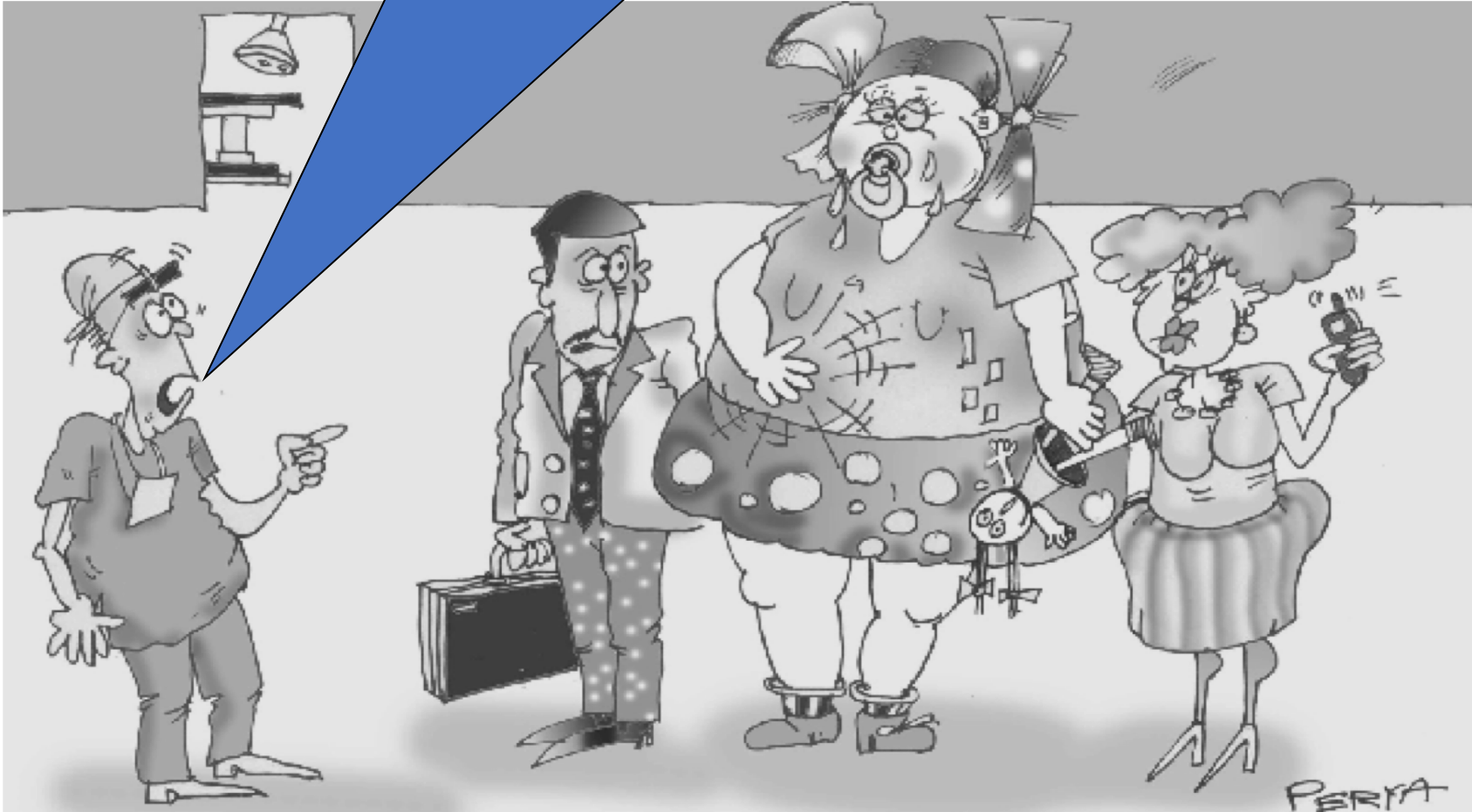
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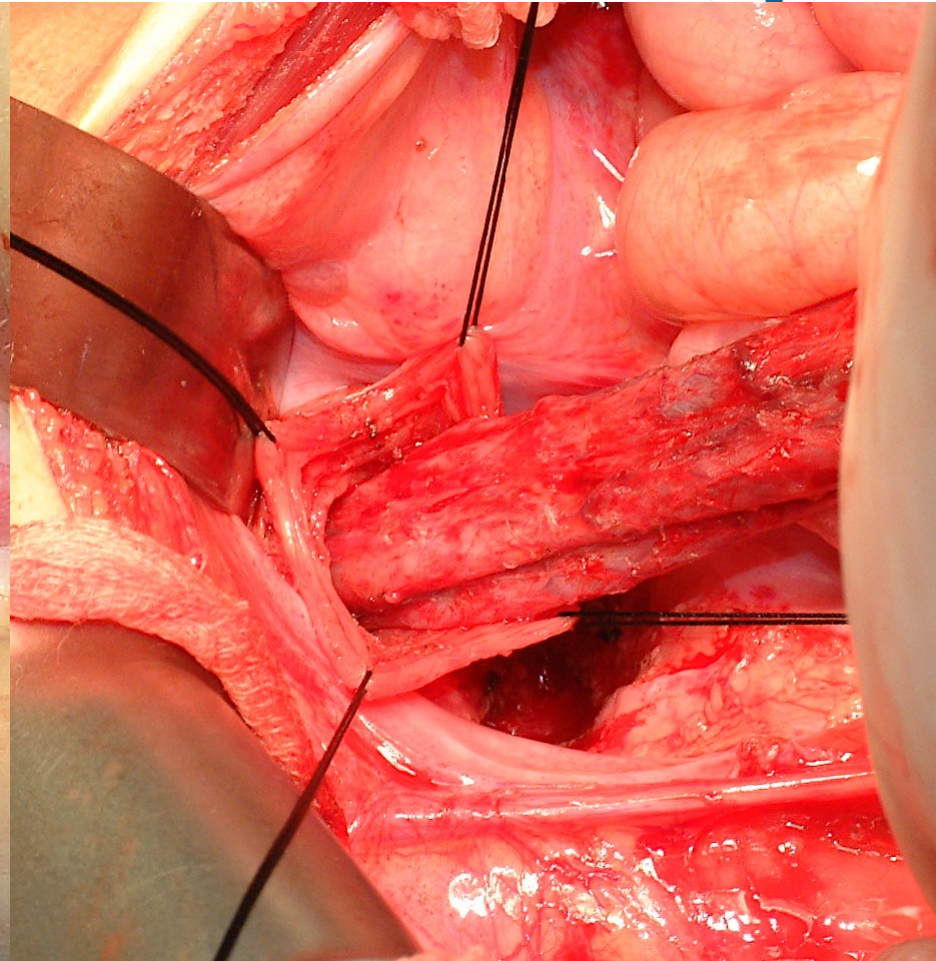
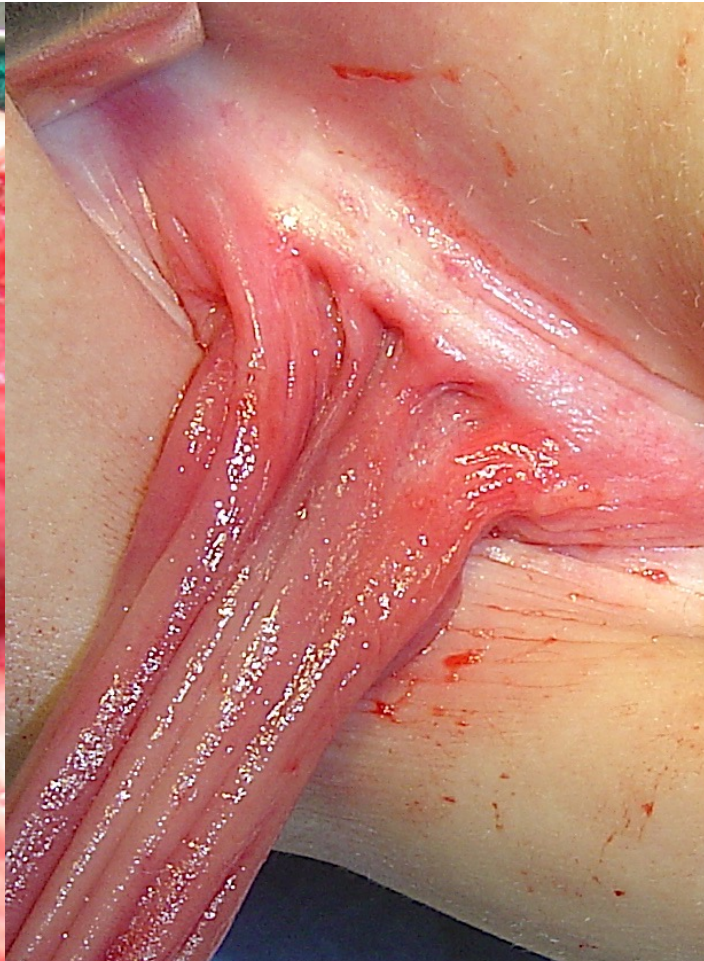
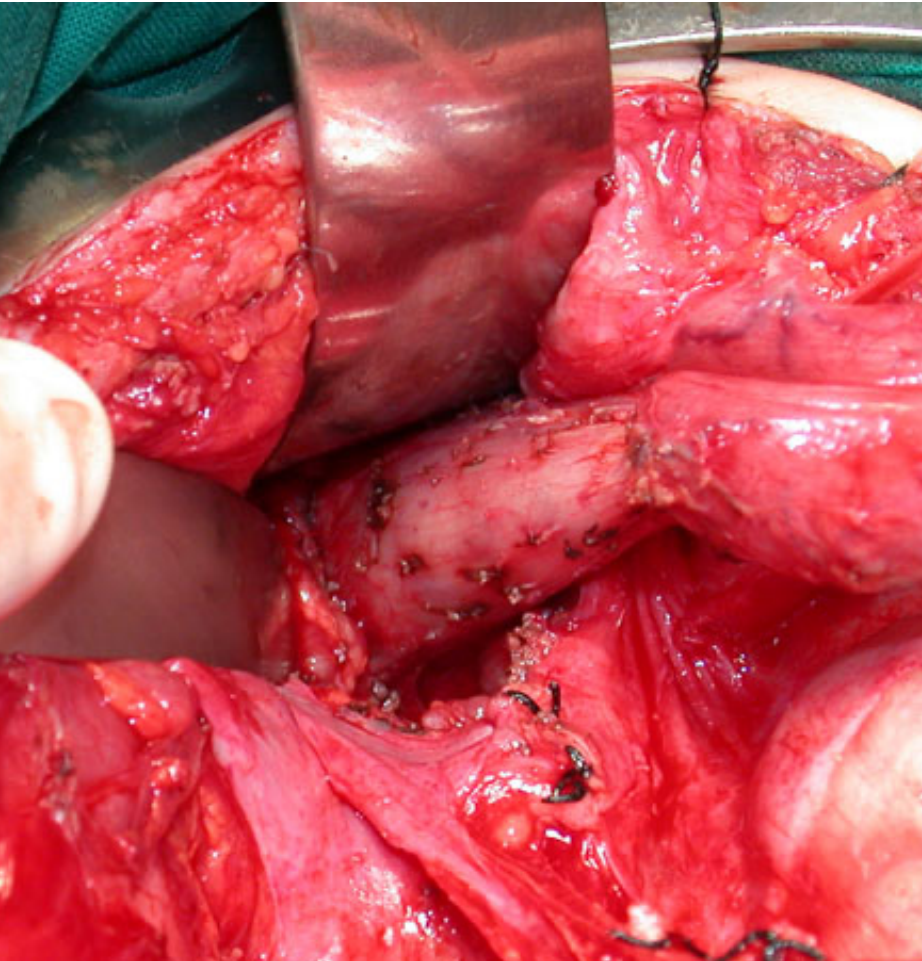


Late diagnosis and proximal “true megacolon”

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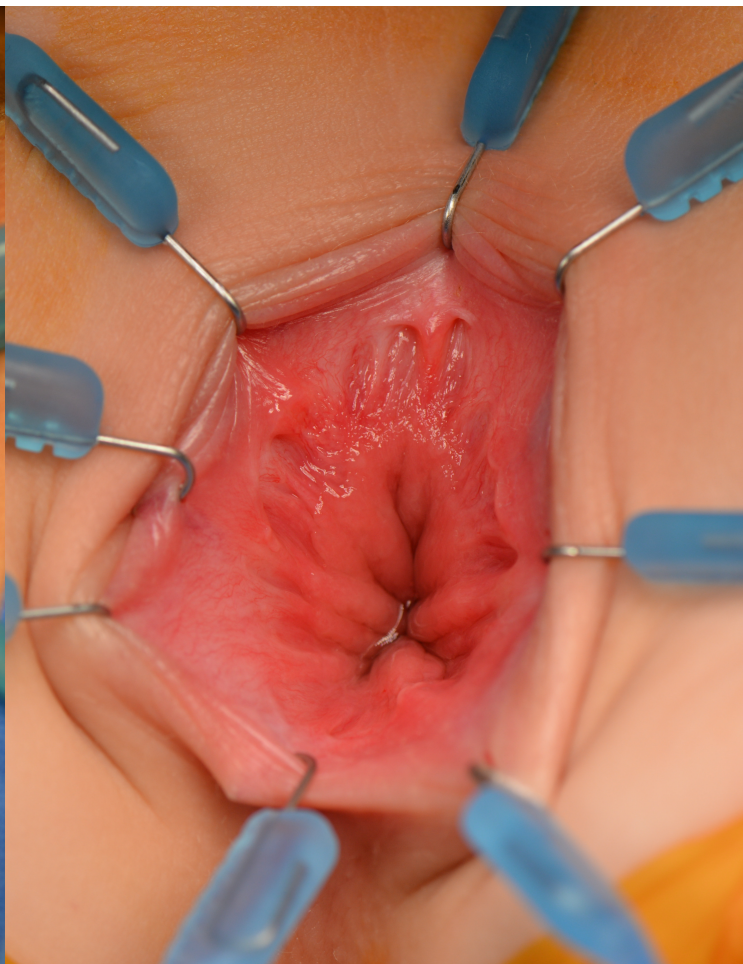
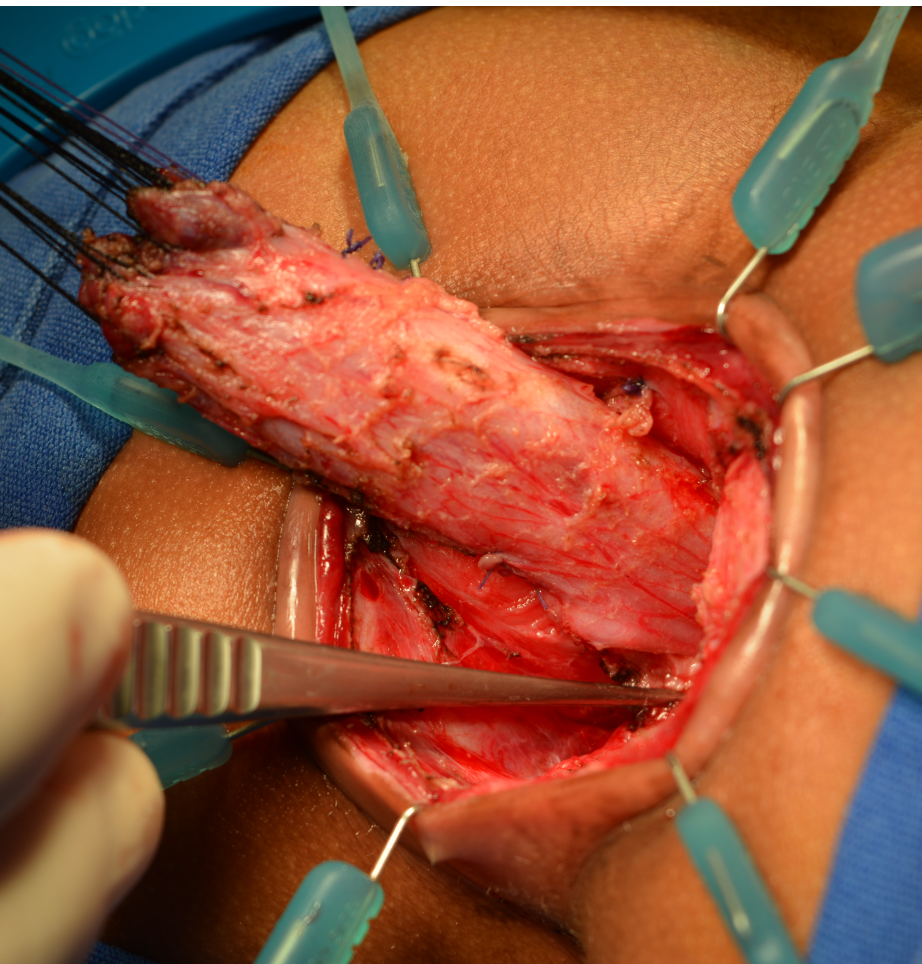
Do you want a primary transanal pull-through?





1948-1990

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1990-2021

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What pros or cons exist between primary vs. staged pull-through?

Number of operations

Possibility of complications related to enterostomy

Possibility of intestinal adhesions

Primary is youngest patients > risk of damage of anal canal



“Primary pull-through.”

41 years ago!

Are you ready to perform “hole in one”?

Yes

Great Benefits

No

Major disasters



How to do a PT?

Open, Lap-assisted, Transanal, combination

When to do a PT?

Patient has an adequate clinical condition

Where to do a PT?

Medical team has experience and the hospital offers appropriate infrastructure

Thank you
luis.delatorre@childrenscolorado



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1st operation

Laparotomy + biopsies of the colon to determine the level of aganglionosis + transverse colostomy

2nd operation

Laparotomy, proctocolectomy, pull-through with end-end colorectal anastomosis

3rd operation

Laparotomy + colostomy closure

Primary pull-through



1. Resection of aganglionic segment
2. Pull-through the ganglionated bowel
3. Anastomosis colorectal