

# PEDIATRIC SURGERY

## Soave endorectal pullthrough for Hirschsprung disease (laparoscopic)

### Preference Card

This is done as a "primary pullthrough" ..without a colostomy. In patients with intractable enterocolitis or other major anomalies a leveling colostomy is placed and a pullthrough done later.

When doing a primary pullthrough, a [Golytely and oral antibiotic bowel prep](#) is given the night before.

Before prepping, irrigate the rectum with betadine/saline with a 14 Fr red rubber to evacuate any remaining stool. Dilate the anus with Hegar dilators.

1. Full body prep from nipples down to toes. Put on an extremity drape and wrap legs with stockinettes. Place a foley catheter on the field.
2. Place camera at infraumbilical port with Veris needle then RLQ and LLQ 5mm trocars. Extra trocar in RUQ--use this for camera.
3. Place in Trendelenburg and retract sigmoid with 5 mm Babcock via LLQ trocar. Dissect at the peritoneal reflection anteriorly with Maryland then with harmonic scalpel as possible. Continue around posteriorly using harmonic scalpel when possible.
4. Usually not necessary to divide the mesorectum and mesosigmoid.
5. To do the endorectal dissection, place the Lonestar retractor. To start the dissection inject 1:1000,000 epinephrine deep to the mucosa at 1cm above the dentate line. This helps to define the submucosal plane. Cut through the mucosa with a beaver blade then continue dissecting using the bovie with the spatula blade. Coagulate vessels as you see them then use the bovie blade to push mucosa off the underlying muscle. Place 5-0 silk stay sutures in the mucosa to help with traction. In babies, a peanut may facilitate dissection once you get

going. Go as high as possible then when you can see yourself pushing on the colon intraperitoneal go through the muscle (posteriorly--because it's safer) and then cut circumferentially through the full thickness. Use a long right-angle for this and bovie over it.

6. Pull through the colon and assess for ganglion cells at and above where the transition zone seems to be.

7. Irrigate the cuff aggressively

8. Transect the colon at the point where there are ganglion cells. Initially, only transect the top 180 degrees of the colon. Place 4-0 PDS out-to-in at 9, 12 and 3 o'clock in the cuff and bring through the corresponding site in the pullthrough colon. Then transect the rest of the colon. Place the remainder of the 4-0 PDS in the anoplasty (about 16 total).

9. At the end, confirm through the laparoscope that the colon is going through without twisting.

10. Close the skin at the trocar sites with dermabond.

Link to [Vesalius](#) for detailed diagrams and photographs of this procedure. (The case pictured involved a colostomy takedown, which is not typical, but is otherwise similar to that described above.)