Division of Colorectal and Pelvic Reconstruction

# MITROFANOFF, MALONE, AND BLADDER AUGMENTATION SURGERY

The **Mitrofanoff, Monti, Malone** and **Neo-Malone** channels each help the child take care of their bathroom needs with independence and allow them to play and participate in sports just like other children, including going swimming!

## WHAT IS A MITROFANOFF AND MONTI

The Mitrofanoff or Monti channel is created so that urine can drain out from the bladder when a catheter (small tube) is passed into the channel.

- A Mitrofanoff is a surgery where the appendix is used to create a channel. A channel is like a tunnel from the skin to the bladder.
- A Monti is a surgery that uses a piece of your child's small bowel if their appendix cannot be used to create the channel. A Monti works in the same way as a Mitrofanoff.

When the catheter is removed, the channel valve (door) closes, and no urine will leak from the Mitrofanoff or Monti.

## WHAT IS A MALONE APPENDICOSTOMY AND NEO-MALONE

The Malone or Neo-Malone channel is created so that stool (poop) can be flushed out of the colon (or bowel). This happens when a catheter (small tube) is passed into the channel and a solution of water mixed with other ingredients is flushed into the catheter.

- A Malone Appendicostomy is a surgery where the appendix is used to create a channel. This channel is like a tunnel from the colon to the skin.
- The Neo- Malone is a surgery that uses a piece of bowel to create the channel, if the child does not have an appendix, or if the appendix was used for the Mitrofanoff.
- The Neo-Malone works the same way as a Malone

When the catheter is removed, the channel valve (door) closes, and no stool (poop) will leak out of the Malone or Neo-Malone.

## BLADDER AUGMENT

The Bladder Augment is designed to make the bladder bigger which will allow the bladder to hold more urine and improve the pressure in the bladder. This may help the child stop having urinary accidents or wetting!

- A Bladder Augment creates a larger bladder.
- This larger bladder is created by taking a piece of the bowel and attaching it to the bladder.

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## WHAT TO EXPECT BEFORE, DURING, AND AFTER SURGERY

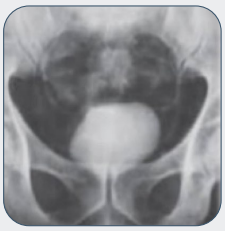
Your child will be admitted to the hospital the day before their surgery. The Colorectal Team will give your child a "bowel prep." A "bowel prep" will help clean-out your child's colon (bowel) before the surgery.

The Colorectal and Urology Surgeons will work together during the surgery. The surgery takes about 4-8 hours, and you will get updates from the operating room staff throughout the surgery.

After surgery, your child will stay in the hospital for 1-2 weeks. They will have several tubes in their body following the surgery. Some tubes will stay in place after your child leaves the hospital, while some will be removed before they go home.

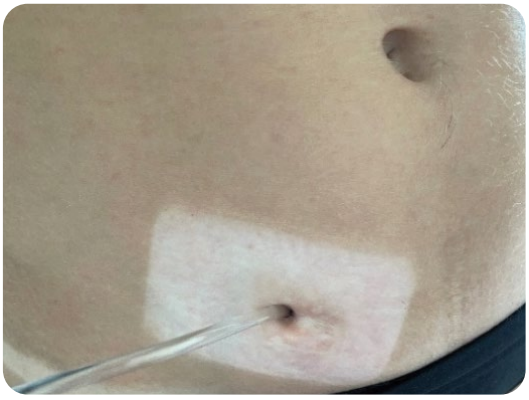
- Two (2) tubes will be removed **BEFORE** your child goes home:
  - A Nasogastric tube (NGT) placed in your child's nose will keep their stomach and bowels empty.
  - A Foley Urethral Catheter (tube) placed in your child's urethra will drain urine.
- Three (3) tubes will stay in place when your child goes home to protect their new channels and to protect the bladder while the channels heal.
  - A suprapubic tube (SP)– the SP tube keeps urine draining from the bladder. We think of it as a "safety tube" while the Mitrofanoff or Monti channel is healing.
  - A Mitrofanoff tube
  - A Malone tube

## FOLLOW UP VISITS AND CARE AFTER GOING HOME

| | |
|---|---|
| **Week 1** | • This is the week of your child's hospital stay. |
| **Week 2** | • Discharge:<br>- Between days 7-14 after surgery your child will be ready to go home.<br>- Your child will have weekly visits after you leave the hospital<br>• First Clinic Visit with the Urologist:<br>- If your child was discharged before Week 2 you would come back to the hospital for their first clinic visit. |
| **Week 3** | • X-ray<br>- Your child will get an X-ray of the bladder, called a "cystogram."<br>The radiologist will use your child's catheter to fill the bladder with contrast dye (special liquid to help us see parts of the body).<br>  <br>• Clinic Visit with the Urologist<br>- The catheter will be removed from the Mitrofanoff (urine channel)<br>- Your child will learn to catheterize (drain urine) from their new Mitrofanoff!<br>- The Malone tube will stay in place. |
| **Week 4** | • Clinic visit with Urologists and the Colorectal Team together<br>- If catheterizing the Mitrofanoff is going well, the SP tube will be removed.<br>- The Malone tube catheter will also be removed<br>- The Colorectal Team will provide you with resources to help you care for your new Malone. |

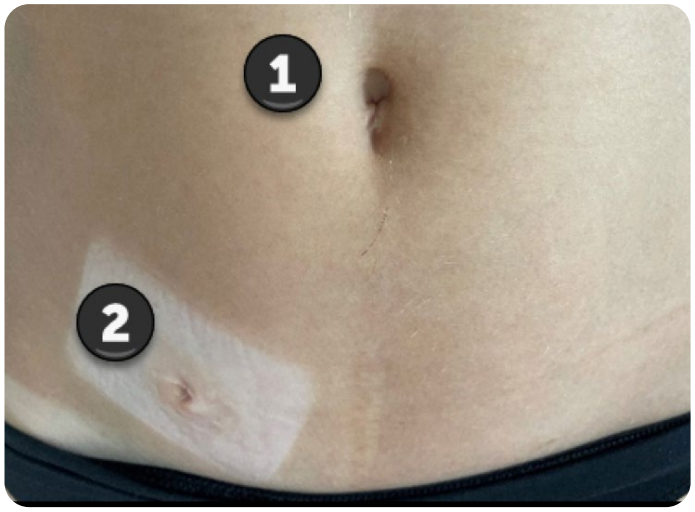
## YOUR CHILD'S HEALING ABDOMEN (Belly)

1. When a Mitrofanoff and Malone are created at the same time, the child will have two channels (or tunnels).
    - Each channel will have an opening on the abdomen (or belly area).
    - One channel will open from the belly button, and one will open from the lower right side of the belly.
2. There will be a surgical scar in the middle of your child's belly.
3. There will also be a small scar where the SP tube was



*Mitrofanoff with catheter inserted*

*Malone with catheter inserted*




**1. Malone** *opening is inside the belly button*

**2. Mitrofanoff** *opening to right lower side of belly*

*NOTE: The white area around the Mitrofanoff (#2) is a tan line where the patient's skin was covered by a band aid while they were in the sun.*

## POSSIBLE COMPLICATIONS FOLLOWING SURGERY

Your child is having major surgery and there are some risks that might include:

- Slow moving bowels after surgery (this is called an ileus)
- The need for a blood transfusion
- An infection requiring antibiotics
- Urine leaking after the bladder augmentation. This would cause the tubes to stay in place longer
- Accidental tube removal requiring replacement

## WARNING SIGNS TO WATCH OUT FOR AT HOME: REASONS TO CALL OUR TEAM!

These could be signs of urine leaking from the augment or bowel blockage.

- Fevers higher, or greater than 101F
- Nausea, vomiting
- Severe abdominal pain
- A bloated, distended belly (the belly looks big and might feel hard)
- Child has less energy, is confused, sleepy, or is not acting like themselves.

**IF YOUR CHILD HAS ANY OF THESE SIGNS YOU SHOULD CALL OUR TEAM IMMEDIATELY.**

- Monday-Friday from 08:00 am – 4:00 pm call **202-476-6355**.
- After 4:00 pm on weekdays, on weekends and holidays, please call **202-476-5000** and ask to speak to the Urologist on call.

Your child's team will include a Urologist, a Colorectal Surgeon, a Spina Bifida Nurse, and a Spina Bifida Nurse Practitioner

- **Urologists:** Dr. Christina Ho, Dr. Hans Pohl, & Dr. Briony Varda
- **Spina Bifida Nurse:** Nicole Allentuck
- **Spina Bifida Advance Practice Nurse:** Celicia Little
- **Colorectal Surgeons:** Dr. Andrea Badillo, Dr. Christina Feng & Dr. Marc Levitt
- **Colorectal Specialty Services Nurse Practitioner:** Lindsay Pesacreta

If you are interested in viewing our educational videos or accessing our educational resources, please visit: **childrensnational.org/colorectaleducation**

Contact Information for the Spina Bifida Program: **spinabifida@childrensnational.org**

**Scheduling: 202-476-7762 • Nursing: 202-476-6355**

Contact Information for Colorectal: **colorectalnurse@childrensnational.org**
**Phone: 202-476-2656**

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