



Appendicostomy (Malone or MACE)

An appendicostomy, Malone or MACE (Malone antegrade colonic enema), is a surgically created channel between the belly (abdomen) and the colon. This allows a flush, or enema, to be given at the beginning of the colon instead of at the end through the rectum. In the channel is a valve which is hidden inside the body and made of your child's natural tissues. This one-way valve keeps stool and bodily fluids from coming out from the belly. When the channel has a tube inserted (catheterized), this valve is opened allowing the flush solution to flow directly into the colon.

Before surgery

You will be contacted before the surgery with information on what to expect before your child's surgery, including the arrival time, directions on where to go, and when your child should stop eating or drinking. Make sure to check your phone and messages to get these instructions.

- Bowel prep
 - Some patients may need to come to the hospital early to clean stool out of the colon for the surgery. Other patients may have to do a bowel prep at home. Ask the nurse or health care provider for more information about the bowel prep.
- Eating and drinking
 - You will get directions about your child's diet before surgery. Most children are not able to eat or drink anything after midnight the day before surgery.

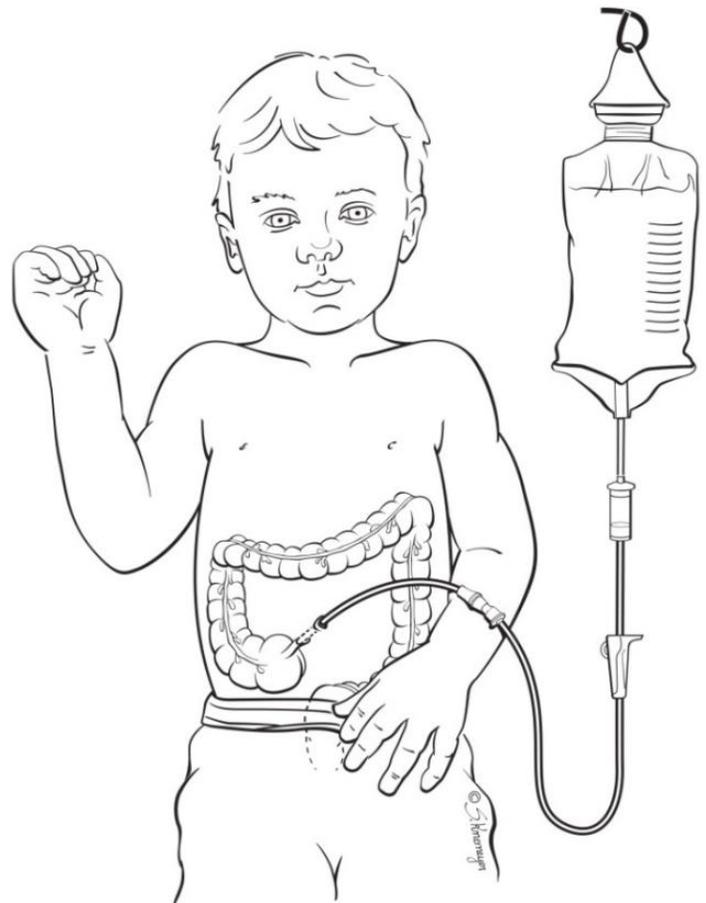
Surgery

- The surgery will take about 1 hour. If your child is getting other procedures done at the same time, this time may be longer.
- Surgery is done through the belly using a small scope with a camera that goes through small cuts (incisions) on your child's belly. Sometimes a larger incision may be necessary.

- A tube will be placed into your child’s newly created Malone channel. Part of the tube that is inside the belly has a balloon on the end of it filled with water. This keeps the tube from coming out. The tube is held in place by the balloon, a stitch on the skin, and tape on the belly.
- This tube will stay in place until your follow-up visit. This visit will be scheduled about 4 to 6 weeks from the date of the surgery.

After surgery

- Your child will be in the hospital for a few days after surgery. If they had other procedures, they may stay longer.
- After your child wakes up from surgery, they will be taken to the inpatient surgery hospital unit where they will stay until discharge. During your hospital stay, your health care team will teach you about the new Malone.
- Once your child wakes up from surgery, they can start drinking. When your child is drinking well, they can have regular, solid food. Before discharge, your child must be able to tolerate a regular diet.



Picture 1 Getting an enema flush through the Malone.

The Malone flush

- Once your child is eating a regular diet without any issues, they will get their first flush through the Malone tube (Picture 1). This will be done by the Wound/Ostomy Team. They will teach you how to do the flush so that you know how to do it at home.
- Some children need a flush once a day while others may need it twice a day during the first month after surgery. This depends on how the Malone was made and what works best for your child.
- If your child only gets one flush per day, they will need a patency flush (10 mL saline) 8 to 10 hours after their main flush (see page 5). This flush keeps the Malone tube from getting clogged with stool.

Discharge

- Your health care team will give you supplies to take home. The discharge planner on the unit will also send a prescription for supplies to your homecare company.
- You will be given an ACE stopper and coude catheter as part of your supplies. **Please bring these to your follow up clinic appointment for education and training.**
- A prescription for your flush solution will be sent to your pharmacy.

Cleaning and caring for the Malone

- Clean the Malone site around the tube every day. Wash the site with soap and water, rinse and pat dry. You will get education about this while you are in the hospital. Continue to clean the Malone site at home every day until the follow-up visit.
- It is normal for the Malone site to have drainage. Cleaning the site daily helps decrease the risk of irritation and infection. Use a Q-tip to clean dried drainage around the tube or in the belly button. If you cannot remove all the dried drainage, try again the next day. Put a warm, soapy washcloth or no-rinse foam cleanser over the site and let it sit. This may soften the dried drainage so it can come off easier.
- If the tape holding the Malone tube on the belly becomes loose, you may put on more tape or replace it. Be VERY careful when removing tape so you do not pull the Malone tube or stitches. To do this, hold down on the Malone tube while taking off the tape.
- Your child may have white strips, called Steri-Strips™ across their surgical sites. The strips will fall off on their own in 7 to 14 days.
- Your health care team will tell you when it is okay for your child to shower, swim and take tub baths after surgery.
- Your health care team will tell you when your child can return to sports or other activities after surgery.

How to flush the Malone at home

Before you leave the hospital, your health care team will teach you how to do a flush through the Malone tube. Malone flush will be done _____ per day.

Follow these steps when giving the Malone flush at home:

1. Gather your supplies:

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| - Gravity bag | - Timer |
| - Water-based lubricant | - Flush solution (prescribed by your health care team) |
| - Games, books, or activities for your child while they are on the toilet | - Graduated cylinder |

2. Close the clamp on the gravity bag.
3. Measure and pour the solutions (below) into the graduated cylinder. Gently mix the solution and then pour it into the gravity feeding bag.
 - _____ mL saline - _____ mL glycerin - _____ mL castile soap
4. Remove air from tubing by slowly opening the clamp and letting fluid run through to “prime” the tubing. Once you see drips at the end of the tubing, close the clamp.
5. Hang the gravity bag on a shower curtain rod or wall hook. Seat your child on the toilet.
6. Connect tubing to end of Malone catheter.
 - NOTE: For patients whose Malone catheter has already been removed at the follow-up visit, put water-soluble lubricant on the end of coudé catheter attached to the enema tubing. Insert it into the channel about 3 to 4 inches with the curved edge pointing down. Tape the coudé catheter to the belly to secure catheter tubing.
7. Slowly open the clamp and let the solution run in to the colon over 5 to 10 minutes. If your child has cramping during the flush, slow down the fluid by adjusting the clamp on the bag.
8. When all of the solution has gone in, close the clamp.
 - NOTE: For patients whose Malone catheter has already been removed at the follow-up visit, remove the catheter from the belly button.
9. Have your child sit on the toilet for 30 to 45 minutes to let the bowels empty.
10. Clean the gravity flush bag and catheter with soap and warm water. Do not use any harsh chemicals. Let the supplies air dry. The bag and catheter can be reused up to 1 month or replaced sooner if needed.

How to give a patency flush

If your child gets flushes once a day during the first month after surgery, the Malone tube should be flushed with 10 mL of saline to keep it from clogging. This should be done once a day, 8 to 10 hours after the Malone flush. If your child is prescribed twice daily flushes, this patency flush does not need to be done. Follow these steps to give a patency flush:

1. Gather supplies
 - Catheter tip syringe
 - Saline
2. Draw up 10 mL saline into your catheter tip syringe.
3. Push 10 mL saline into the Malone catheter.

Follow-up visit

Your child will be scheduled for a follow-up visit 4 to 6 weeks after the Malone procedure.

During this visit, here is what you can expect:

- Removing the Malone tube
 - The Malone tube will be removed from the abdomen by cutting the stitch on the skin, removing the tape, deflating the balloon, and gently pulling out the tube. Child Life will be available to assist your child as needed.
 - You will learn how to catheterize the Malone channel and use the ACE stopper.
- Placing the Ace stopper
 - An ACE stopper, or plug, will be used for about 6 months after the Malone tube is removed. This keeps the Malone valve from healing shut. The stopper will be worn at all times when the Malone is not being flushed.
 - The stopper is made of silicone. If your child has a silicone allergy, the health care team will talk to you about other options.
 - **To place the ACE stopper, please follow these steps:**
 1. Clean and dry your child's skin with soap and water.
 2. Put water-based lubricant on the end of the stopper.
 3. Gently insert the stopper until the disc is flat against your child's belly.
 4. To help keep the stopper from falling out, place a Band-Aid® or tape over it. Change this dressing every day to keep area clean and free from irritation.
- Getting supplies & prescriptions
 - During your follow-up visit, confirm your preferred homecare company and local pharmacy with the health care team.
 - A long-term prescription for the flush solution will be sent to your local pharmacy. For any refills you need for your solution, contact your pharmacy.
 - A long-term prescription for your flush supplies will be sent to your preferred homecare company. For any refills, contact your homecare company.

When to contact the health care team

In the time between your hospital discharge and your follow-up clinic visit, contact the health care team with any questions or concerns about the Malone site, tube or flushes.

Make sure to contact the health care team:

- If your child has:
 - Fever of 101 degrees F or higher during the first month after surgery
 - Redness, increased drainage, warmth, or pain at the Malone site
 - Upset stomach (nausea), vomiting or cannot handle food or liquids
 - Very bloated (distended) belly with very little or no stool output after flush has been given
- If the Malone catheter comes out before the follow-up clinic appointment:
 - Contact your healthcare team right away. **DO NOT** give a Malone flush until someone from the health care team has told you to do so.
 - Lubricate the coude catheter and slowly place it into the Malone channel with the curved end point down. Do not force the tube in. Notice if there is any resistance, pain, or popping feeling while trying to insert the catheter. These symptoms should be reported to the team.
 - Your child will need to come to the hospital for a test to make sure the tube is in the right place. Once this is confirmed by the health care team, you may restart the flushes.
- If you are having major issues with your flush during the first month. During this time, your child's flush may not be "perfect". It is possible they will have accidents. After your child's body has had time to heal, the health care team will work to change the flush regimen if needed.