

Using Malone Antegrade Continence Enemas (MACE) to manage your child's bowels

What is MACE?

- Antegrade enemas are given through a small opening in your child's abdomen. The enema puts fluid into the start of the large bowel (also called the large intestine or colon). This softens stool and helps the bowel move and empty.
- They are used to help children manage bowel movements more effectively and is used for a variety of conditions.
- For children having the MACE procedure because of severe constipation: It is more effective to give the enema at the start of the large bowel, instead of giving it the usual way (at the end, through the rectum).
- For children having the MACE procedure because of stool incontinence: The goal is to empty the end of the large bowel and rectum, to prevent stool leakage. MACE can be timed so that the bowel is cleaned of stool before the next episode of incontinence occurs.

What the medical words mean

Malone	<ul style="list-style-type: none"> • The name of the doctor who began using this procedure over 20 years ago.
Antegrade	<ul style="list-style-type: none"> • Moving forward. • Enemas are usually given into the rectum, at the end of the large bowel. MACE puts the enema at the start of the large bowel, moving the stool forward and out.
Continence	<ul style="list-style-type: none"> • Control of the bowels.
Enema	<ul style="list-style-type: none"> • Putting fluid into the bowel to remove stool.

How does MACE work?

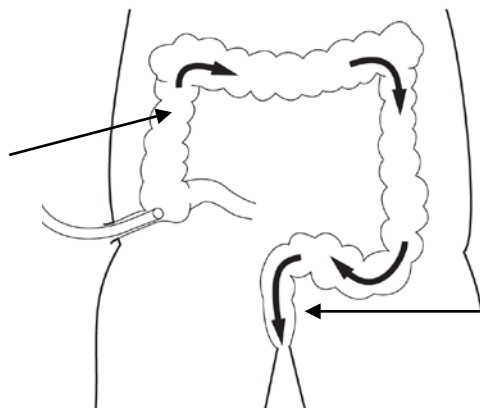
- Your child will have surgery to create a pathway (track) into the bowel. The appendix or another piece of bowel is used to create this pathway. The place where the pathway opens on the skin is called a stoma.
- The lubricated tip of a thin, plastic tube (catheter) is inserted into the stoma.
- The other end of the catheter is connected to a bag filled with saline, which is a mixture of water and salt. Saline enemas are used first. Other medications can be added or used to achieve better bowel control. Some choices are liquid glycerin, PEG 3350[®], Pico Saalex[®] or a Fleet[®] enema.

We will work with you to determine the amount, type and timing of fluid that works best for your child.

- Enema fluid flows by gravity from the bag through the catheter and into the bowel.
- Stool leaves the body through the rectum.

How this works

Enema fluid flows from the bag through the catheter and into the start of the large bowel



Stool leaves the body through the rectum at the end of the large bowel

Stool accidents or constipation may still occur. By adjusting the amount, type and timing of the fluid, these can improve.

How do we learn to use MACE?

The Pediatric Urology team members will help you learn to:

- make saline from water and salt
- insert the catheter
- set up and give a MACE enema

They will also give you enough supplies to get started.

How do we take care of the stoma?

- After surgery, the catheter is left in the pathway (track) and the stoma is covered with a dressing. This lets the area heal.
- The nurse will show you how to clean the stoma. Use mild, unscented soap (hypoallergenic) and water. Gently pat dry. You may cover the stoma with a small bandage or piece of gauze.

How do we clean the supplies?

- After each use, clean catheters and gravity bags with mild soap and water. Rinse them well with water to remove all the soap.
- Every 3 to 5 uses, disinfect catheters and gravity bags. Soak catheters in vinegar for 30 minutes. Run vinegar through the gravity flow bag. You may also use isopropyl alcohol. After disinfecting, rinse catheters and bags with water.
- Leave supplies on a clean, dry surface to dry. Store in a dry place.
- Catheters and gravity bags can usually be reused for up to 1 month. Replace them more often as needed, for example - if they become cracked.

What is not normal?

Call Pediatric Urology if you notice any of the following problems:

- Fever, a temperature higher than 38°C (100.5°F)
- Pain at the stoma that does not go away
- Increasing redness or swelling of the stoma or surrounding skin
- Continuous bright red bleeding at the stoma or incision
- Pus or odour from the stoma or incision
- Nausea or vomiting that does not get better
- Constipation that does not get better
- The stoma begins to stick out farther
- Stool leakage from the stoma
- Unable to pass catheter, resistance when passing the catheter.

If you are able to pass the catheter, but meet some resistance: leave the catheter in place, tape it to the skin and block the end with a syringe. Never force the catheter. You can also try passing a smaller catheter.

How do I contact Pediatric Urology?

During business hours (Monday to Friday), call McMaster Children's Hospital at 905-521-2100:

- 2G Pediatric Urology Clinic – ext. 78517 (for appointment information only)
- Natasha Brownrigg, Pediatric Urology Nurse Practitioner – ext. 73070
- Pediatric Urology Office – ext. 73777

For urgent issues after hours and on weekends, call Paging at 905-521-5030:

- Ask them to page the Pediatric Urologist on call.

If your child is unwell and needs immediate attention:

- Bring your child to the Emergency Department at McMaster Children's Hospital.
- If you live outside Hamilton, take your child to the nearest hospital emergency department.