portion of your colon is not working well. A clear understanding of how these muscles are working will help your doctor to treat your bowel problem.

- Also, it can help patients who do not respond to the usual medicines or who may need surgery for severe constipation.
- For patients who need surgery, it may help to figure out the best intervention.

What other tests are used for bowel disorders?

The following tests can identify a disorder of the muscles in the colon or rectum:

Colonic transit study: This test measures the speed at which stools move through the colon. An X-ray is taken after several small plastic rings are swallowed. This test can also be done by swallowing a wireless capsule.

Balloon expulsion test: This test measures the ability to pass a balloon or stool-like device from the rectum.

Anorectal manometry: A probe placed in the rectum measures:

- strength of the anal sphincter muscles
- sensation or feeling in the rectum
- reflexes that control bowel movements
- movement of the rectal and anal muscles

Defecography: This test checks how the rectum is working during a bowel movement. Barium paste is placed in the rectum. The patient is asked to cough, squeeze, and push the barium out and an x-ray is taken. Defecography may also be done by magnetic resonance imaging (MRI).

For a list of doctors in your area who specialize in gastrointestinal motility problems, go to our web site:

www • motilitysociety • org

Founded in 1980, the American Neurogastroenterology and Motility Society (ANMS) is a national organization dedicated to the study, training, and practice of gastrointestinal motility and neurogastroenterology. ANMS represents a broad group of academic and practicing physicians, scientists, trainees, technicians, and nurses. ANMS seeks to foster excellence in patient care and research, and to promote a better understanding and cure of disorders that affect gastrointestinal motility and function.

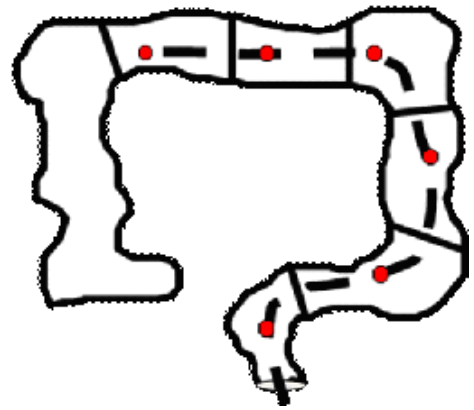
www • motilitysociety • org

American Neurogastroenterology and Motility Society
ph 734-699-1130 • fax 734-699-1136 • e-mail admin@motilitysociety.org

Written by Carlo Di Lorenzo, MD and Satish S. C. Rao, MD, PhD and reviewed by Michael Camilleri, MD on behalf of ANMS.

Colonic Manometry

An educational brochure for patients



American Neurogastroenterology and Motility Society

What is colonic manometry?

Colonic manometry (pressure measurement) is a test of the muscles and nerves in the colon (large bowel) to see if they are working normally.

What does it measure?

- **strength** of the muscles in the colon
- **reflexes** that control bowel movements
- **sensation or feeling** in the colon
- **changes** in the activity of the colon muscle after a certain medicines are given to stimulate the colon muscle

Do I need colonic manometry?

Colonic manometry can help find the cause of the following conditions:

- **severe constipation** that does not respond to treatment
- **colonic pseudo-obstruction or megacolon**, in which the colon is enlarged and unable to move gas or stool, but there is no actual blockage in the colon

Colonic manometry may also be used before surgery for constipation.

How does the colon work?

In adults, the colon is a 6-foot-long, hollow, muscular, tube-like organ. It absorbs salt, and water, and forms stool. The colon plays an important role in moving stool and gas from the body. A child's colon is shorter and grows with the size of the body.

The colon contracts throughout the day; mainly after you wake up and after you eat. While you sleep, the colon is less active. The colon has several complex muscle movements that help to move stool. The passage of stool through the colon requires normal function of its muscles and nerves. For example, in slow transit constipation, a common bowel problem, the muscles of the colon cannot move stool. Sometimes, this is because the nerves that control the muscles are damaged or are not working properly.

How do I prepare for colonic manometry?

- During the day before the test you will have a bowel cleansing solution to empty your colon. This is necessary to allow the doctors to place a tube into the colon to measure its contractions
- Do not eat or drink anything after 10 PM the night before your test.
- If you have diabetes, ask your doctor how to take your diabetes medicines.
- You may take your usual medicines, such as blood pressure or heart medicines, with small sips of water up to 2 hours before the test.
- **Do not take medicines that increase colon muscle activity**, such as Reglan® (metoclopramide), erythromycin, Motilium® (domperidone) for at least 3 days before the test.
- **Do not take medicines that slow colon muscle activity** such as antispasmodics (Bentyl®, Donnatal®, Levsin®, Robinul®), opiate pain medicines (Demerol®, codeine, morphine, Percodan®, Percocet®, Dilaudid®), medicines given for depression and similar disorders (Elavil®, Thorazine®) and sedatives (Valium®, Librax®, Ativan®) for at least 3 days before the test.
- After the test, you will not be able to drive yourself home. **Arrange an escort** for the day of the test.

How is colonic manometry done?

- The test takes between 6 and 24 hours.
- On the day before the test, you will be asked to take laxatives or enemas or a colon cleansing solution to empty your colon.
- The colonic manometry test has two parts:
  1. **Tube placement:** A thin, flexible plastic tube (with pressure sensors) about 1/4" in diameter is placed into your colon. A colonoscope, a thin flexible telescope, is often used to help place the tube. Sometimes the tube includes a soft balloon that is used to measure sensation and contractions. This balloon is called a barostat balloon. The tube placement may require sedation or anesthesia depending upon your age and health. Sometimes a radiologist places the tube with the help of X-rays.
  2. **Manometry:** Once the tube is in place, the colon muscle activity is measured. This will involve the following:
     - **Meal:** You will be served a standard meal to see how the colon responds.
     - **Medications**: You will be given an intravenous injection of medicine that stimulates contraction of the colon muscles.
- Balloon distension: A balloon located on the tube is inflated and deflated to check the sensation or feeling and reflexes in your colon.
- An X-ray may be taken during the placement of the tube or during the test to check the location of the tube.
- After the test, the tube is removed by gentle tugging.
- After the test, you may return to your normal activities. You may eat your usual foods and take your usual medicines.

What are the risks of colonic manometry?

Colonic manometry is a safe test. The side effects are minor and are mostly due to the placement of the probe. Once the probe has been placed, the test is usually painless. You may experience gas, bloating, and cramping. Stimulation of the colon with a medicine or a balloon may also cause cramping. Removal of the tube or removing the tape holding the tube may cause mild discomfort. Complications are rare: perforation (tearing) of the colon or bleeding may occur during placement of the tube.

The medicine given to stimulate the contractions of the colon may cause sweating or a change in pulse rate or blood pressure. A nurse will measure your pulse rate and blood pressure during the 30 minutes after the intravenous injection of the medicine.

What are the benefits of colonic manometry?

- Colonic manometry can check if the muscles in your colon are working properly or if some