



COLORECTAL AND PELVIC
RECONSTRUCTION SERVICE

Manometry Studies

Information for families

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Colorectal and Pelvic Reconstruction Service (CPRS)
Information for families

Design, photography and medical illustrations by
The Royal Children's Hospital Melbourne

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Acknowledgements

We are indebted to the contributions of the many families that are cared for by the CPRS team. This resource is for all families affected by colorectal and pelvic conditions.

About this booklet

The Colorectal and Pelvic Reconstruction Service (CPRS) at The Royal Children's Hospital (RCH) Melbourne is leading the way in colorectal and pelvic care in Australia.

We aim to deliver the highest quality clinical care to children and families with colorectal and pelvic conditions. We play a vital role in increasing the awareness, understanding and knowledge of these conditions in the community, and work collaboratively to educate health care professionals.

This booklet has been developed to support parents, carers and children who have colorectal and pelvic conditions. The CPRS seeks to establish a healthy relationship with all families, as we believe this enables the best care possible. The content of this booklet has been developed based on the extensive clinical experience of the authors and the most recently published evidence for these clinical conditions.

These CPRS booklets have been categorised into different stages of your child's journey, which allows you to read the information that is important to you at the time. Some parts may appear repetitive. This is because some of the information is relevant throughout different periods of your child's care. Everyone learns differently. Some people like to read instructions, some like to learn by having information explained to them, and many like to do both.

Make sure you tell the members of the CPRS team if you are finding any information in this booklet difficult to understand.

Manometry studies

Colonic and anorectal manometry are two types of motility studies. A motility study is performed to assess if the muscles and nerves in the colon, rectum and anus are contracting and relaxing properly.

This booklet will take you through what to expect before, during and after each type of motility study.

We understand that some children may have strong sensory aversions and feel anxiety during medical procedures. Please talk to your child's medical team about any concerns you have for your child's wellbeing during the studies, and they will work with the appropriate health professionals to establish a plan of support. The Child Life Therapy team may provide individualised support to children and young people to promote effective coping with procedures. The CPRS clinical psychologist may also provide support to children who experience significant medical anxiety.

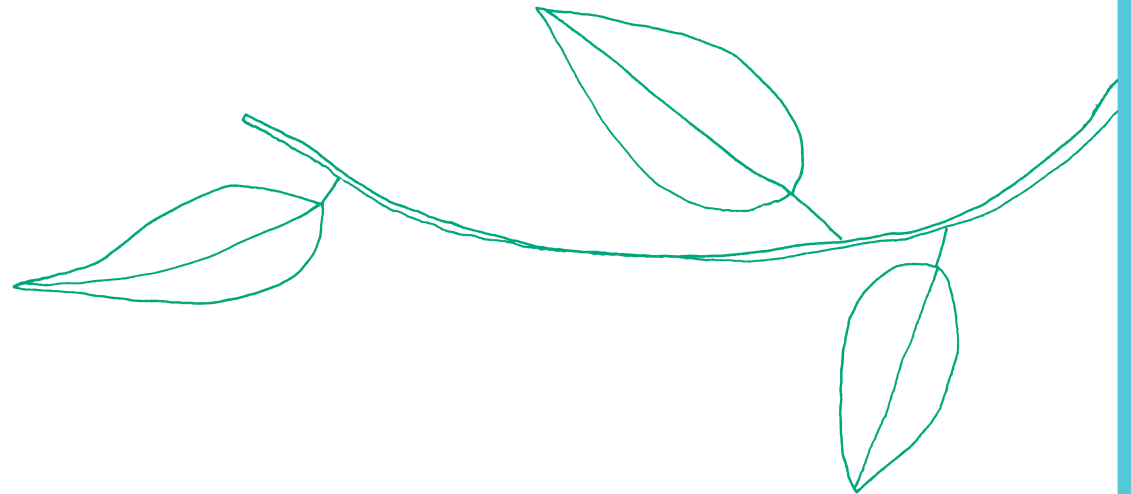
We encourage you to be open and honest about the procedure with your child. Explaining in simple terms why it is needed, what to expect, and that they may bring favourite toys or comforting objects with them.

General anaesthesia for manometry studies

Your child may require a general anaesthetic for their manometry study. This involves a medicine being given through a drip into a vein (intravenous or IV therapy). If they are having colonic manometry, your child will require a general anaesthetic. In some cases, your child may require a general anaesthetic for anorectal manometry. If this is the case, your child's doctor will discuss this with you.

An anaesthetic doctor will meet with you and your child before their procedure. You will be able to stay with your child until right before their procedure, when they go to sleep in the anaesthetic bay. After the procedure, your child will be taken to Stage 1 Recovery, where they will slowly wake up from their general anaesthetic. You will be able to join them once they are awake.

*Please refer to the *Theatre* booklet for more information



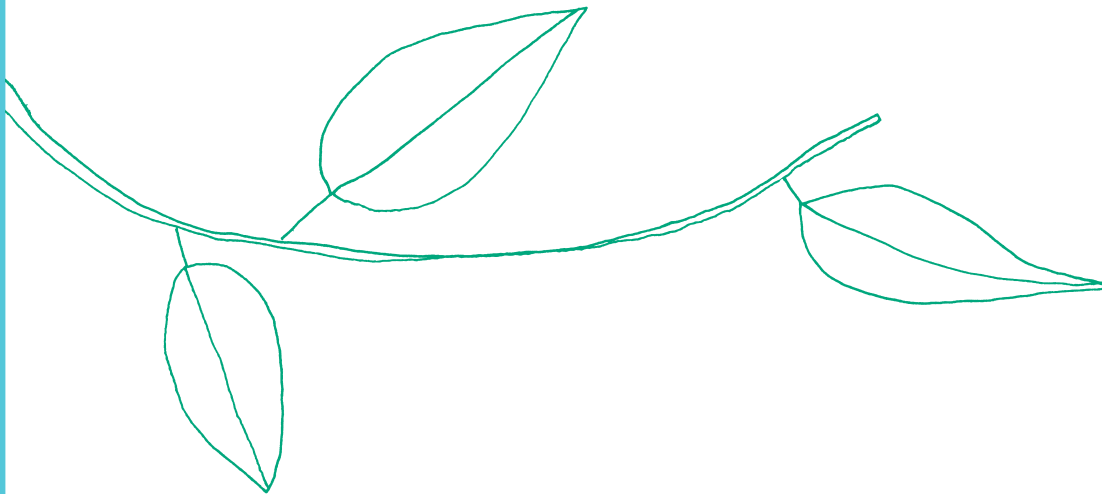
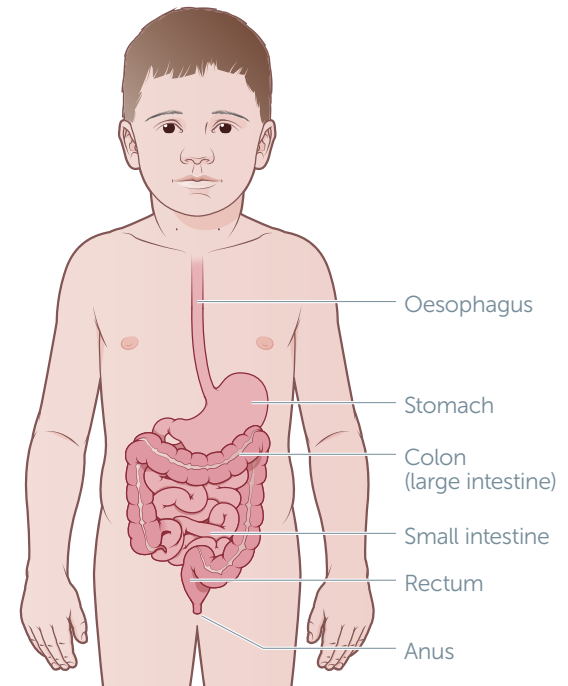
Colonic manometry

The colon (large bowel) is part of the digestive system, which carries food through the body after it is eaten. The colon is where stool (poo) is formed, stored, and eliminated. The colon contracts rhythmically to push the food and waste along.

The muscles and nerves of the colon need to work together to produce these contractions. These movements are referred to as colonic motility. Motility may be measured using a technique called manometry. Manometry records the pressure waves when the colon contracts using a thin, flexible tube (catheter).

In some cases, the contractions of the colon may be changed or absent. This may lead to problems, such as constipation or faecal incontinence (soiling). Colonic manometry aims to measure these contractions. It gives us an understanding of how the muscles and nerves of the colon are working together.

Gastrointestinal tract



Colonic manometry —what to expect

Your child's colon must be empty before their colonoscopy. This allows the doctor performing the colonoscopy to see inside the colon. Special preparation is required. This may be done at home, or started in hospital before the study. Your child's doctor will discuss this with you.

The colonoscopy is done with a long, flexible tube with a camera on the end, called a colonoscope. The colonoscope is inserted into the anus (bottom) and slowly pushed into the colon. The colon is examined and biopsies (small samples of bowel) may be taken.

Your child will be under a general anaesthetic for the placement of the manometry tube.

*Please refer to the *Theatre* booklet for more information

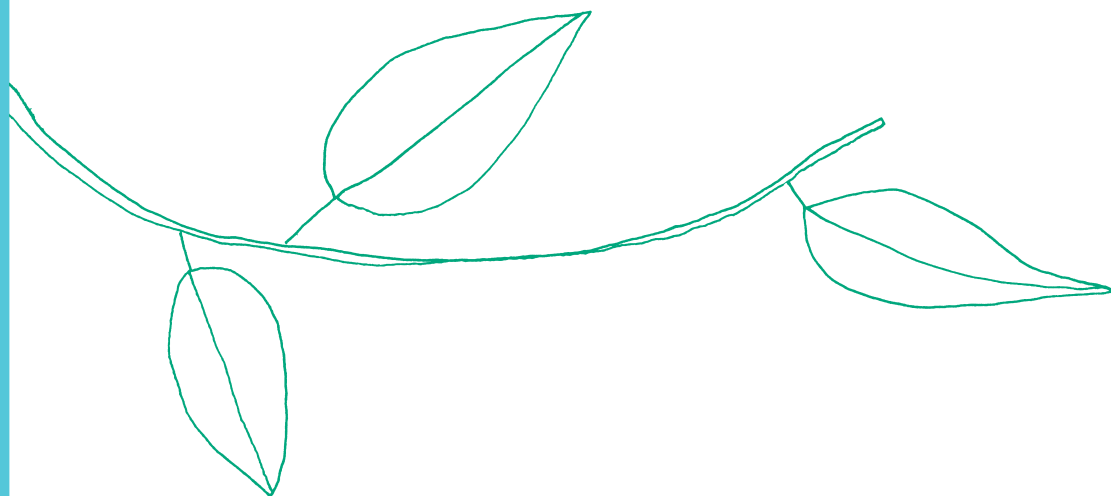
Colonic manometry —before

Before your child has a colonic manometry, a clinical nurse consultant will call you and explain the admission process. This will include instructions on laxative medications, timing of the admission and what to expect on the day. The timing of your child's admission will depend on the assessment of the CPRS and Gastroenterology teams. Remember to also let the clinical nurse consultant know if you think your child will require additional wellbeing support throughout the study.

Your child will be admitted directly to one of the wards at the RCH. During their admission, your child will need to have bowel preparation liquid, which will cause them to have multiple stools (poo). This helps to empty the colon of its contents. A bowel washout is not a painful procedure; however, the preparation liquid may make your child feel nauseated and they may have mild tummy cramping.

*Please refer to the RCH Kids Health Information Fact Sheet: *Bowel washout in hospital*

There are several ways the bowel preparation may be given. The team will discuss with you the best way for your child to receive it. Some older children may be able to drink the bowel preparation. However, most children receive their bowel preparation through a nasogastric tube (NGT). A NGT is a thin, soft tube that is passed through your child's nostril, down the back of their throat, through the oesophagus (food pipe) and into their stomach. This is what is used to deliver your child's bowel preparation.



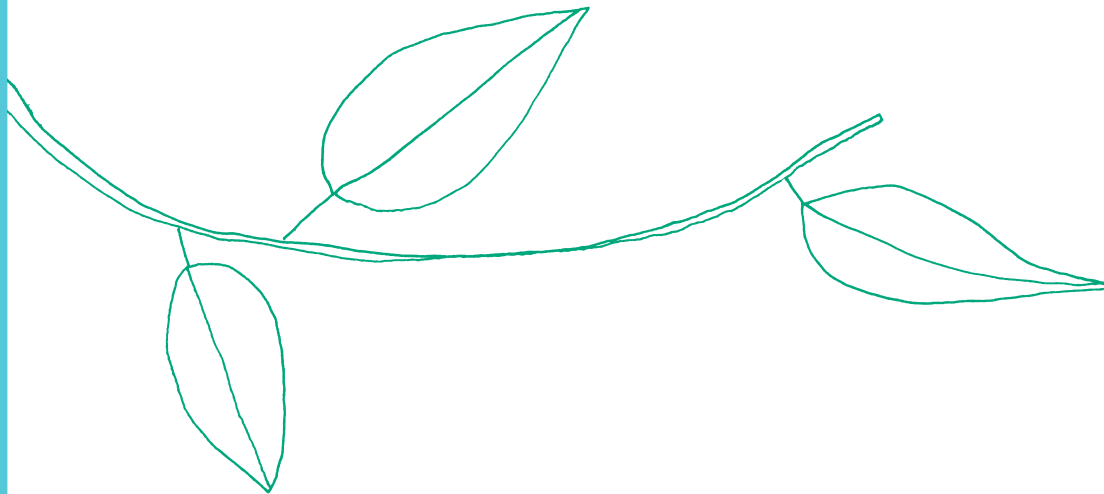
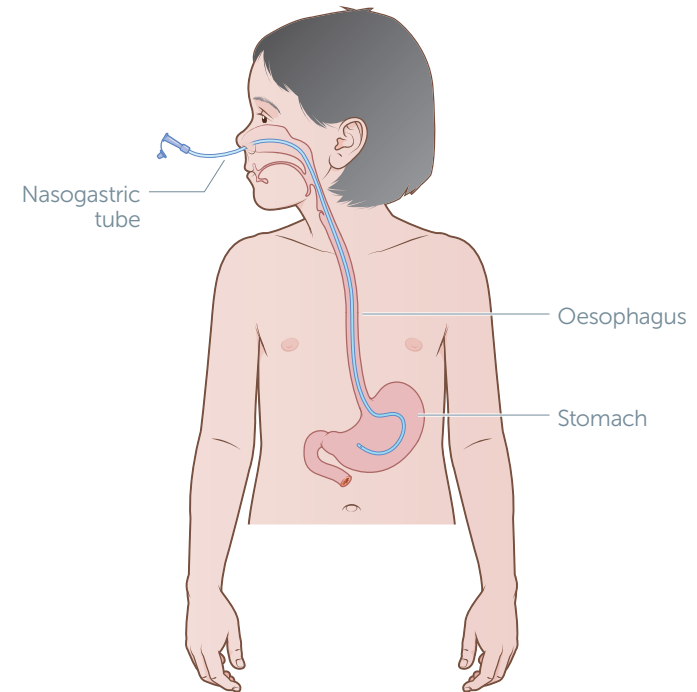
Inserting the NGT is usually a short procedure, and the tube will go down easily if your child is relaxed. There are ways you may help support your child to remain calm, including distraction and relaxation techniques. Child Life Therapy may also assist your child if you think they will experience distress with the NGT insertion. Some children require extra support when inserting an NGT. This support comes in the form of sedation.

Sedation is when a type of medicine (called a sedative) is given to children to help them feel calm or sleepy. This medicine can be breathed in as a gas, taken as a drink, given by injection into a muscle or vein, or squirted up the nose. Administering sedation is safe. On admission, the team will discuss with you the best ways to support your child while their NGT is inserted.

The nursing staff will also guide you on your child's diet leading up to the colonic manometry study.

*Please refer to the RCH Kids Health Information Fact Sheets: *Nasogastric tubes and Sedation for Procedures* for more information.

Nasogastric tube (NGT)



Colonic manometry —during

To place the manometry tube, your child will require a colonoscopy. This is a procedure in which a gastroenterologist (a doctor specialising in the digestive system) looks at the inside of the colon (large bowel).

The manometry tube is filled with water, which drips out of small holes along the side of the tube. A machine measures the changes in pressure of the water leaving the tube. This provides a picture of the patterns of contraction and relaxation along the colon.

Once your child has recovered from their anaesthetic, the colonic manometry study will be started. An x-ray will be taken of your child's abdomen to check the position of the tube. The manometry tube will be connected to a machine, which measures the changes in pressure inside the colon.

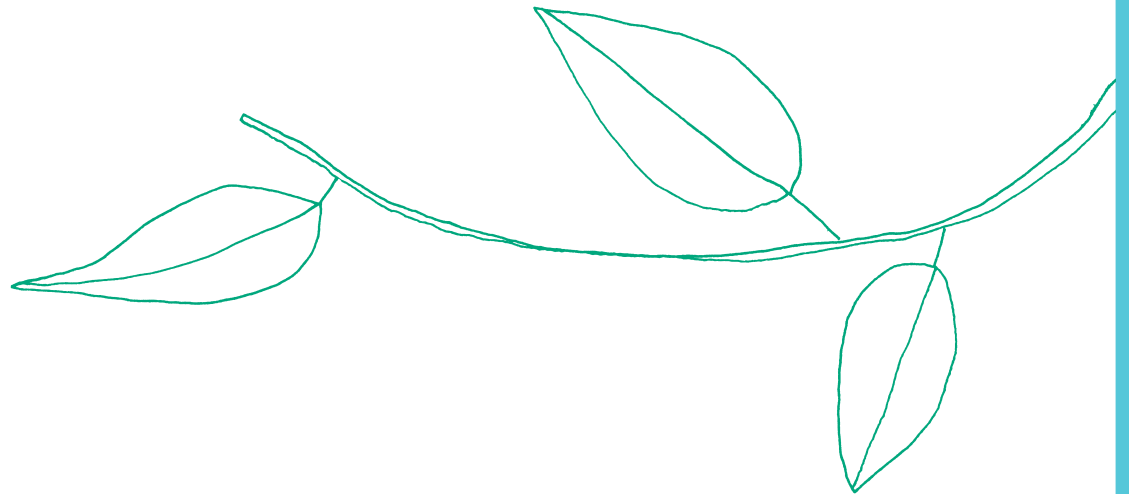
The study will measure the response of your child's colon to different stimuli. These include eating a meal, as well as a medication (bisacodyl), which may make the colon contract.

Your child will need to remain in bed during the procedure. Some children may find it easier to remain in bed than others. Options to keep your child entertained include electronic devices, colouring, craft, books, and board games. You may also bring a favourite pillow, blanket or any sensory items that may help to relax your child. The study will take approximately four to six hours to complete, and your child will be back on the ward for the duration of the study. Your child will need to remain in bed during this time. Your child may experience tummy cramps, and feel the urge to pass a bowel motion. A bedpan may also be offered. Child Life Therapy will also be available to support your child throughout stages of the study if you think your child will require additional support.

Colonic manometry —after

When the study is completed, a doctor or nurse will remove the tube from your child's bottom. Most children will be awake during the removal. It may be helpful to have your child take a big deep breath or blow some bubbles at this time.

Your child must be feeling well, eating and drinking normally, and have no further tests planned for their admission before they are discharged. The results will be discussed with you and your child at their next outpatient appointment.



Anorectal manometry

The digestive system carries food through the body after it is eaten. The last parts of the bowel, where stool (poo) exits the body, are called the rectum and anus. The muscles and nerves of the rectum and anus need to work together to control bowel movements (poos). Usually, these muscles are contracted (closed) to prevent soiling. When a person has a bowel movement, the muscles must relax together to allow the stool to exit the body.

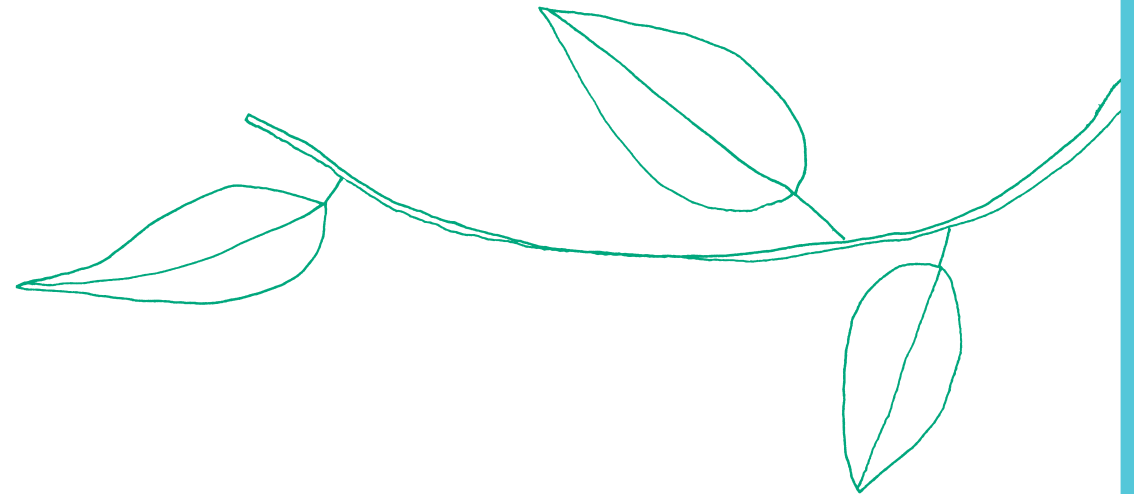
The function of the muscles in the rectum and anus may be measured using a technique called anorectal manometry. This technique records the pressure waves when the muscles of the rectum and anus contract (squeeze) and relax.

In some cases, the muscles of the rectum and anus function differently. This may lead to problems, such as constipation or soiling. Anorectal manometry may give us an understanding of how the muscles and nerves are working together.

Anorectal manometry may be performed to help understand the cause of your child's symptoms. It may also be done before or after surgery.

Anorectal manometry —what to expect

Anorectal manometry is usually performed while your child is awake. If this is the case, your child may continue to eat and drink normally before the study. You will be able to stay with your child throughout the procedure. You and your child will be brought to the room where the study is completed. The procedure will take about 30–45 minutes.



Anorectal manometry —before

Before your child has anorectal manometry, a clinical nurse consultant will call you and explain the admission process. This will include instructions on laxative medications, rectal therapies, timing of the admission and what to expect on the day. The timing of your child's admission will depend on the assessment of the CPRS and Gastroenterology teams.

Remember to also let the clinical nurse consultant know if you think your child will require additional wellbeing support throughout the procedure.

Anorectal manometry —during

To perform anorectal manometry, your child will be positioned lying on their left side, with their knees tucked towards their chest. A thin, flexible tube (catheter) is placed into your child's bottom. The tube is filled with water, which drips out of small holes along the side of the tube. A machine measures the changes in pressure of the water leaving the tube. This provides a picture of the patterns of contraction and relaxation of the muscles in the rectum and anus.

A small balloon is attached to the end of the manometry catheter. This may be inflated with different amounts of air to mimic stool in the rectum. The pressures in the rectum and anus are measured as the amount of air in the balloon is changed.

A lubricating gel will be put on your child's bottom. It may feel cold. The doctor may perform a rectal examination. The doctor or nurse will insert the flexible tube (catheter) into the rectum.

The doctor or nurse will perform some specific tests. These tests may include:

- asking your child to cough
- asking your child to squeeze their bottom
- the doctor or nurse slowly inflating and deflating the balloon
- asking your child to tell the doctor or nurse when they can feel the balloon
- asking your child to push like they are doing a poo.

The machine will record the changes in pressure as each test is done, to measure how the muscles and nerves are working. After the study, a doctor or nurse will remove the tube from your child's bottom. It may be helpful to have your child take a big deep breath or blow some bubbles at this time.

Some children may find it easier to remain in bed than others. Options to keep your child entertained include electronic devices, colouring, craft, books, and board games. You may also bring a favourite pillow, blanket or any sensory items that may help to relax your child.

Anorectal manometry —after

If your child did not receive an anaesthetic, they will be able to head home after the test and resume their usual activities.

Your child must be feeling well, eating and drinking normally, and have no further tests planned for their admission before they are discharged.

The results will be discussed with you and your child at their next outpatient appointment.

For more information

- Kids Health Info fact sheet: *Constipation*
- Kids Health Info fact sheet: *ColonicManometry*
- CPRS *Chronic Constipation* booklet

If you would like advice or counselling to help prepare your child for the procedure, please feel free to contact the CPRS Clinical Psychologist at colorectalpsychology@rch.org.au or our Child life therapist at colorectalchild.lifetherapy@rch.org.au

For further enquiries, please feel free to contact the CPRS Clinical Nurse Consultants at colorectalnursingcnc@rch.org.au or the Department of Gastroenterology and Clinical Nutrition at gastro.dept@rch.org.au





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