ENDOSCOPY UNIT

Anorectal Physiology & Ultrasound

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(During office hours)

QUEENSLAND GOVERNMENT

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Information for Patients, Family and Carers

What is anorectal physiology & ultrasound?

The term "anorectal" refers to the anal canal and rectum. These are the parts of your bowel just inside your bottom. The physiology tests assess the strength of your pelvic muscles, sphincter and nerves whilst the ultrasound examines the structure of the pelvic floor muscles and any damage that has occurred to them.

Preparation for the tests

No additional preparation is required. The tests do not require any sedation so you can drive yourself to and from the hospital. Prior to the procedures you will be given two small enemas and will be asked to complete some questions about your symptoms.

Why are these tests required?

These investigations are basic tests of the pelvic floor structure and function. We will request them for many patients with incontinence, obstructed defaecation syndrome and prolapse. We also perform these tests in patients with other conditions affecting the bottom including anal fistulas and fissures. These tests may be combined with a special x-ray and transit studies

Are there any risks associated with the tests?

Anorectal physiology tests are safe, low risk procedures and are unlikely to cause any pain. Please inform the doctor or nurse if you experience any discomfort or pain or wish to pause for a while during the tests.
Complications are rare: it is possible that a perforation (tearing) or bleeding of the rectum could occur. Equipment failure is a remote possibility.
If you are allergic to latex, you should inform the nurse before the test so that a latex free balloon can be used.

The tests

The tests are performed by a doctor and nurse. They take approximately one hour to perform and will take place in a private room within the Endoscopy Unit. On arrival you will be given a set of questions to complete while you are waiting. These questions provide us with information that assists in the diagnosis of your condition.
It is advisable to try to empty your bladder prior to commencement of the procedures.

Anorectal manometry

Prior to the procedures commencing the doctor will ask you some questions relating to your symptoms and will explain the different procedures to you. We will ask you to remove your lower clothing and to lie on your left side on a trolley with your knees bent. Firstly, the doctor will examine your bottom and perform a 'PR examination' by inserting a gloved finger. A small probe (about the size of a pen) will then be inserted. Your sphincter muscle strength will be tested by asking you to rest, squeeze and bear down

or push. A small balloon attached to the probe will be inflated to test your sensation (feeling) as this can be abnormal in many patients with pelvic floor problems.

Ultrasound
The ultrasound test is then performed and this involves inserting a different probe (about the thickness of a finger) into the bottom. You will be asked to stay still and relax during this procedure.

Additional tests
Electromyography (EMG) and pudendal nerve testing may be performed in addition to the above tests.

Anal sphincter EMG
Anal sphincter electromyography (EMG) is assessed with a small plug sponge placed into the bottom. Again you will be asked to relax, squeeze and push at different times and the anal sphincter muscle electrical activity will be recorded. Anal sphincter EMG confirms the proper muscle contractions during squeezing, and muscle relaxation during pushing.

Pudendal nerve testing
This procedure evaluates the nerve supply to the anal muscle. A flexible circuit is attached to the doctor's gloved finger and inserted into the bottom. The circuit contains a stimulating electrode at the finger tip and a recording electrode at the finger base. The device simultaneously stimulates the nerve (finger tip) and records the response (finger base). The results are taken twice (left and right measurements) however you are required only to lie and relax during the procedure. You may feel a slight twitching or pulse from the finger electrode; this is mild and very tolerable.

On Completion of the Tests
At the end of the testing, you may drive yourself home and go about your normal activities or return to work.

Your questionnaire answers and procedure outcomes will be compiled into a report and an outpatient appointment will be sent to you for discussion of the results and treatment options. If you were referred for these tests by another doctor, the results will be sent to the appropriate doctor.

What can be learned from anorectal manometry?
The anal and rectal area contains specialised muscles that are helpful to regulate proper passage of bowel movements. Normally, when stool enters the rectum, the anal sphincter muscle tightens to prevent passage of stool at an inconvenient time. If this muscle is weak or does not contract in a timely way, incontinence (leakage of stool) may occur.

Normally, when a person pushes or bears down to have a bowel movement, the anal sphincter muscles relax. This will cause the pressures to decrease allowing evacuation of stool. If the sphincter muscles tighten when pushing, this could contribute to constipation. Anal manometry measures how strong the sphincter muscles are and whether they relax as they should during passing a stool. It provides helpful information to the doctor in treating patients with faecal incontinence or severe constipation.

There are many causes of faecal incontinence. Weak anal sphincter muscles or poor sensation in the rectum can contribute to faecal incontinence. If these abnormalities are present, they can be treated. Biofeedback techniques using anal manometry and special exercises of the pelvic floor muscles can strengthen the muscles and improve sensation. This can help treat faecal incontinence.

There are many causes of constipation. Some involve sluggish movement through the whole colon, whereas others involve the anal sphincter muscles. In some patients with constipation, the anal sphincter muscles do not relax appropriately when bearing down or pushing to have a bowel movement. This abnormal muscle function may cause a functional type of obstruction. Muscles that do not relax with bearing down can be retrained with biofeedback techniques using anal manometry.