



ULTRASONOGRAPHY OF THE PELVIC FLOOR

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WHAT IT IS

Ultrasonography (US) evaluates the anatomic muscular structures of the pelvic floor, of the fat filled recesses, and of the pelvic organs (bladder, internal genitals, anus, rectum, etc.). These devices generate acoustic waves that cannot be heard by the human ear, and employ a probe that is rubbed on the perineum, or is introduced into natural orifices (vagina, or anus / rectum). In coloproctology, US evaluation of the anus and rectum was traditionally carried out by endo-rectal and endo-anal probes in faecal incontinence, staging of tumours, and diagnosis of inflammatory conditions or fistulae.

TO WHOM IS IT ADDRESSED?

To any patients, in particular females (both fertile and post-menopausal), who suffer from urinary and faecal incontinence, from alterations of the pelvis related to the endopelvic fascia, from abscesses, fistulae, and cancers of the ano-perineal region.

WHEN IS IT PERFORMED?

When it is deemed necessary to complement a clinical examination, to confirm a doubtful diagnosis, before elective surgical procedures on the perineum or pelvic region, or in complicated cases in which the diagnosis is difficult. The investigation is not painful and it doesn't cause any discomfort (except when the tube is inserted into the anus.). The patient does not have to receive any particular preparation, apart from cleansing the rectum. The patient's urinary bladder must be half full, therefore the patient should not pass water for at least two hours prior to the procedure.

HOW IS IT PERFORMED?

There are different techniques of performing US: endocavitary (transvaginal, and transrectal), and external (transperineal, and introital).

In the endocavitary technique, the probe can be inserted in the vagina (transvaginal) or in the rectum (transrectal).

In some cases, the examiner may use some contrast medium to distend the rectum and to improve the visibility of possible fistulae.

The patient is asked to lie down on a gynaecological examination bed covered with disposable drape. In the absence of a gynaecological dedicated examination bed, the patient should keep his/her pelvis slightly raised against a rubber support. The thighs should be flexed on the hips, the knees should be bent at a 30-degree angle, and the soles of the two feet should be kept flat against the bed at a distance equivalent to the distance between the shoulders. During the procedure, the examiner wears disposable latex gloves and sits on the right of the patient on a rotating chair, holding the probe in his/her right hand, and using the left hand for the usual keyboard manoeuvres.

WHAT CAN BE SEEN AND HOW CAN IT BE ASSESSED?

US gives real time information on the anatomy of the pelvis / rectum, both in static or in dynamic conditions (during the so called "provocative manoeuvres": contraction of the muscles, coughing, physical strain) and fulfils the need of evaluating both the anterior and the posterior

pelvis. It is a procedure that evaluates a considerable number of anatomic alterations in the field of urology, gynaecology, and coloproctology.

With the help of the computer provided, the following structures are measured, so that figures from different centres can be compared, and any possible corrective intervention assessed:

Motility of the neck and base of the bladder

Posterior urethral vesical angle

Urethral sphincter

Inclination angle of the urethral axis

Bladder wall

Anal canal

Internal and external anal sphincters

Puborectalis muscle.

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