CLINICAL PRACTICE GUIDELINES

ASSESSMENT AND PELVIC FLOOR TRAINING TECHNIQUES IN THE TREATMENT OF URINARY INCONTINENCE IN WOMEN EXCLUDING NEUROLOGICAL DISORDERS

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GUIDELINES

Scope of the guidelines

These guidelines are limited to pelvic floor training for urinary incontinence in women. Urinary incontinence secondary to neurological disorders or combined with anorectal disorders has been excluded.

Urinary incontinence is defined as "*a condition in which involuntary loss of urine through the urethral meatus constitutes a social or hygiene problem and can be objectively demonstrated*". Clinically, there are three main types of incontinence:

- stress urinary incontinence, which is involuntary loss of urine during stress such as laughing, coughing, sneezing, sport or other physical activities;
- urge incontinence, which is involuntary loss of urine following a strong desire to urinate, which cannot be inhibited. This leakage may occur when the subject is resting, at night, under circumstances of no stress;
- mixed urinary incontinence, which is a combination of urge and stress incontinence.

There are other types of urine loss which, however, are not incontinence (overflow, fistula, voiding, post-voiding leakage).

This classification is based on the clinical signs of incontinence and on physiopathological mechanisms (sphincter deficiency, hypermobility of the bladder neck, of the cervix and urethra, urge incontinence and urethral incontinence), prior knowledge of which may guide the treatment strategy. Identifying predominant factors such as inadequate pelvic floor muscles and difficulty controlling voiding can help the therapist determine treatment objectives.

Grading of the guidelines

Guidelines are graded A, B or C according to the following system:

- A grade A guideline is based on scientific evidence established by trials of a high level of evidence, for example randomised controlled trials of high-power and free of major bias, and/or meta-analyses of randomised controlled trials or decision analyses based on properly conducted studies;
- A grade B guideline is based on presumption of a scientific foundation derived from studies of an intermediate level of evidence, for example randomised controlled trials of low power, well-conducted non-randomised controlled trials or cohort studies;
- A grade C guideline is based on studies of a lower level of proof, for example case-control studies or case series.

In the absence of scientific evidence, the proposed guidelines are based on agreement among professionals.

Prerequisites

A history should be taken and a clinical examination performed before pelvic floor training begins in order to:

- **eliminate all conditions which are not urinary incontinence:**

  - urinary fistula, ectopic anastomosis (urinary leakage is not through the urethral meatus),
  - leakage by overflow after chronic urinary retention (dysuria or absence of voiding, a spherical mass can be felt on abdominal or two-handed palpation).
- **consider the possibility of a neurological disorder requiring further investigations before beginning pelvic floor training:**
  - anal hypotonia, insensitive perineum, presence of other neurological disorders (loss of balance, visual disturbances etc.),
  - psychiatric or cognitive disorders.
- **treat the following conditions before pelvic floor training:**
  - active urinary infection: cloudy urine, burning sensation on voiding (test strips),
  - haematuria,
  - vaginal infection: vaginal discharge (leukorrhoea), vaginal pain, etc.,
  - marked hypo-oestrogenism with pain on contact with the mucosa,
  - vaginal pain on contact with any scars, dermatosis,
  - prolapse with protrusion of the organ outside the body.

Pelvic floor training work-up in urinary incontinence

Training of the pelvic floor muscle in urinary incontinence cannot start until an initial work-up has been done. The therapist uses the tools of the work-up to select his/her techniques, to monitor changes in symptoms, and to measure the results of rehabilitation.

- **History**

When taking the history, the therapist will seek three types of information before defining a treatment strategy:
- type of incontinence (stress, urge);
- presence of concomitant factors which could modify the conduct of pelvic floor training or which may require approaching the prescribing doctor (pregnancy, pacemaker etc.);
- environment, lifestyle (sports, social activities), motor handicap (movement), the patient's wishes and motivations (need for care).

These factors will be used to draw up a global management strategy for the patient.

- **Clinical examination**

This consists of a number of stages which will:
- guide decisions about choice of pelvic floor training techniques;
- allow the therapist to monitor changes in symptoms during treatment;
- allow the therapist to evaluate the results of rehabilitation.

The stages required are:
- a local and regional examination (tissue quality, scarring, vaginal discharge);
- a neurological examination which will study the sensory territories of the perineal region (perineal hypoaesthesia). It may lead to suspicion of a possible peripheral disorder of the pelvic floor;
- manual evaluation of perineal muscle force, generally called muscle testing. Pelvic floor muscle testing investigates only these muscles and not the sphincter. Although evaluation of strength is subjective and reproducibility has not been evaluated, all professionals use this test. It is accepted that it reflects contraction quality and the patient's ability to use the

muscle system, with or without extraneous contractions of other muscles. In any given patient, the same pelvic floor evaluation protocol should always be used before, during and after treatment. Muscle testing assesses the strength and endurance of the pelvic floor muscles and detects any disorders in the command sequence. It is an aid to selecting pelvic floor training techniques and is an indicator for monitoring the contractile qualities of the muscle (strength, endurance). It assesses improvement in muscle strength rather than efficacy of pelvic floor training.

- **Measurement of urinary incontinence**

- ***The pad-test***. This test is used to measure incontinence in research protocols, but is difficult to use in daily life. In practice, it is proposed that the number and type of protection devices used should be recorded.
- ***MHU scale***. This clinical symptom score measures urinary symptoms.
- ***A leakage index (5 grades) and a social activity index (10 grades).*** These two indices use a graduated or ungraduated visual analogue scale to measure the amount of leakage and the social embarrassment caused by symptoms. The indices are easy to use but provide little objective information.
- ***Voiding diary.*** It is used to obtain information on patients' voiding habits.

- **Quality of life measurement**

There are many questionnaires which measure quality of life. The use of the CONTILIFE® scale is proposed as the scale has been validated, is simple to use, and covers all types of incontinence.

- **Other investigations**

Urodynamic tests (closure pressure, cystomanometry, leak point pressure, etc.) can be carried out before and/or after pelvic floor training. These (medical) tests do not provide an indication for pelvic floor training but can measure its results (professional agreement).

- **Summary of tools**

The elements of the work-up needed to guide the therapist are shown in Table 1.

Table 1. ***Indicators used in pelvic floor training***

Indicators for choosing technique	Indicators for monitoring	Indicators for treatment outcome
- Local and regional examination (tissue quality, scarring, vaginal discharge) - Neurological examination (vaginal hypoaesthesia) - Pelvic floor muscle testing	- Voiding diary - Pelvic floor muscle testing - Urine leakage: number of protection devices and types of protection device used.	- *Urinary leakage:* MHU, number and types of protection devices used (if necessary: leakage index) - *Quality of life:* CONTILIFE® (if necessary: social activity index) - *Muscle strength:* Pelvic floor muscle testing

- **Patient record**

The working group proposed a patient record that sets out the indicators used to monitor results (Table 2). This record provides the prescriber and/or the patient's own doctor with information about the results of the pelvic floor training programme.

Pelvic floor training techniques

Pelvic floor training techniques are usually applied in combination. The combination depends on whether, and how much, progress is being made during the training programme.

- **Providing patients with information**

This is the first stage in managing a patient with pelvic floor and sphincter disorders, and is an essential part of pelvic floor muscle training. It reassures the patient, puts the situation into perspective, and uses simple anatomic illustrations to make the patient familiar with her own anatomy. It should make the patient aware of how much work she will need to do herself between pelvic floor training sessions. During this initial contact stage, the patient's informed consent is obtained, which will be a factor in the success of any treatment undertaken.

- **Manual intravaginal work on the pelvic floor muscles**

This technique has not been fully evaluated. Manual intravaginal work can vary the type of contraction (concentric, eccentric), localise stimulation to specific muscle bundles and assess the quality of contraction. The technique strengthens the pelvic floor muscles (grade C).

- **Pelvic floor exercises**

The patient can do pelvic floor exercises on her own at home or combined with work with a therapist. In the latter case, improvement in strength is greater, with a decrease in number of leakages for patients with stress urinary incontinence (grade B).

- **Instrumental biofeedback**

If the patient's condition permits, instrumental biofeedback can identify pelvic floor muscle contractions, whether correct or incorrect, and so help the patient improve muscle recruitment. It improves control of voiding in patients with stress-related or mixed urinary incontinence (grade C). An instrumental technique is more effective than verbal feedback (with two fingers in the vagina) (grade C).

- **Functional electrical stimulation**

This technique can be used if the patient's condition permits. It uses electrical currents to provoke muscle contraction (50 Hz) or to inhibit the bladder (5-25 Hz). Electrical stimulation intended as reinforcement is effective (grade C). The technique can bring about improvement in stress urinary incontinence or in urge incontinence, provided that the appropriate frequencies are used (grade C).

Table 2. ***Patient record showing indicators for monitoring a patient with urinary incontinence that is being managed by pelvic floor training***

Surname: First name: Date:
Date of birth:

Reason for consultation:
Name of therapist:
Name of prescribing doctor:
Name of treating doctor:

	Date started	Intermediate date	Date ended
Intravaginal testing of pelvic floor muscles. Score from 0 to 5*			
Right side			
Left side			
Number of leaks			
Daytime			
Night-time			
Number and type of protection devices			
Daytime			
Night-time			
MHU scale			
Quality of life scale			
CONTILIFE ®			
Other scale			

Details of rehabilitation	Comments

* muscle testing score: between 0 and 5 (0 = no contraction palpable; 5 = maximum contraction)

Contraindications to functional stimulation are:
- pregnancy;
- pacemaker;
- perineal hypoaesthesia.

- **Behavioural intervention**

Pelvic floor training is based on an awareness of the intervals between voiding and voiding frequency (including a voiding diary). It is often combined with pelvic floor exercises. The technique is often used in women aged over 55. It improves stress urinary incontinence and urge incontinence (grade B).

- **Vaginal cones**

Vaginal cones can be used if the patient's condition permits. The cones are the same size but of different weights. The patient contracts her pelvic floor muscles to keep the cones in place. It is claimed that the technique improves pelvic floor muscle strength in stress urinary incontinence (grade C). However, in the light of published literature and practical problems in monitoring patients, the working group expressed major reservations about the efficacy of vaginal cones as part of pelvic floor training in urinary incontinence in women.

Comparative efficacy of techniques

Pelvic floor exercises are more effective in improving muscle strength than functional electrical stimulation (50 Hz) or cones (grade C). In stress urinary incontinence, improved strength reduces incontinence (grade C). When combined with instrumental biofeedback, pelvic floor exercises are effective in stress urinary incontinence (grade C).

Functional electrical stimulation (5-25 Hz) and behavioural training are effective in improving pelvic floor muscle control (grade C). In urge incontinence, improved control decreases urinary incontinence (grade C).

Medium-term effect of pelvic floor training

The medium-term effects of pelvic floor training are difficult to evaluate. In the light of existing studies, the reduction in stress or urge incontinence seems to last for the first year (grade C). Self-management by the patient and a monitoring strategy by the therapist are required to maintain the effects of reinforcement.

When should patients be offered pelvic floor training?

It is not always easy to decide on the type of treatment, as most cases of incontinence are multifactorial and involve different physiopathological mechanisms. Studies have not yet defined any factors which will predict precisely the efficacy of any one type of treatment in multifactorial incontinence.

Apart from cases of incontinence where an obstruction has been found, the indications are for symptomatic remedies to improve the patient's well-being. For this reason, the decisive factor

will often be the patient's own informed choice taken after the advantages and drawbacks of each technique have been explained. Additional factors to be considered when choosing treatment are the degree of incapacity, any contraindications to drug therapy, the risks of surgery, the patient's motivation and capacity to follow a pelvic floor training programme and the management of any concomitant disorders. To help choose technique, it is recommended that the least invasive techniques be offered first, i.e. those which carry the least serious side-effects or risk of sequelae, and which do not close off any options for continuing treatment if they fail.

In general practice, pelvic floor training is proposed as first-line treatment in women with stress incontinence. Patients may be offered a maximum of 10 to 20 sessions. If no identifiable or subjective clinical improvement is observed after the first series of sessions, it is necessary to ask whether training should be continued. If the improvement noted by the patient and therapist is inadequate but is present, treatment may be extended (10 to 15 sessions). If the improvement is felt by the patient to be satisfactory or adequate (subjective criteria), if the objective evaluation criteria show a marked improvement or recovery, then pelvic floor training may be stopped. However, analysis of the literature has shown that follow-up and patient self-management over time are beneficial.

Conclusions and proposals for future action

The role of prescribing doctors and therapists is particularly important in preparing women for pelvic floor training and in patient compliance.

Patients should be provided with information about the role of muscle testing and about intravaginal techniques (intravaginal exercises and intravaginal probes). Managing patients requires specific training and good communication between the therapist and patient (professional agreement).

Many points raised in the study remain unanswered and could constitute proposals for action. The most important points requiring study are:
- the effect of training on specific populations (*post-partum*, sportswomen, etc.);
- evaluation of the long-term effects of rehabilitation;
- how patients accept pelvic floor training techniques;
- the effects of so-called prevention techniques. There are very few studies of these techniques and their efficacy has not been proved;
- at-risk populations.

The full report in French can be downloaded free of charge from the ANAES website:
http: / /www.anaes.fr or **http: / /www.sante.fr**