

Pelvic floor muscle training: what is important? a mini-review

Mini review

PFMT aims to restore muscular strength, coordination and timing of pelvic floor muscle contractions.¹ Other parameters important in relation to the pelvic floor are timely relaxation, endurance, fatigability, repeatability and fast feed forward loop contractions.¹ Timing might be one of the most important elements; in healthy continent women, activation of the PFM before or during physical exertion seems to be an automatic anatomic response, so an unconscious contraction.² This PFM 'reflex' contraction is actually a fast feed-forward loop and might precede bladder pressurerise by 200-240 milliseconds, something that might have been lost in women with urinary incontinence.² Also, it has been suggested that a well-timed, fast and strong pelvic floor muscles contraction may prevent urethral descent during intra-abdominal pressure rise.³

To ensure an adequate sequence in pelvic floor muscle training the concept of the 4 Fs, i.e., Find-Feel-Force-Follow-through of pelvic floor muscles was introduced. Awareness (Find and Feel) of the different muscles involved in maintaining continence is necessary to be sure of avoidance of co-contractions of surrounding muscles (abdominals, buttocks, thighs and back) and activation of the relevant muscles. Sometimes, when patients find and use the relevant muscles at the appropriate time, symptoms can reduce at once.⁴

Basic physiological muscle training principles teach us that pelvic floor muscle exercise programs must consist of selective MAXIMAL voluntary contractions with a repetitive character (Force) and sufficient time of relaxation between consecutive pelvic floor muscle contractions. Exercises can activate latent motor units to the point that the muscle becomes functional again, in stress urinary incontinence the indirect support of the bladder neck.⁵ The principle of overload is based on stimulation of the muscle beyond its normal level of performance. Important parameters are quality (inward/upward movement of the pelvic floor muscles while maximal squeezing) and number of MAXIMAL conscious and unconscious contractions, number of contractions, duration of contractions and relaxation. For the training program also the number of series, number and duration of sessions and total training program are important. The principle of selectivity cq. Specificity refers to train a muscle in the way the muscle needs to be used. Exercises are adapted to slow-twitch fibers (endurance exercises) and fast-twitch fibres (strength and speed exercises).⁵

Pelvic floor exercises should be practised in different starting positions; from lying, sitting to standing and resulting in as much as possible imulating everyday situations. The principles Maintenance and Reversibility (follow-through) alert the patient to train regularly, sometimes life long, but the challenge for the pelvic physiotherapist is to incorporate functional training in such a way that patients will experience progress of their symptoms as soon as possible.⁵ Functional training of pelvic floor muscles means that the pelvic physiotherapist need to mimic daily life activities and situations in which the patient

used to experience incontinence and now – automatically – is capable to avoid this. In case of success, patients will be highly motivated to adhere to and continue their pelvic floor muscle training program. Adherence is one of the most important challenges or threats for this success and focus on this should be a *conditio sine qua non*.

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Conflicts of interest

None.

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Bary Berghmans

Maastricht University Medical Centre, The Netherlands

Correspondence: Bary Berghmans, Clinical epidemiologist, Health Scientist, Pelvic Physiotherapist, Pelvic Care Center Maastricht, Maastricht University Medical Centre, P.O. Box 5800, 6202 az Maastricht, The Netherlands, Email bary.berghmans@maastrichtuniversity.nl

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