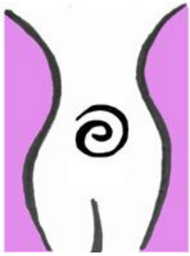

Pelvic Floor Physical Therapy
Frame Work

Steering Committee of the Women's Health Interest Group

Israel

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Introduction

This document presents guidelines and recommendations for physical therapy intervention to the pelvic floor in all stages of prevention and care. The document is partly based on a previous booklet ("Standards and Criteria of Urological-Gynecological Rehabilitation, 1999") that was published for the Ministry of Health by the Israeli Association for the Advancement of Physical Therapy. This updated document describes the optimal physical therapy treatments given to the pelvic floor according to the best practices prevailing worldwide.

This document was written by some of the most experienced and senior physical therapists in the field and is supported by the relevant professional literature.

This document is dedicated to the memory of the late **Yehudit Sarig** – a colleague, therapist, and teacher who initiated the "Standards and Criteria" document in 1999 thus laying the foundations for the practice of pelvic floor physical therapy in Israel.

Yehudith Sarig was the life of the Women's Health Interest group, she promoted and developed pelvic floor physical therapy and educated a generation of dedicated physical therapists who continue to work in the field.

Blessed be her memory.

Prologue

Pelvic floor physical therapy constitutes one of the areas of care in woman's health. This conservative treatment is designed to solve problems caused by damage to the soft tissues of the pelvic floor and the pelvic organs. These impairments are common mainly in women, may occur at any age and have medical, functional, emotional, social and economic repercussions. (Bo 2015 (a) , Bakker 2002, Bower 2015, Bower 2008, Corocs 2015, Dorey 2006, Elneil 2008, Feldt 2006, Fultz 2001, Hannestad 2000, Irwin 2011, Knight 2008 (a), Laycock 2004, Markland 2011, Milson 2009, Norton 2008).

The physical therapy treatment to pelvic floor impairments is evidence-based and accepted worldwide.

Goal

The main goal of this document is to set frame work so as to promote the best and most professional physical therapy services in the field of pelvic floor treatment within Israel's healthcare.

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1. Indications for Pelvic Floor Physical Therapy

The following symptoms and conditions constitute an indication for pelvic floor physical therapy treatment (based on the agreed-upon terminology of IUGA – International Urogynecological Association and ICS – International Continence Society – Hylen et al., 2010).

1.1. Symptoms of Urinary Tract Impairments

1.1.1. Urinary Incontinence Symptoms

Urinary Incontinence

Stress Urinary Incontinence

Urge Urinary Incontinence

Mixed Urinary Incontinence

Postural Urinary Incontinence

Nocturnal Enuresis

Coital Incontinence

1.1.2. Bladder Storage Symptoms (without incontinence)

Urgency

Increased Daytime Frequency

Nocturia

Overactive Bladder

1.1.3. Voiding Disorder Symptoms

Hesitancy

Slow stream

Intermittency

Straining to void

Feeling of incomplete voiding

Need to immediately re-void

Post micturition leakage

Position-dependent micturition

Dysuria

Retention

(Akbayrak Turken 2005, Bo 2015 (b), Borello-France 2006, Bo 2006, Bower 2015, Bower 2008, Dorey 2008, Dumoulin 2010, Franco 2007, Haslam & Laycock 2008, Kafri 2008, Laycock 2004, Magali 2006, Nice guidelines 2006, Neumann 2005, Neumann 2006, Tibaek 2005)

1.2. Pelvic Organ Prolapse (POP) Symptoms (Hysteroptose, Cystocele, Urethrocele, Rectocele, entrocele)

Vaginal bulging

Pelvic pressure

Splinting / Digitation

Low back pain

(Braekken 2009, Hagen 2009, Hagen 2011, Khan 2008)

1.3. Symptoms of Sexual dysfunction

Dyspareunia superficial / deep

Obstructed intercourse (vaginismus)

Vaginal laxity

(ACOG and ASCCP Issue Joint Opinion 2006, Goldfinger 2009, Graziottin 2015, Nappi 2003, Rosenbaum 2008(a), Rosenbaum 2008(b))

1.4. Pelvic and Lower Urinary Tract Pain

Bladder pain

Urethral pain

Vulval pain, Vulvodynia

Vaginal pain

Anal pain

Perineal pain

Pelvic pain

Pudendal neuralgia

Coccydynia

(Cheong 2006, Fall 2010, Fitzgerald 2009, Fitzgerald 2012, Frawley 2015, Gentilcore-Saulnier 2010, Goldfinger 2009, Montenegro 2008, Rosenbaum, 2008(b))

1.5. Symptoms of Anorectal Dysfunction

Fecal incontinence

Solid fecal incontinence

Liquid fecal incontinence

Soiling

Passive fecal incontinence

Coital fecal incontinence

Flatal incontinence

Fecal urgency

Straining to defecate

Feeling of incomplete bowel evacuation

Diminished rectal sensation

Constipation

(Bower 2015, Bower 2008, Brown 2006, Morkved 2007, Norton 2008)

1.6. Further Situations that Constitute Indication for Pelvic Floor Physical Therapy

Pre and post-partum / C-Section, including treatment of scars.

Pre and post gynecological, urological, abdominal or ano-rectal surgery.

(Filocamo 2005, Heller 2006, Herbert 2008, Jarvis 2005, Kappor 2008, Morkved 2015)

2. Evaluation

This chapter describes comprehensive evaluation of a patient with indication for pelvic floor physical therapy treatment.

2.1. Medical History (Anamnesis)

Complaints regarding pelvic floor impairments can often cause embarrassment and sometimes go unreported. In addition, some of the symptoms are not considered relevant to the condition the patient complains of. Therefore, there is great importance in direct and proactive questioning by the physical therapist, including the following:

- Patient complaints and origin of current symptoms.
- Medical condition (including medications), medical history including surgical interventions and birthing history.
- Lifestyle: marital status, occupation, hobbies and physical activity.
- Sexual activity and inquiry about sexual abuse inside and outside the home.
- Drinking habits, nutrition, urinal and fecal emptying difficulties.
- Continence: urgency, frequency, urine leakage, fecal or flatal incontinence.
- Usage of absorption materials. (type and quantity).

2.2. General Physical Examination

- General observation: posture, abdominal wall, respiration and body language.
- Evaluation of pelvic, hip and abdominal muscles: strength, tone, length and symmetry.
- Evaluation of abdominal, lumbar and pelvic soft tissues – flexibility, mobility and trigger points.

2.3. Local Physical Examination

2.3.1. Observation of the Genital Area and the Perineum

- Skin color, hairiness, scars and skin lesions.
- Evaluation of the distance between the vagina and the anus.
- Location and mobility of the pelvic organs, tissues and pelvic floor muscles at rest, during pelvic floor muscle contraction, during coughing and during the Valsalva maneuver.

2.3.2. Vaginal / Anal Examination

The vaginal / anal examination is manual. Instrumental examination (biofeedback, ultrasound) is also optional.

- Evaluation of the sensitivity to touch.
- Evaluation of local and general reactions to the invasive examination.
- Evaluation of soft tissue motility (including the condition of scars if they exist).

- Evaluation of the pelvic floor muscles at rest: muscle mass, tone and degree of relaxation, symmetry and flexibility.
- Evaluation of the pelvic floor muscles in action: correct identification, duration of maximum recruitment, duration of maximum relaxation, strength of contraction, endurance, repetition, symmetry and pain.
- Recruitment of additional muscles and capability to activate separately.
- Respiration while activating muscles.

2.3.3. Neurological Evaluation

Reflexes and sensory abnormalities in the pelvic floor.

2.4. Diagnosis

In order to determine a diagnosis, it is recommended to use a multidisciplinary approach from the fields of urogynecology, urology, gynecology, gastroenterology, proctology, neurology, sexology, psychology and nutrition. Additional medical examinations such as US, urodynamic, defecography and manometry, EMG or MRI might be required.

2.5. Setting Goals and Course of Treatment

Treatment goals and course of treatment will be determined by the diagnosis and in collaboration with the patient, according to the defined needs and expectations, and in accordance with the patient's level of motivation and ability.

In appropriate cases, one should share the goal setting and the treatment process with a partner, a member of the family or a caregiver.

The patient must verbally consent to the treatment goals and treatment plan as described by the physical therapist.

If the goals cannot be fully achieved by physical therapy, one must refer the patient to an additional expert or professional caregiver.

(Abrams 2005, Bo 2015(a), Bo & Sherburn 2007, Bower 2008, Brown 2006(b), CSP 2005, Dietz 2015, Dorey 2006, Feldt 2006, Graziottin 2015, Henscher 2006, Knight 2008 (b), Laycock 2001, Laycock 2004, Laycock 2008, Nice guideline 2006, Ospelt 2006, Parther 2009, רוזנבאום ט.י (Raadgers 2006, . 200p)

3. Treatment

The treatment will include one or more of the following components, in accordance with the goals set and the patient's level of motivation, capability and cooperation, and in accordance with the progression of the treatment.

3.1. Terms of Treatment

Therapist-patient relationships are based on mutual respect, protecting the patient's privacy and not revealing any medical and/or intimate secrets the patient might disclose.

One must ensure the following:

- Sensitivity and acceptance of the timing set by the patient in raising intimate topics during treatment.
- Covering of exposed parts of the body.
- Students or other medical staff members may observe with the patient's consent only.
- The number and duration of treatments will be determined by the diagnosis and the goals of treatment, according to the professional judgment of the physical therapist and as coordinated with the patient.
- Group treatment will be recommended after a detailed individual evaluation including a vaginal examination.
- One must maintain an appropriate work environment, as detailed in section 5.

(Feldt 2006, Graziottin 2015, Laycock 2004, Nice Guideline 2006, Wall 2008)

3.2. Instructions

A detailed explanation of the physiology and anatomy of the pelvic organs and pelvic floor should be given, including special referral to the patient's unique problem. It is recommended to use teaching aids such as a pelvic models, diagrams, videos, etc.

(Graziottin 2015, Bower 2015, Bower 2008, Feldt 2006, Knight 2008 (b), Raadgers 2006)

3.3. Behavioral Therapy

The term "behavioral therapy" describes a learning process that includes identification of the behavioral causes that affect pelvic floor impairments and the adoption of alternative behaviors and habits. The success of the treatment depends on the patient's cognitive ability and her motivation to transform her life. The treatment includes guidance and counseling on:

- How to change fluid and food intake habits such as: quantity, type, and eating and drinking times.

- How to change urination and defecation habits, such as:
- Bladder training: postponing emptying, increasing the time margins between urinations, emptying at fixed times or initiating urination, suppressing urgencies and minimizing urine leaks. For these purposes it is recommended to use methods such as: managing a fluid balance log, contracting and relaxing the pelvic floor muscles, breathing or guided imagery.
- How-to use voiding positions.
- How to recruit the pelvic floor muscles, before and during efforts involved in increasing intra-abdominal pressure (Including certain ADL – Activities of Daily Living).
- How to adjust the everyday functional load to the capability level of the pelvic floor muscles.
- Suitable physical activity.
- How to use absorption means.
- How do pregnant women can massage the perineum as preparation for birth, breathing correctly and manage the birth and postpartum stages. The emphasis will be on preventing damage and rehabilitation of the pelvic floor postpartum vaginally or C-section.
- Sexual domain: self-observation, learning how the pelvic floor is constructed, guidance to intimacy, self-touch, sexual contact and sexual positions in accordance with the limitations diagnosed, and guidance to gradual vaginal penetration by using different-sized vaginal trainers by the patient or by the patient and her partner.

(Abrams 2005, Bower 2015, Bower 2008, Burgio 2008, Chiarelli 2015, Feldt 2006,Henscher 2006, Nice guidelines 2006, Ospelt 2006, Raadgers 2006)

3.4. Manual Treatment

Manual pelvic floor physical therapy treatment includes reference to the following structures: abdomen, diaphragm, back, pelvis, hip and pelvic floor, as well as vaginal and anal treatments.

The vaginal / anal treatment is intended to improve motility and flexibility of soft tissues and muscles, decreasing of tone, preparation for contraction of the pelvic floor muscles, improving sensation and proprioceptive ability and decreasing the fear of vaginal penetration through gradual experiencing (combined with relaxation methods).

The manual treatment includes different treatment methods such as: massage, stretching, myofascial release and hold-relax technique.

(Brown 2006(a), Fitzgerald 2009, Fitzgerald 2012, Gentilcore-Saulnier 2010, Holey 2006, Knight 2008(b), Whelan 2008)

3.5. Exercises

Exercises include reference to the pelvic floor muscles as well as the abdomen, back, hips and also breathing techniques.

The level of the exercises is adapted to the patient's individual capability, at any stage of the treatment, so that the effort exerted will be in accordance to the supportive ability of the pelvic floor and will not cause any damage to the pelvic floor. Many of the treatments require counseling for self-practice at home and/or in a group.

The purpose of the exercises is:

- Improvement of posture: strengthening, relaxing and stretching muscles that affect the activity of the pelvic floor muscles and the position of the pelvic organs.
- Improving control of the pelvic floor muscles, in accordance with the functional goals: identification, strengthening, endurance, tone, timing and relaxation (vaginal weights and biofeedback can also be used for this purpose).
- Isolated contraction of the pelvic floor muscles or in collaboration with synergic muscles, in accordance with the treatment's goals.
- Recruiting the pelvic floor muscles before and during situations causing an increase in intra-abdominal pressure.
- Coordination between the pelvic floor muscle activation and breathing.
- Improving motility of the diaphragm and the abdominal organs through breathing exercises in order to totally relax and get the abdominal, lumbar and pelvic floor muscles to relax as well, and to improve the function of the abdominal and pelvic floor muscles.

(Abrams 2005, Bo 2015(b), Bo & frawley 2015, Dorey 2006, Godl-Purrer 2006, Haslam 2008 (a), Henscher 2006, Knight 2008(b), Laycock 2004, Nice guidelines 2006, Raadgers 2006)

3.6. Biofeedback

Biofeedback provides instant feedback on bodily functions that one might–be totally unaware of. Pelvic floor physical therapy uses more than one type of feedback.

A. Surface Electromyogram (S-EMG) – provides feedback on the electrical potential produced by the pelvic floor muscle activity. One may use vaginal / anal electrodes or a surface electrode on the perineum.
B. Manometer – provides feedback about the pressure in the vagina / anus as a result of muscle activity. One can also use a vaginal/ anal electrode.

When using S-EMG or Manometer device, one should be aware that contraction of other muscles than the pelvic floor muscles may affect the results. Therefore one must use an earlier manual and visual examination.

C. Ultrasound – provides feedback on how the muscles work, identifies muscles in action and their mass. Ultrasound also provides feedback on any change in the position of the pelvic organs while the muscles are in action. One can use a vaginal / anal / abdominal transducer.

D. Mirror – provides visual feedback about the degree of the pelvic floor muscle contraction.

(Bo 2015(b), Dannecker 2005, Dietz 2015, Frahm 2006(b), Haslam 2008 (b), Henscher 2006, Laycock 2004, Rett, 2007)

3.7. Electrical Stimulation

The type of electrical stimulation used is in accordance with the therapeutic goal.

Below see a list of therapeutic goals suitable for electrical stimulation:

- Improving the ability to identify pelvic floor muscles.
- Improving pelvic floor muscle action: strength, endurance, speed of contraction, speed and degree of relaxation.
- Suppressing the sense of urgency.
- Decreasing local sensitivity.
- Pain relief.

(Bourcier 1999, Berghmans 2015, De-Oliveira, 2005, Frahm 2006(a), Henscher 2006, Laycock 2004, Vodusek 2008)

3.7.1. Precautions in using electrical stimulation:

- Pacemaker
- Pregnancy
- Epilepsy
- Active vaginal infection or urinary tract infection
- Menstruation
- Malignancy in the pelvic area
- Post-radiation to the pelvis
- Severe impairment to the vaginal tissues or anus (fissures, cuts or wounds)
- Lack of sensation due to neurological problems
- Bladder Hypotonia
- Metal implant in the area
- Known sexual abuse in the past
- Impaired cognitive state of the patient.
- Anxiety

(Dorey 2006, Frahm 2006, Henscher 2006, Laycock 2004)

4. Precautions in performing Examinations and Internal Treatment (Vaginal/ Anal)

- A pregnancy with a danger of abortion
- Fungal or bacterial infection in the urethra, vagina or anus
- Vaginal, urethral or anal bleeding
- Open wound (unhealed tear, fissure)
- Pelvic surgery during the past three months
- Postpartum
- Known psycho-sexual problems

(Laycock, 2004)

5. Work Environment

5.1. Treatment Room

The nature of this special treatment requires complete privacy for the patient. The treatment room should have solid walls and a sink with running water. The room should be able to be locked from the inside.

5.2. Mandatory Equipment

- Massage table/ Treatment bed (High/low preferred).
- A desk and three chairs.
- A curtain that separates the treatment bed from the desk.
- Disposable gloves (including vinyl gloves).
- Cloths / soap to clean and disinfect the treatment surfaces.
- Ultrasound gel.
- Disposable sheets to cover the bed.
- Extra sheets to cover the patient.

5.3. Recommended Auxiliary Equipment

- Pelvic model, photographs, diagrams and training videos.
- Vaginal trainers in various sizes.
- Condoms.
- Vaginal weights.
- Practice accessories such as: ball, tilt board, terra-band.
- Mirror.
- Medicinal oil.

5.4. Recommended Instruments

- Biofeedback instrument, including vaginal/ anal pressure / EMG electrodes.
- Electrical stimulation instrument, including vaginal / anal electrodes.
- Example home Biofeedback / electrical stimulation instruments.

5.5. Precautions to Prevent Infections

- Washing hands after every patient.
- Changing the sheets after every patient.
- Using gloves during vaginal/ anal examinations.
- Using individual vaginal trainers and vaginal/ anal electrodes, or covering them with condoms.

6. Training

6.1. Conditions for Engaging in Pelvic Floor Physical Therapy

Physical therapy certification granted by the Ministry of Health is required.

Basic course completed in pelvic floor physical therapy.

6.2. Basic Course in Pelvic Floor Physical Therapy

An approximately 70-hour course, part theoretical and part practical.

6.2.1. Course Objective

The physical therapist will assess and treat women with pelvic floor impairments related to the urogenital system.

At the end of the course the physical therapist will:

- Identify the pelvic floor muscles and the structures that support the pelvic organs.
- Diagnose pelvic floor impairments related to the uro-gynecological system.
- Plan a prevention and treatment course to solve pelvic floor impairments using:
    - Required behavioral change.
    - Pelvic floor muscle rehabilitation.
    - Counseling on how to preserve the pelvic floor by adopting. principles of learning how to use the body correctly in the everyday life.
    - Counseling regarding suitable physical activity.
- Perform examination and treatment using biofeedback.
- Use electrical stimulation to the pelvic floor.

6.2.2. Course Content

- Basic terminology and basic uro-gynecological assessment.
- Functional anatomy of the pelvic floor.
- Biomechanics of the pelvis and pelvic floor.
- Urinary tract functions.
- Pelvic floor impairments, medical examinations and treatment measures– urine leakages, pelvic organ prolapse.
- Pelvic floor during pregnancy and postpartum.
- Urinary tract examinations.
- Introduction to Anatomy, function and impairment of the anorectal system.
- Introduction to Vulvodynia and pelvic pain and its influence on the pelvic floor (including medical and psycho-sexual aspects).
- Introduction to Anatomy, function and impairment of the male urinary tract system.
- Principles of taking a medical history, examination and behavioral-rehabilitation (including use of other treatment modalities: biofeedback and/or electrical stimulation).
- Principles of pelvic floor muscle exercises.
- Practicing pelvic floor exercises in various positions and at different levels of difficulty.
- The physical therapist role in woman's health.
- Practical chapter – practicing examinations and treatments.

In the practical part vaginal examinations will be practiced in pairs.

At the end of the course the physical therapist must pass a test.

6.3. Further Course of Education

Pelvic floor physical therapists are advised to broaden their horizons and take additional courses in the field, such as:

- Examination and treatment principles of impairments of the anorectal system.
- Examination and treatment principles of impairments of the pelvic floor of children.
- Examination and vaginal/ anal treatment principles in situations of pelvic pain.
- Bio-psycho-social principles in treatment of general pain, especially vulvodynia.
- Basic principles in couple counseling and sex therapy.
- Principles of orthopedic treatment of the pelvic girdle.
- Physical therapy treatments during the perinatal period.
- Physical activity during the perinatal period.

6.4. Professional Development and Research

It is extremely important to increase one's knowledge in related areas:

- Brushing up on topics related directly to subject of pelvic floor treatments in Israel and abroad.
- Spreading knowledge of the subject among physical therapists, medical staff and the general public.
- Contributing to the continuation of the research.

Maintaining and improving the professional level of physical therapist in the field include the following:

- Participating in symposiums and study days organized by the physical therapy Woman's Health Interest group.
- Participating in symposiums and conventions organized by other relevant organizations, in Israel and abroad.
- Brushing up through current reading of medical journals and other relevant professional literature.
- Giving lectures, guidance and updates to physical therapy staff, relevant medical staff, students and the general public.
- Contacting and initiating teamwork with relevant professional sources in the field.
- Advancement of research activity and publishing articles.

(Bo 2015(a)).

7. Evaluation and Measuring Tools for Pelvic Floor Function

- Pelvic floor prolapse assessment (Bump 1996)
  - Baden & Walker System
  - Pop-Q System
- Manual assessment of the pelvic floor muscle strength (Laycock 2001, Bo 2005)
  - Modified Oxford Grading Scale
  - PERFECT scheme
- Pelvic floor function assessment using instrumentation (Bo 2005, Dietz 2015)
  - Manometer
  - Surface EMG
  - Ultrasound
- Designated questionnaires for symptoms resulting from pelvic floor impairments and quality of life questionnaires (samples):
  - UDI-6 – Urogenital Distress Inventory (uebersax 1995)
  - IIQ-7 – Incontinence Impact Questionnaire (uebersax 1995)
  - I-QOL- Incontinence Quality Of Life instrument (Patrick 1999)
  - BFLUTS- Bristol Female Lower Urinary Tract Symptoms Questioner (Brooks et al 2004)
  - ICIQ-UI SF- International Consultation on Incontinence Questioner short form (Avery 2004)
  - OAB-Q – Overactive Bladder Questionnaire (Matza 2005)

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