EVIDENCE-BASED EXERCISE THERAPY FOR THE PELVIC FLOOR

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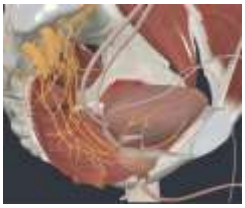
PELVIC FLOOR



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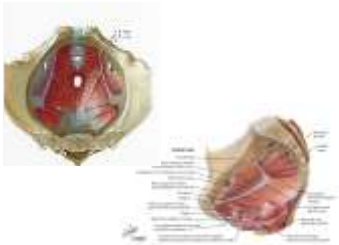
PELVIC FLOOR



- **Dome-shaped, striated smooth muscle structure**
- Closes off the bladder, uterus and rectum
- **Function**: to support the abdominal and pelvic viscera. It has implications on continence, urination, defecation, sexual activity and childbirth

Netter, H., Netter, MD. Atlas de Anatomía Humana. Barcelona: Elsevier; 2019
Walker, C. (1ª ed.). Fisioterapia en obstetricia y ginecología. Barcelona: Masson; 2006

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PELVIC FLOOR DYSFUNCTIONS

- **Injury, weakening or prolapse of the pelvic muscles**, surrounding connective tissues or ligaments of the pelvic floor (PF)
- **PF hypertonicity or hypotonia** can lead to pelvic floor dysfunction
- **Clinical manifestations:** pelvic pain, urinary, fecal or anal incontinence, pain during sexual intercourse and prolapse

Mantle J, Haslam J, Barton S, Polden M. Physiotherapy in obstetrics and gynaecology. Butterworth-Heinemann; 2004.
Bhanucha AE. Pelvic floor: anatomy and function. Neurogastroenterology & Motility: 2006 Jul;18(7):567-10.

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EVIDENCE-BASED THERAPEUTIC EXERCISE FOR THE PELVIC FLOOR

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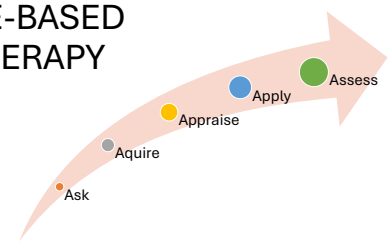
EVIDENCE-BASED PHYSIOTHERAPY



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ROLE OF THE PHYSIOTHERAPIST IN PELVIC FLOOR DYSFUNCTIONS

- Working in a multidisciplinary team
- Assessment of PF
- Identifying treatment goals and a treatment plan in collaboration with the patient
- Teaching therapeutic, and/or preventive PF muscle exercises in cases of pregnancy/postpartum
- Re-evaluation of the intervention
- Collaboration in research

Bo et al., (2018). Evidence-based physical therapy for the pelvic floor: Bridging science and clinical practice. London: Elsevier.

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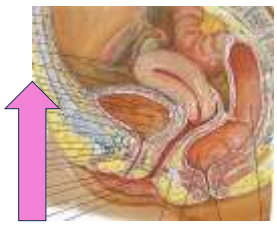
BENEFITS OF PELVIC FLOOR EXERCISE

- **Improvement** of **motor control**, can reduce and eliminate symptomatology associated with PF dysfunction
- **PF contraction:** elevates the urethra, vagina and rectum. Stabilization: more resistance to caudal movements (increased abdominal pressure)



Schreiner L., Crivelatti I, de Oliveira JM, Nygaard CC, Dos Santos TG. Systematic review of pelvic floor interventions during pregnancy. Int J Gynaecol Obstet. 2018 Oct;143(1):10-18. doi: 10.1002/ijgo.12512. Epub 2018 May 16.; Bo et al., (2018). Evidence-based physical therapy for the pelvic floor. Bridging science and clinical practice. London: Elsevier.

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INDICATIONS

Objective Physiotherapy:
PF structural support to ensure a fast and strong contraction during an increase in abdominal pressure

- Low back pain
- Urinary incontinence
- Pelvic pain
- Sexual dysfunctions
- Prolapse

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EVIDENCE-BASED PHYSIOTHERAPY

Best evidence?

https://researchguides.library.wisc.edu/c.php?g=660707&p=6167866 (14.10.2023)

Data bases:

Cochrane Library · PEDro · PubMed · CINAHL · Cochrane Web of Science

KEYWORDS: exercise therapy, pelvic floor, pelvic floor dysfunctions

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EVIDENCE-BASED PHYSIOTHERAPY

PELVIC FLOOR DYSFUNCTIONS/ CLINICAL SITUATIONS	PT INTERVENTIONS RELATED TO EXERCISE THERAPY	OUTCOMES
• Urinary incontinence • Prolapse • Prostatectomy • Pregnancy, Postpartum • Bladder mobility (US)	• PF muscle training • Abdominal exercises: hypopressive, classic* combined (assessment)	•Strenght pelvic floor muscles •Urine leackage •Quality of Life (QOL) •Distances (US)

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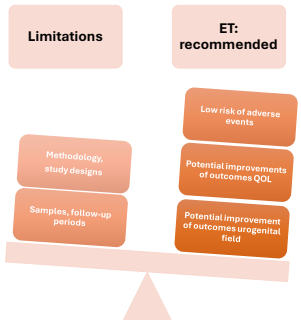

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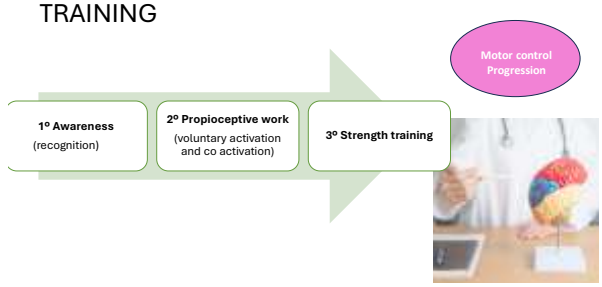
PHASES IN PELVIC FLOOR MUSCLE TRAINING



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1º. Awareness

- **Recognition:** proper contraction
- **Two parts:** contract PF (ischial tuberosities, distance) and cranial elevation (elevator)
- **Motor learning: different strategies**
  - Anatomical models, self-palpation. Verbal instructions: "contract PF and elevate it"
- **Mental image: elevator**
- Different positions: pelvis mobilization Sensation: "gas passage, anus"
- **Dissociation**: beggining, dissociation (annus contracted, buttocks relaxed*)

Bo et al., (2018). Evidence-based physical therapy for the pelvic floor. Bridging science and clinical practice. London: Elsevier

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1º. Awareness

- **Stopping urine:** not recommended in a learning protocol. Possible alteration of neurological bladder-urethra control during voiding (no MSP activity during urethral opening and voiding)

End of voiding

Bo et al., (2018). Evidence-based physical therapy for the pelvic floor. Bridging science and clinical practice. London: Elsevier

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1º. Awareness

Bo et al., (2016). Evidence-based physical therapy for the pelvic floor. Bridging science and clinical practice. London: Elsevier

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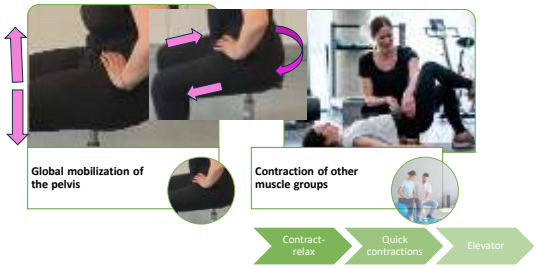
1º. Awareness. Exercises



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2º. Propioceptive work

- **Voluntary activation**
  - **Co activation**: diaphragm contraction and self-elongation
  - **Limitations**: neurological damage, tissue damage, or low body awareness*
- **Specific exercise**
  - **Kegel:** very well known, isometric
  - **Inverted Kegel:** contraction-relaxation
  - **Transversus abdominis activation**
  - **"Clock"**

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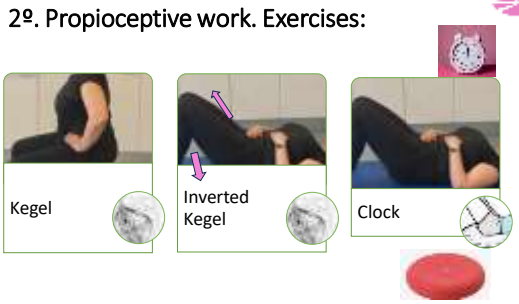
2º. Propioceptive work. Exercises:



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3º Strenght training

- **Muscle adaptations to strength training:**
  - Elevation of the structural support of the pelvis, raising it to a higher position
  - More effective PF contraction: prevention of descent during increased abdominal pressure (anticipatory response, motor plan)

Bo et al., (2019). Evidence-based physical therapy for the pelvic f... Elsevier

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3º Strength training

- **Physiotherapist: assessment, OXFORD, PERFECT scales**
- **ACSM, American College of Sports Medicine**
  - Start: 3 sets, 8-12 rep
  - Low speed
  - Maximum contraction
    - 2-4 days/week
    - 5 months*

Individualized! Homogeneous group

ACSM's Guideline for exercise prescription (2022); Bo et al., (2018). Evidence-based physical therapy for the pelvic floor. Bridging science and clinical practice. London: Elsevier

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3º Strenght training:

- **PF exercise combined with abdominal exercise: hypopressive, classic abdominals (PF dysfunctions, diastasis)**
  - **Individualize:** assessment
- **Training principles:**
  - **Specificity:** effect on the trained area
  - **Overload:** weight, maintained contraction, speed of contraction, number of repetitions, etc.
  - **EXTERNAL LOAD**
  - **Progression:** position (higher load)

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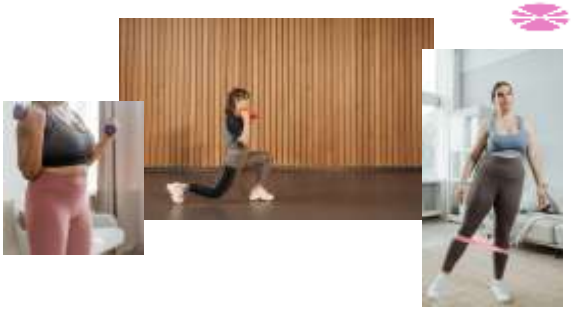

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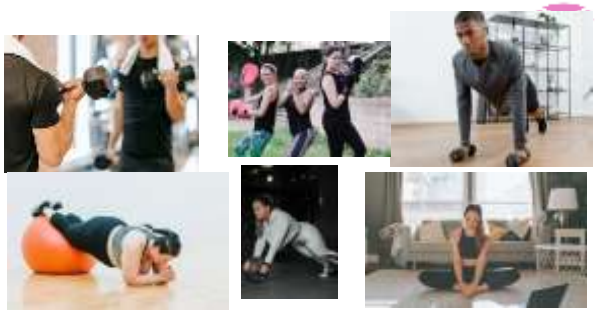

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Higher quality: studies	**Outcomes:** clinical outcomes heterogeneous, different instruments of measure
More research needed	
Sample size: homogeneous **Comparisons: clinical situations (postpartum)** **ET best protocol? Answer?**	**Follow-up period**: Absence, short

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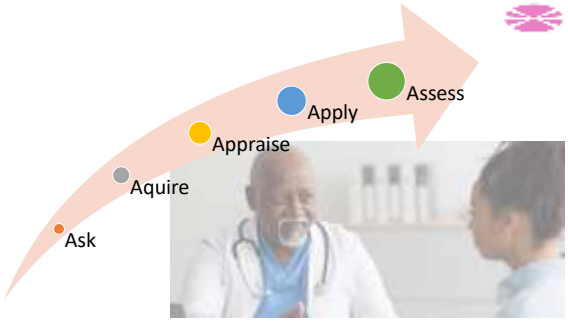

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CONCLUSIONS

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- **ET: effective PF dysfunctions*/ clinical situations**
- Exercise dose: assessment
- Exercise modality: external charge (strength training)
- **Most investigated ET techniques:** pelvic floor muscle training, abdominal specific exercise
- **Outcomes and measure instruments**: heterogeneous. QOL, PERFECT scale, Pad test, ICIQ-SF

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