

Start	End	Topic	Speakers
16:00	16:05	Welcome and presentation	Siv Morkved
16:05	16:25	Changes in the pelvic floor muscles related to pregnancy and delivery	John DeLancey
16:25	16:45	Evidence for pelvic floor muscle exercise during pregnancy and after childbirth and after childbirth	Siv Morkved
16:45	16:55	The impact of Physiotherapeutic interventions during labor on perineal trauma	Cristine Homsí Jorge
16:55	17:15	Practical mini-exercise class for pre- and postpartum women	Kari Bø
17:15	17:30	Discussion	Siv Morkved Cristine Homsí Jorge John DeLancey Kari Bø

Description

Background information:

Pregnancy and childbirth are known risk factors for weakening and causing injury to the perineum and the pelvic floor. Urinary incontinence is the most prevalent symptom of pelvic floor dysfunction, with prevalence rates varying between 32 and 64%. The evidence for pelvic floor muscle exercises to prevent and treat urinary incontinence in pregnancy and after delivery has been described in several systematic reviews, ICI publications and Cochrane reviews during the last 25 years, and some are recently updated. The reviews report inconsistent results. This may be due to the use of different inclusion criteria of studies and different criteria to classify studies as either aiming at prevention (including only women without urinary incontinence) or treatment (including only women with urinary incontinence) or both. Some authors do not separate between if the intervention is given during pregnancy or after delivery. Another important factor to acknowledge is the wide variety of interventions used. There seems to be little attention towards dose-response issues in some of the exercise protocols, and also to adherence to the exercise protocol among the participants in the intervention group. In addition, new studies have been published during the last couple of years, which add to the knowledge base. It is important that researchers and clinicians are made aware of research updates and discuss potential consequences of the results for clinical practice.

Based on results from studies with relevant sample size, high adherence to a strength training protocol and close follow-up, peripartum pelvic floor muscle exercises can prevent and treat urinary incontinence, and have no adverse effects. The most optimal dosage for effective pelvic floor muscle exercises is still not known. However, due to results from several randomized controlled trials, a training protocol following general strength training principles, emphasizing close to maximum contractions and at least an 8-week training period can be recommended.

This workshop includes an update on pelvic floor anatomy and changes in the pelvic floor during pregnancy and after delivery, evidence for the use of pelvic floor muscle training in prevention and treatment of urinary incontinence during pregnancy and after childbirth, and strategies to improve adherence and implementation of pelvic floor muscle exercises. In addition, the participants will attend a mini exercise class addressing prevention of urinary incontinence in pregnancy and after delivery. Thus the participants will have a practical example of how such classes can be organized.

Key learning points:

- To update clinicians on the evidence for pelvic floor muscle exercises to prevent and treat urinary incontinence in pregnancy and after delivery.
- To highlight changes such evidence may mean for clinical practice.
- To provide examples and stimulate discussions on how the latest evidence can be implemented in clinical practice.

Take home messages:

Health care workers should inform and encourage pregnant women and new mothers to perform pelvic floor muscle exercises to prevent and treat urinary incontinence during pregnancy and after delivery. Evidence-based practice of pelvic floor muscle exercises during pregnancy and after delivery implies using programs from high-quality randomized controlled trials showing clinically relevant and statistically significant results.

References:

Cardozo, Rovner E, Wagg A, Wein A, Abrams P. (Eds). Incontinence, 7th Edition (2023). Ch 8 Conservative Management of UI and POP in adults. Pelvic floor muscle training in prevention and treatment in pregnant and postnatal women. ICI-ICS. International Continence Society, Bristol UK, ISBN:978-0-9569607-4-0.

Woodley SJ, Lawrenson P, Boyle R, Cody JD, Mørkved S, Kernohan A, Hay-Smith EJC. Pelvic floor muscle training for prevention and treatment of urinary and faecal incontinence in antenatal and postnatal women. Cochrane Database Syst Rev. 2020 May 6;5(5):CD007471

Physical Activity and Exercise During Pregnancy and the Postpartum Period. ACOG Committee Opinion Summary, Number 804 Obstetrics & Gynecology 135(4):p 991-993, April 2020. | DOI: 10.1097/AOG.0000000000003773

Aims of Workshop

The aim of this workshop is to improve the health care for women during pregnancy and after delivery, by facilitating implementation of evidence based practice. The workshop includes a practical exercise session, an update on pelvic floor anatomy and possible birth injuries, evidence for the use of pelvic floor muscle exercises (PFME) in prevention and treatment of urinary incontinence during pregnancy and after childbirth, and strategies to improve adherence and implementation of PFME. At the conclusion of this workshop, the participants will know the rationale and evidence behind the use of PFME in pre and postnatal care, and how they can plan and implement an exercise program in clinical practice.

Educational Objectives

The participants will be presented the latest evidence on the conservative management of urinary incontinence in pregnancy and after delivery. In addition, they will participate in a mini-exercise session.

The participants will engage and interact with the faculty by questions, discussions and during the practical session.

This workshop aims to present and discuss the existing knowledge on consequences of birth injuries, possible preventive and treatment strategies, and to facilitate implementation of evidence based practice.

After attending the workshop the participants should be able to apply the latest evidence when treating patients, through a raised awareness of how to use pelvic floor muscle exercises as prevention and treatment for urinary incontinence, use adherence strategies to encourage women to follow the exercise protocol and also be aware of patient preferences and goals.

Learning Objectives

1. Changes in the pelvic floor muscles related to pregnancy and delivery
2. The rationale and evidence behind the use of pelvic floor muscle exercises in the prevention and treatment of urinary incontinence during pregnancy and after delivery
3. An example of the content of an exercise class used during pregnancy and after delivery, and participation in an exercise class.

Target Audience

Conservative Management

Advanced/Basic

Basic

Suggested Learning before Workshop Attendance

Bø K, Berghmans B, Mørkved S, Van Kampen M. (Eds). Evidence-based Physical Therapy for the Pelvic Floor. Bridging Science and Clinical Practice. 3rd Edition 2023 Elsevier. ISBN 9780702083082.

Pregnancy and postpartum pelvic floor muscle exercise in prevention of urinary incontinence

**The 6th International Continence Society Annual Meeting,
Madrid, October 23rd to 25th, 2024**

Siv Mørkved, PT, MSc, PhD

Professor

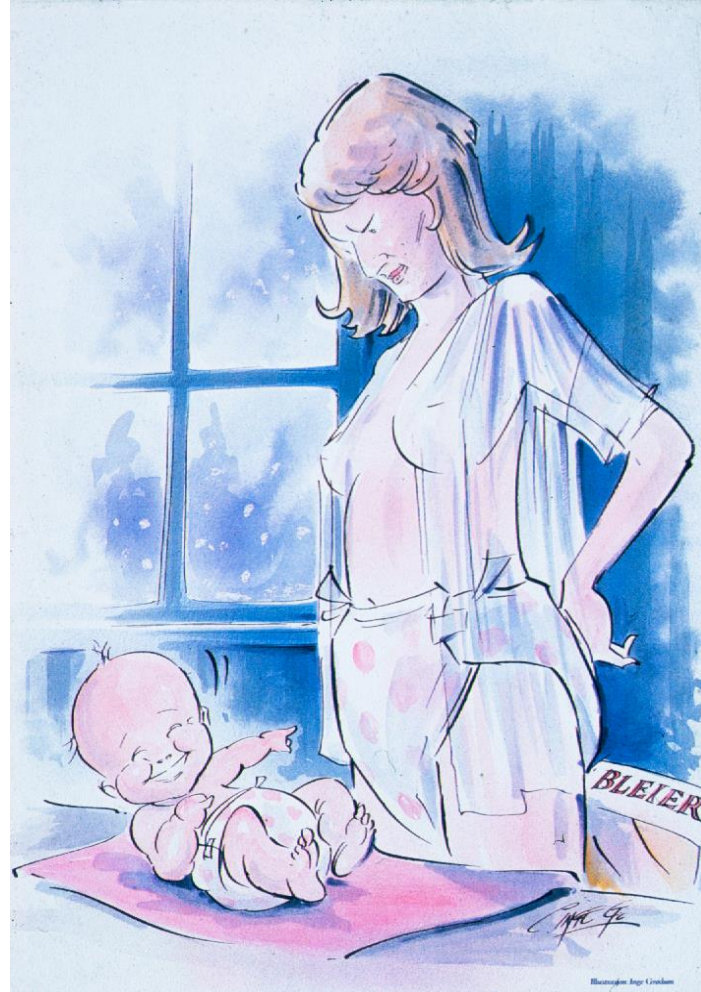
*Department of Public Health and Nursing, Norwegian University of
Science and Technology, Trondheim, Norway*

Aims of the presentation

- Pelvic floor muscle exercise (PFME) – WHY and HOW?
- Literature review
 - Evidence behind the use of
 - pelvic floor muscle exercise during pregnancy and after delivery in prevention and treatment of urinary incontinence
- Example of an evidence based training protocol
 - Results

WHY?

- There is evidence that child-bearing may cause damage to the pelvic floor and higher risk of incontinence



Can we prevent dysfunction of the PFM?

- Elective Caesarean section ?

- Obstetric management ?



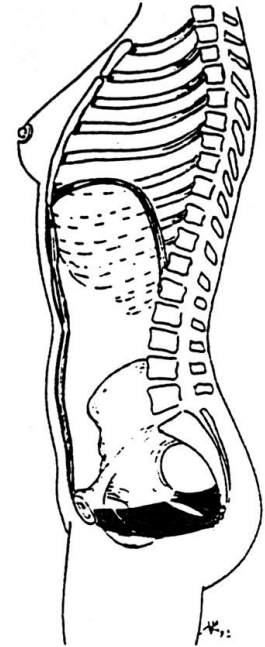
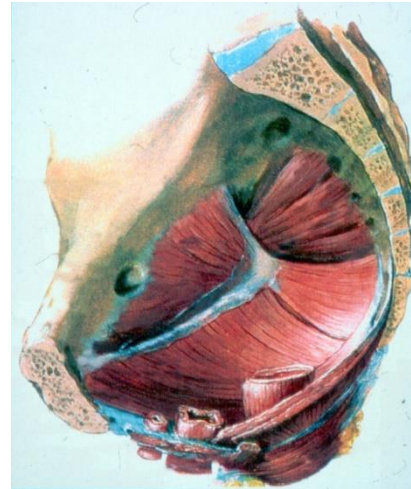
**Need for strategies to treat and rehabilitate
pelvic floor damage**



- **Pelvic floor muscle training**

Functional anatomy of the PFM

- Pelvic organ support
- Continence mechanism
- Strong and fast contraction
- “Squeeze and lift”



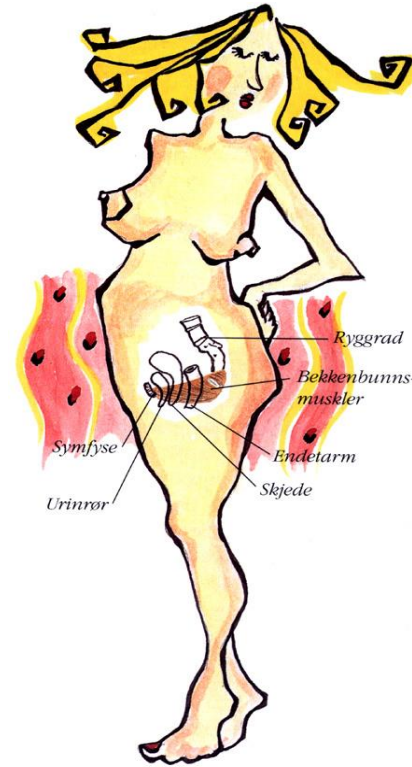
Strong biological rationale for PFMT for SUI and POP

- During voluntary contraction
 - Constriction of levator hiatus
 - Increase in \uparrow MUCP: 11.1 (10.7)-23.2 (8.4) cm H₂O (Miller et al -04, Bø & Talseth -97)
 - Resistance to \downarrow movement (Peschers -01)
- «The Knack»
 - \downarrow urine loss due to medium/deep cough by mean 98% and 73% (Miller et al -04)

Rationale for PFME

- Learn to consciously contract before and during an increase in abdominal pressure and continue to perform such contractions as a behaviour modification to prevent descent to the pelvic floor
- Perform strength training over time to build up «stiffness» and structural support of the pelvic floor

Does pelvic floor muscle exercise during pregnancy and after delivery prevent or treat urinary incontinence?



Recent reviews

- An updated Cochrane review was published in 2020, analysing data from 46 randomised or quasi randomised involving 10.832 women from 21 countries (*Woodely et al, 2020*)
- Evidence-Based Physical Therapy for the Pelvic Floor. Bridging Science and Clinical Practice. 3rd Edition - November 16, 2023
Bø K, Berghmans B, Mørkved S, VanKampen M
- Incontinence 7th Edition (2023). Cardozo, L, Rovner, E, Wagg, A, Wein, A, Abrams, P. (Eds) ICI-ICS. International Continence Society, Bristol UK, ISBN: 978-0-9569607-4-0.

Cardozo, L, Rovner, E, Wagg, A, Wein, A, Abrams, P. (Eds) Incontinence 7th Edition (2023). ICI-ICS. International Continence Society, Bristol UK, ISBN: 978-0-9569607-4-0.

Chapter 8. Conservative Management of UI and POP in Adults, including neurological patients.

Prevention and treatment in pregnant and postnatal women (Siv Mørkved)

8 new trials since ICI 2017

- The primary outcome of interest was self-reported UI (cure, improvement, number of leakage episodes)
- Other outcomes of interest included adherence measures

Is PFMT effective in the prevention of UI in childbearing women? (10 trials)

Level of Evidence: 1

- Offer continent, pregnant women a supervised (including regular health professional contact) and intensive strengthening antepartum PFMT programme to prevent antepartum and postpartum UI
 - **Grade of Recommendation: A**

Is PFMT effective in the treatment of UI in childbearing women? (4 trials)

Level of Evidence: 1

- PFMT should be offered as first line conservative therapy to women with persistent UI symptoms three months after delivery
 - **Grade of Recommendation: A**
- An ‘intensive’ PFMT programme (in terms of supervision and exercise content) is likely to increase the treatment effect
 - **Grade of Recommendation: B**

Is PFMT effective in the mixed prevention and treatment of UI in childbearing women?

Level of Evidence: 2

- The characteristics of trials demonstrating reduced UI prevalence in late pregnancy and six months postpartum are high adherence to a supervised PFM strength training program and home exercises.
 - **Grade of Recommendation antepartum PFMT: A**
 - **Grade of Recommendation postpartum PFMT: B**

Is PFMT effective in the mixed prevention and treatment of UI in childbearing women?

- Where a population approach is used, the ‘best’ evidence to date suggests the following:
 - an intervention comprising of a daily home PFMT and weekly physiotherapist-led exercise classes for 12 weeks, starting at 16-24 weeks’ gestation for pregnant women
 - an individually taught strengthening PFMT programme that incorporates adherence strategies for postpartum women who have had a forceps delivery or a vaginal delivery of a large baby (4000g or more)
 - **Grade of Recommendation C**

Discussion

- Intervention
 - contrast between training and control group
 - **training frequency and intensity**
 - follow up - adherence

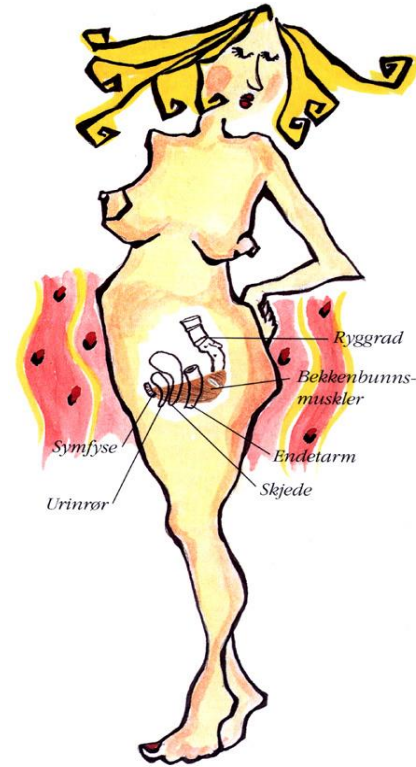
Success???

- Intervention
 - training frequency and intensity
 - follow up - adherence

- THE MORE INTENSIVE THE PROGRAMME THE GREATER THE TREATMENT EFFECT
(Cochrane Review: Hay-Smith et al 2008; Mørkved & Bø, 2014)

Additional PFMT is more effective than usual antenatal or postnatal care for the prevention and treatment of urinary incontinence

*ICI 2023
Cochrane review
Woodely et al, 2020*



HOW?

Physical examination – included examination of other relevant muscles

- To verify and support the patient profile gained from the patient`s history
- To understand the functionality of the pelvic floor
- Digital palpation
 - One finger used for palpation
 - Standardised verbal instruction
 - Palpation during relaxation and contraction of PFM

Modified Oxford grade

(grading of muscle contraction)

- 0 = nil contraction
- 1 = a flicker contraction
- 2 = a weak contraction
- 3 = a moderate contraction
- 4 = a good contraction
- 5 = a strong contraction

Additional tests

- Emg
- Pressure measurement
 - Vaginal pressure measurement cm H₂O
 - probe position
 - observation of inward movement
 - observation of activity in other muscles
- Imaging
 - Ultrasound
 - *MRI*
 - *Fluoroscopy, video-urodynamics*
- Neurophysiological tests

Clinical recommendations

- Teach the patient about the PFM and lower urinary tract function.
- Explain correct PFM contraction. Allow the patient to practice before checking ability to contract and assessing PFM contraction.
- When able to contract, set up an individual home training programme: Build up to three sets of 10 close to maximum contractions per day. Supply the patient with an exercise diary or biofeedback with computerized adherence registration.
- If the patient is unable to contract, try manual techniques such as touch, tapping, massage and fast stretch or electrical stimulation.
- Follow-up with weekly or more often supervised training, individually or in groups.
- Follow development in PFM function closely, using responsive, reliable and valid assessment tools.
- In addition to the strength training, ask the patient to precontract and hold the contraction before and during coughing, laughing, sneezing and lifting.

Take home message

- Pelvic floor muscle exercises: Easily accessible and effective low-threshold treatment / no adverse effects
- To improve clinical management the interventions used should be based on high level evidence
- **PFMT should be offered as prevention and first-line treatment**
- **Multidisciplinary teams**

An example of a training protocol

(Obstet Gynecol. 2003 Feb;101(2):313-9.)

Important !!

Intervention based on knowledge about:

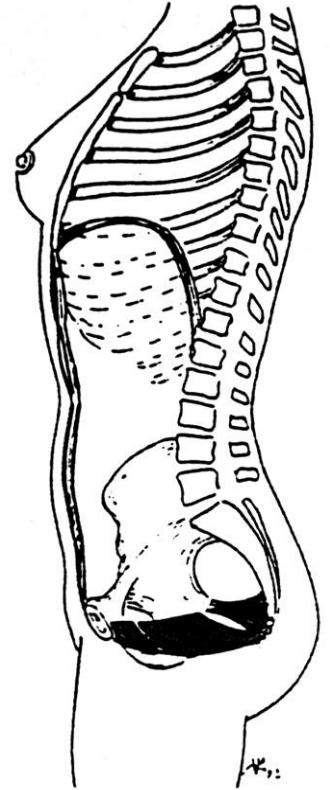
- Functional anatomy
- Motor learning principles
- Training principles
- Motivation theory (adherence strategy)



Functional anatomy

- the PFM a continence mechanism

- Pelvic support
- Strong and fast contraction
- “Squeeze and lift”





Motor learning principles

Instructions

in correct

PFM contraction



Training principles



General recommendation:

- 3 sets of 8-12 high resistant contractions three times per week
- Rehabilitation situations – overload not possible – more frequent training sessions

Pelvic floor muscle training in different positions

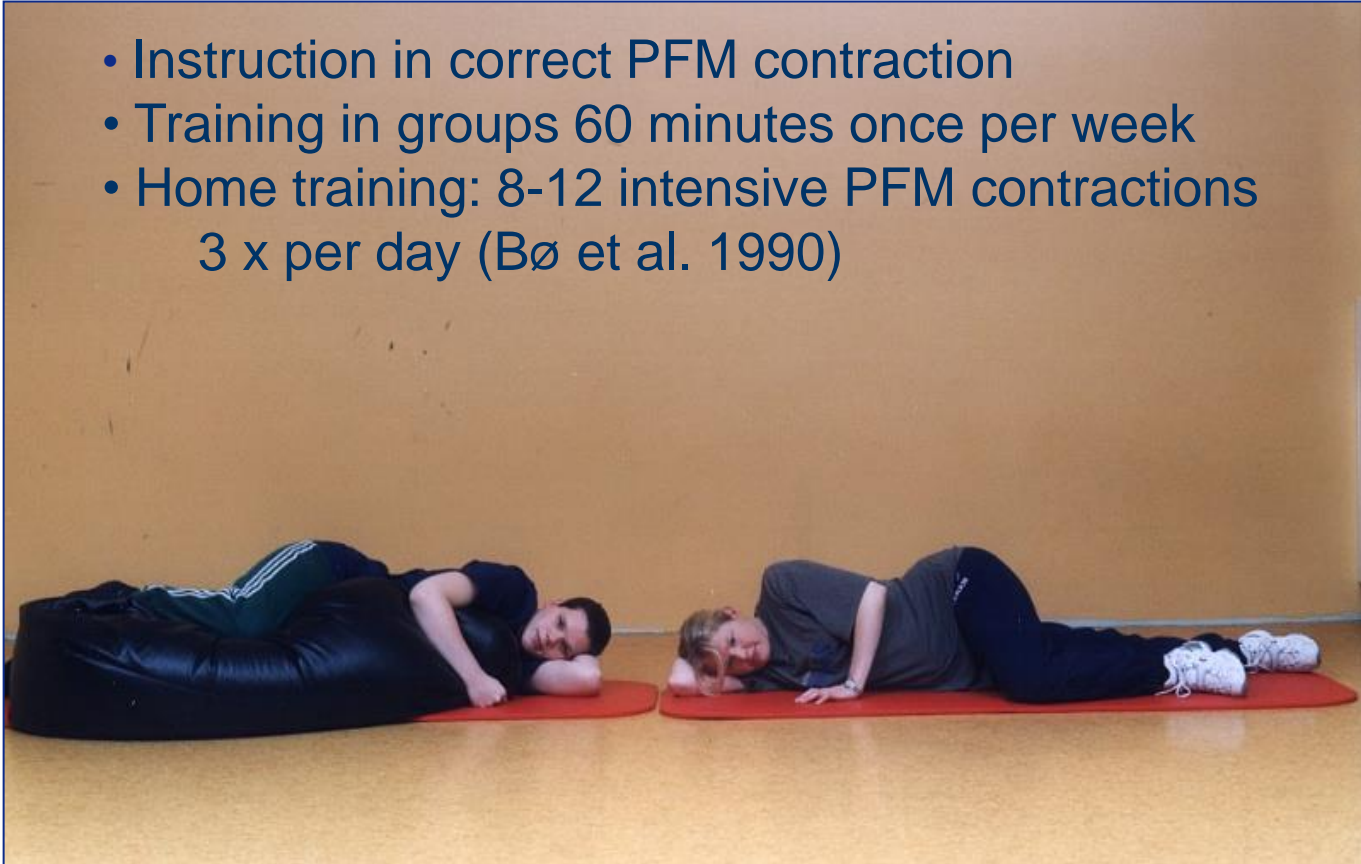


Motivation (adherence strategies)



Summary: Intervention (12 weeks)

- Instruction in correct PFM contraction
- Training in groups 60 minutes once per week
- Home training: 8-12 intensive PFM contractions
3 x per day (Bø et al. 1990)



Conclusion (Obstet Gynecol. 2003 Feb;101(2):313-9.)

A specially designed PFM exercise course during pregnancy is effective in the prevention and treatment of urinary incontinence during pregnancy and after delivery





Secondary aim:

To study any
effect
of pelvic floor
muscle training
during
pregnancy on
labour

(Salvesen & Mørkved
BMJ 2004;329:378-80)

The myth that pelvic floor muscle training during pregnancy will cause prolonged labour was not confirmed in this trial

Salvesen & Mørkved. BMJ 2004

Salvesen, Stafne, Eggebø, Mørkved. Acta Obstet Gynecol Scand. 2014

Du et al. The effect of antenatal pelvic floor muscle training on labor and delivery outcomes: a systematic review with meta-analysis. *Int Urogynecol J* 2015; 26:1415-27

Training in pregnancy (TRIP)

Stafne et al. BJOG. 2012 Sep;119(10):1270-80

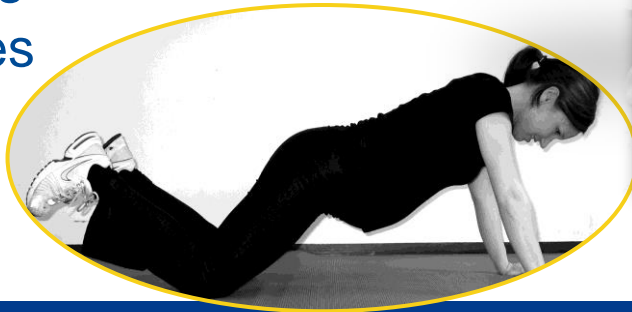


AIM:

Are pregnant women following a general exercise course including PFMT less likely to report urinary incontinence three months postpartum than a group receiving standard care?

Exercise group

- 30-35 min endurance training
- 20-25 min specific strength training
 - Arms / legs
 - Back muscles
 - Abdominal muscles
 - Pelvic floor muscles
- 10 min stretching, body awareness and relaxation



Conclusion and interpretation of results

- A 12-week regular exercise course including PFMT in second half of pregnancy prevented UI up to three months postpartum.
- Pregnant women should be advised to do PFMT to prevent UI. Thorough instructions in correct PFM contractions and a specific PFMT program should be included in exercise classes for pregnant women





BJOG

An International Journal of
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www.bjog.org



**Do pelvic floor muscle exercises reduce
postpartum anal incontinence? A randomised**



Ciências da Saúde
FACULDADE DE MEDICINA DE RIBEIRÃO PRETO - USP



THE IMPACT OF PHYSIOTHERAPEUTIC INTERVENTIONS DURING LABOUR ON PERINEAL TRAUMA



Cristine Homsí Jorge – Women's Health Physiotherapist, PhD,

Full Professor at Ribeirão Preto Medical School

University of São Paulo



What will be presented ?

What are physiotherapeutic interventions during labor ?

How much these resources are used ?

How could the use of physiotherapeutic interventions impact perineal trauma ?

What are the evidences ?

Take home message

WORLD HEALTH ORGANIZATION GUIDELINES

Pregnancy, Childbirth, Postpartum
and Newborn Care:
A guide for essential practice



“ Global agendas are expanding focus to ensure that women and their babies not only survive complications of childbirth, but also thrive and reach their full potential for health and life.”

WHO recommendations
Intrapartum care for
a positive childbirth experience



Antenatal > Childbirth (Intrapartum) > Postnatal



NON-PHARMACOLOGICAL RESOURCES FOR PAIN RELIEF DURING LABOR



Recommends
Use of non-pharmacological
resources for pain relief during
labor

<https://www.who.int/publications/i/item/9789241550215>

PREGNANCY AND CHILDBIRTH IMPACT THE PELVIC FLOOR OPPORTUNITY FOR PREVENTION



RISK FACTORS FOR SEVERE PERINEAL TRAUMA

Primiparity

Large fetal size

Vaginal instrumental delivery

Occipital posterior position

Severe perineal lacerations are associated with late incontinence and pelvic organ prolapse

The risk of severe perineal laceration increases with duration of the second stage of labor.

Simic et al. BMC Pregnancy Childbirth. 2017 Feb 21;17(1):72.



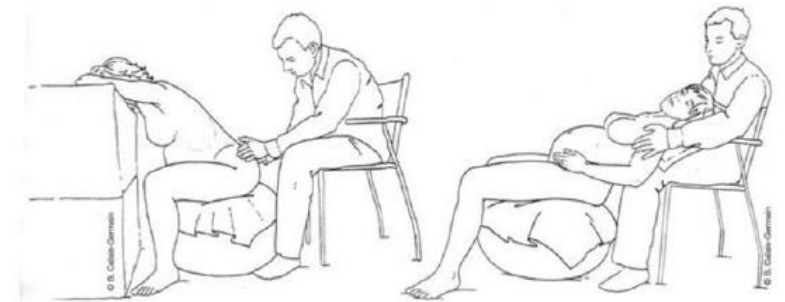
WHAT ARE NON-PHARMACOLOGICAL RESOURCES FOR PAIN RELIEF AND PROGRESSION OF LABOR ?



Position, Mobility, Exercises with
and without a Ball



Breathing techniques



Manual Therapy

Combined Protocols

Research

Use of a peanut ball, positioning and pelvic mobility in parturient women shortens labour and improves maternal satisfaction with childbirth: a randomised trial

Chalana Duarte de Sena Fraga, Rodrigo Cappato de Araújo, Layane de Sá, Ana Julia Santos Bertoldo, Ana Carolina Rodarti Pitangui

Postgraduate Program of Rehabilitation and Functional Performance, University of Pernambuco, Petrolina, Brazil

Table 2

Median (IQR) of groups and median between-group difference (95% CI) for duration of labour.

Duration of labour (<i>min</i>)	Groups		Between-group difference
	Exp (n = 50)	Con (n = 50)	Exp minus Con
Total	135 (86 to 213)	231 (164 to 334)	-89 (-132 to -45)
Active phase	110 (65 to 170)	192 (129 to 303)	-82 (-125 to -41)
Expulsive phase	23 ^a (14 to 42)	32 ^b (19 to 68)	-8 (-18 to 0)

Con = control group, Exp = experimental group.

Shaded row = primary outcome.

^a n = 48.

^b n = 42.

Table 5

Number of participants (%) for each outcome in each group and absolute between-group risk difference (95% CI) for obstetric outcomes.

Outcome	Groups		Absolute risk difference (95% CI)
	Exp (n = 50)	Con (n = 50)	Exp relative to Con
Caesarean, n (%)	2 (4)	8 (16)	-0.12 (-0.25 to 0.00)
Perineal laceration, n (%) ^a	(n = 48)	(n = 42)	
no laceration	23 (48)	17 (40)	
grade 1	8 (17)	6 (14)	-0.07 ^b (-0.27 to 0.13)
grade 2	16 (33)	19 (45)	-0.10 ^c (-0.29 to 0.10)
grade 3	1 (2)	0 (0)	
grade 4	0 (0)	0 (0)	



Figure 1. The peanut ball is an elongated, inflatable birthing ball that has a narrower circumference in the middle portion than on either side (A). The peanut ball can be used in different positions (B) and (C). See Appendix 1 on the eAddenda for the full range of positions used in the experimental protocol.

Applying a physiotherapy protocol to women during the active phase of labor improves obstetrical outcomes: a randomized clinical trial

Licia Santos Santana, XX; Rubneide Barreto Silva Gallo, XX; Silvana Maria Quintana, XX; Geraldo Duarte, XX; Cristine Homsj Jorge, XX; Alessandra Cristina Marcolin, XX



FIGURE 1
Flow of participants throughout the study

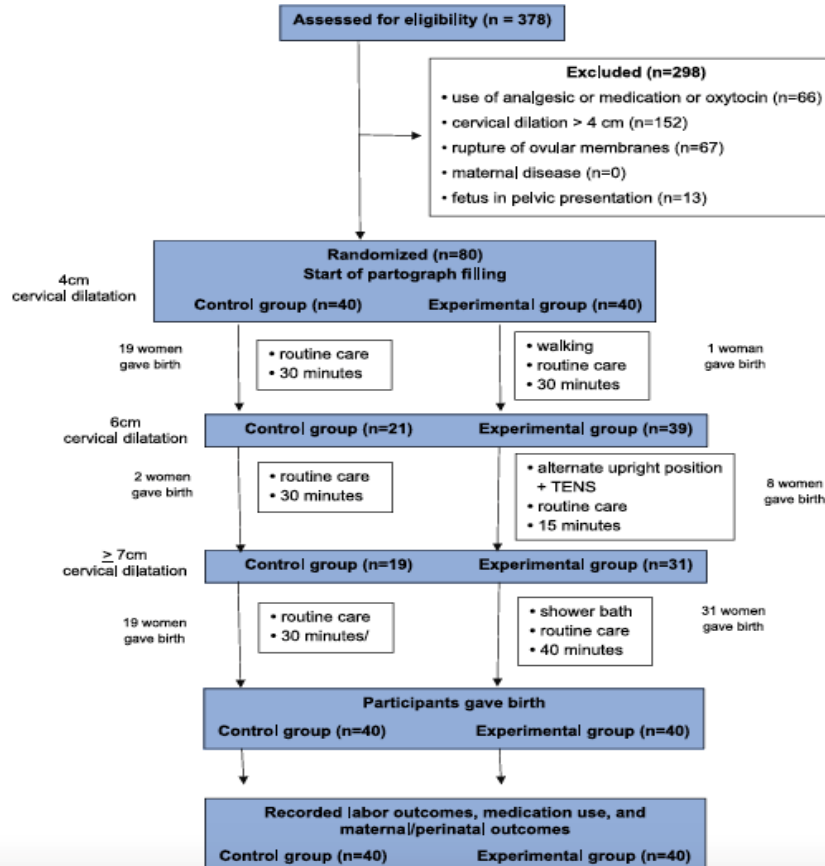


TABLE 2
Obstetrical and neonatal outcomes of the participants in the control and experimental groups

Outcomes	Groups		Effect ^{a,b} or <i>P</i> value ^c
	Control (n=40)	Experimental (n=40)	
GA at birth (wk), mean (±SD)	39.2 (±1.34)	39.6 (±1.33)	-0.42 (-1.02 to 0.17) ^a
Need of oxytocin, n (%)	32 (80)	25 (62.5)	1.280 (0.96–1.70) ^b
Pharmacologic analgesia, n (%)	37 (92.5)	35 (87.5)	1.057 (0.91–1.22) ^b
CD at which analgesia was requested (cm), median (IQR) ^c	5 (4–10)	8 (5–10)	<.0001
Additional doses of analgesics, n (%) ^d	30 (81.0)	17 (48.5)	1.669 (1.15–2.42) ^b
Length of active phase of labor (min), mean (±SD) ^c	444 (±188)	373 (±134)	70.8 (-2.22 to 144.00) ^a
Expulsive period (min), median (IQR) ^c	26.0 (7–135)	18.5 (5–140)	.1674
CD at which rupture of membranes occurred (cm), median (IQR) ^c	7 (5–10)	8 (6–10)	.0033
Dystocia, n (%)	34 (85)	26 (65)	1.308 (1.02–1.69) ^b
Cesarean delivery, n (%)	10 (25)	6 (15)	1.308 (0.67–4.15) ^b
Fetal compromise, n (%)	2 (5.0)	1 (2.5)	2.00 (0.18–21.1) ^b
Newborn weight (kg), mean (±SD)	3.14 (±0.37)	3.17 (±0.38)	-0.03 (0.20–0.13) ^a
Newborn length (cm), mean (±SD)	49 (±1.84)	49 (±1.76)	-0.11 (-0.91 to 0.69) ^a
Cephalic perimeter (cm), mean (±SD)	33 (±1.50)	34 (±1.41)	0.65 (-1.290 to -0.002) ^a
Thoracic perimeter (cm), mean (±SD)	32 (±1.55)	32 (±1.56)	-0.36 (-1.05 to 0.32) ^a
Apgar score, n (%)			
>7 at 1 min	31 (77.5)	30 (75.0)	1.03 (0.80–1.32) ^b
>7 at 5 min	40 (100.0)	40 (100.0)	NA
Meconium in the amniotic fluid, n (%)	8 (20.0)	13 (32.5)	0.61 (0.28–1.32) ^b
Postpartum complication, n (%)			
Hemorrhage	2 (5)	0 (0)	NA

CD, cervical dilation; CI, confidence interval; GA, gestational age; IQR, interquartile range; NA, not applicable (n=zero or 100%); SD, standard deviation.

^a Mean between-group difference (95% CI); ^b Relative risk (95% CI); ^c Mann-Whitney *U* test; ^d Only among women who had analgesia. Santana. Physical therapy during labor and obstetrical outcomes. *Am J Obstet Gynecol Glob Rep* 2022.



Full length article

Vocalization during the second stage of labor to prevent perineal trauma: A randomized controlled trial

Joana Nunes Neta^a, Melania Maria Amorim^a, Julianna Guendler^a, Alexandre Delgado^a,
 Andréa Lemos^b, Leila Katz^{a,*}

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^b Post-Graduate Program of Physical Therapy, Universidade Federal de Pernambuco (UFPE), Recife, Pernambuco, Brazil

First stage of labor
1. The researcher (a physical therapist) approached any woman admitted in labor
2. The researcher explained the vocalization technique and its possible benefits
3. The researcher demonstrated the technique in form of exhaled /sung voice in deep tones using A, O and U vowels, one vowel at a time, for at least 30 seconds, so that the woman could see and hear
4. The researcher and the woman repeated the technique, one vowel at a time, for at least 30 seconds, together with the women at the same time, (3 to 5 times), with each vowel, in the absence of uterine contractions
5. The researcher and the woman repeated the technique at the same time during uterine contractions
Second stage of labor
1. At the beginning of the second stage the researcher reviewed the vocalization technique with the woman
2. The researcher encouraged the woman to use the vocalization technique each time that she felt the urge to push, during each contraction of the second stage up to delivery of the baby

Table 3

Perineal results, duration of second stage and repair of lacerations.

Outcome variables	Group A (n = 19)	Group B (n = 17)	RR	95 %CI	p
Perineal tear (n/%)	14 (73.7)	15 (88.2)	0.8	0.60–1.14	0.27
Second- or third-degree perineal tear (n, %)	5 (25)	11 (55)	0.45	0.19–1.07	0.052
Posterior location (n/%)	9 (45)	8 (40)	1.12	0.54–2.31	0.74
Size of tear in cm using	2.1 (1.16)	3.2 (1.65)	–	–	0.058
Frequency of tears ≥ 2 cm#	3 (21.4)	10 (66.7)	0.32	0.11–0.93	0.0018**
Duration of second stage in minutes (mean, SD)	51 (38)	41 (22)	–	–	0.54*
Number of suture packets (mean, IQR)	1(1–1)	1(1–2)	–	–	0.2
Need for repair of perineal tear (n/%)***	10 (71.4)	13 (86.7)	0.82	0.56–1.21	0.29**

Group A – experimental group.

Group B – control group.

SD – standard deviation.

IQR – interquartile range.

RR – relative risk.

CI – confidence interval.

cm = centimeters.

*Mann-Whitney.

** Fisher's Exact test.

*** Total of 29 women with tears, 14 in group A and 15 in group B.

Number needed to treat = 2.2 (number of women needed to avoid a laceration >2 cm).

BREATHING EXERCISES

Effectiveness of breathing exercise on the duration of labour: A systematic review and meta-analysis

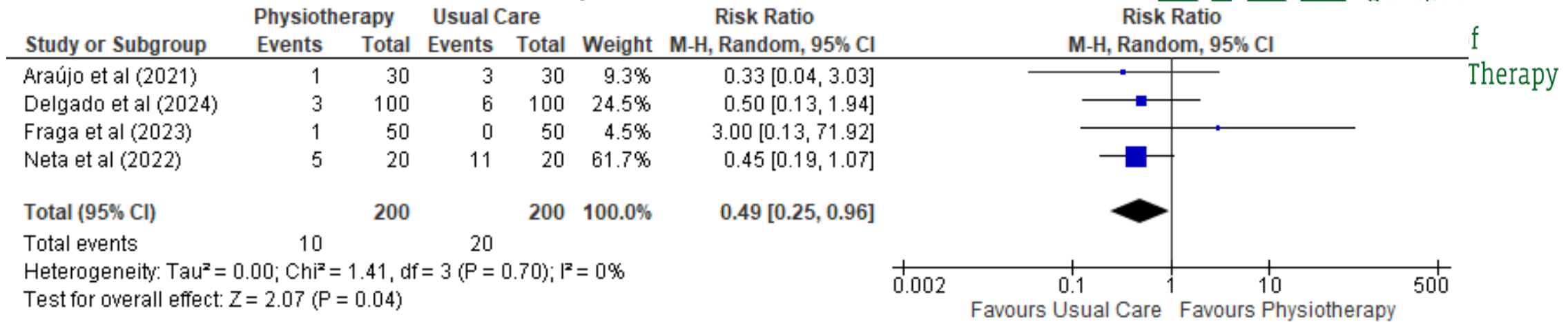
1418 participants;
Intervention group: breathing exercises (deep inhalation and exhalation)
Control group: standard care;
Results: Breathing exercise shortened the duration of the second stage of labor SMD = -0.38 (CI 95% = -0.56, -0.20), $P < 0.0001$;

Participants who practiced breathing exercises had 1.54 times more chances of having vaginal delivery as compared to the control group RR = 1.54 (95% CI = 0.62-3.82).



PHYSICAL THERAPY ASSISTENCE DURING LABOR: A SYSTEMATIC REVIEW AND META-ANALYSIS

Delgado A *et al.* (2024)



Perineal lacerations (third or fourth degree)

- Physiotherapeutic interventions reduced the risk of third and fourth-degree perineal laceration by 51% when compared to usual care (RR 0.45; 95% CI 0.25 to 1.07, four studies, 400 women, I² 0%; T² 0.00; p= 0.70), high certainty of evidence.

Take home message

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Non-pharmacological resources are highly recommended during labor

Physiotherapy interventions using combined resources promote pain relief and reduction of labor duration .

Physiotherapy interventions have the potential to impact perineal trauma .

The access of the population to these resources is unknown

New high quality research is urgently needed in this field

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Thanks for your attention!
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