16TH PHYSIOTHERAPY ROUND TABLE

WORKSHOP n.1

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EFFECTIVE, CLINICALLY FEASIBLE AND SUSTAINABLE CARE INTERVENTIONS TO PROMOTE PELVIC FLOOR REHABILITATION

INTRODUCTION

Pelvic Floor Dysfunction (PFD) is common and results in high economic costs, medical and psychological morbidity. Moreover, incontinence is associated with a 2-fold increased risk of nursing home admissions (Subak 2017), significant limits on daily functioning, and can affect the quality of life in different ways (Thom 1997, Coyne 2012).

Treatment of any medical condition is a balance between efficacy, adverse events, and cost; few studies have examined which treatment strategy is the most cost-effective for PFD (Von Bargen 2015). However, it is widely accepted that pelvic floor muscle training (PFMT) is effective in treating patients with various PFD but only about 20%-30% of affected persons seek care (Koch 2006); one of the leading causes might be, besides embarrassment and lack of time, lack of knowledge about conservative therapies or the thought that's a normal part of aging (Margalith 2004). Furthermore, PFD care is also associated with high costs for health care and society (NICE 2013) and the economic costs of incontinence absorbing material, diagnostic tests, physiotherapy, surgical procedures and work loss have been shown to be substantial. Only for female urinary incontinence, in 2000, the direct and indirect costs were $19.0 billion and $0.5 billion in the USA, respectively (Hu 2004). In Europe, direct annual medical costs of urinary incontinence per inhabitant (€ 71) are similar to those of coronary heart disease (€ 78) (RIVM 2013).

The first line of PFD treatment (urinary and fecal incontinence) is PFMT, which leads to improvement in about 65% of those affected (Shamliyan 2012). There is strong evidence that behavioural programs are more expensive than usual care. The more intensive programs cost approximately $150 to $344 (2015 USD). However, it remains unclear if behavioural programs provide value in part because there is heterogeneous adherence to these treatments (Wagner 2017). Adherence to an exercise program is key to its effectiveness (Shu-Yueh 2009) and that poor adherence results in a decline in effectiveness in the longer term (Bø 1996). Efforts to promote awareness about incontinence and its treatment can be enhanced by adopting evidence-based theories. Despite PFMT having Level 1 evidence of effect, albeit patient-adherence dependent, there has been little research in the area of health behaviour theories/models or behaviour change techniques and PFMT adherence. Data on PFMT feasibility and sustainability are scant: access and availability to services, laws, models of delivery, procedures and individual practice are different in National Health Systems and vary widely within and across the disciplines. Moreover, time restrictions, mixed professional attitudes, lack of standardisation and low investment priority were identified as major barriers to optimal service provision (Davis 2010); finally, there are limited studies that have researched the economics of the treatment of UI, and their results are controversial (Imamura 2015, Von Bargen 2015), as a result of difficulty in modelling the cost-effectiveness of PFMT due to inconsistency between treatment regimens. PFMT is believed to be more expensive (especially if biofeedback equipment is used) than surgery options in United States, where patient expectations are also different as compared to Europe, with more patients expecting a quicker result and where the healthcare system is built more toward faster even if more invasive solutions as compared to the European health system (Lamin 2016).

Nevertheless, no side effects from long-term PFMT have been reported (Bø 2013) and five studies stated that the initial success rate was maintained at follow-up at 1 - 8 years (Klarskov 1991,

Dougherty 1993, Lagro-Janssen 1998, Alewijnse 2003, Parkkinen 2004).

STRATEGIES TO IMPROVE PFMT EFFECTIVENESS
KEY FEATURES/CLINICAL RECOMMENDATIONS

- Targeting and tailoring therapies to individuals' needs (patients-centered care).
- Stakeholder acceptability. The intervention must also be acceptable to both patients and clinicians.
- Evidence-based content. Interventions should be based on the best available evidence.

RESEARCH DIRECTIONS

- Study designs and data collection methods should maximize the assessment of patient-reported outcomes (PRO) data
- Cluster randomized trials should be used
- Sample size calculation and choice of outcome measures before conducting the trial are strongly recommended
- Future trials must be designed with longer term follow up
- Increase research into effective long-term PFMT-adherence facilitators, investigating the use of technology (Sjöström 2013) and relevant behavior change theories/models (McClurg 2015)

STRATEGIES TO IMPROVE FEASIBILITY (ACCESSIBILITY, AVAILABILITY, USABILITY)
KEY FEATURES/CLINICAL RECOMMENDATIONS

- Maximise the availability of treatments
  - *in some health systems, PFMT techniques might be "new" or relatively new and are not yet available for general use*
  - *the public health system does not allocate funds to provide therapies where and when needed*
  - *only a few specialists are skilled in PFMT*
- Low-intensity intervention as a first-line treatment followed by more intensive options for non-responders.
- Long-term adherence may be best achieved through follow-up appointments and a re-assessment of factors impeding impíding progress
- Develop accurate á-curet and sufficient patient "knowledge" through judicious selection of content and delivery of information
- Teach skills and develop devé-lop patient confidence in correct performance.
- Detect and break down barriers to access to treatments
  - *financial barriers*
  - *organizational barriers - such as poor administration of treatment services and lack of skilled staff*
  - *physical barriers - such as treatment facilities being distant and transport not being available (NEUROGENIC DYSFUNCTION)*
  - *social barriers - such as stigma being associated with treatment and people being concerned about confidentiality*
- Improve health care providers' knowledge about pelvic floor dysfunction, and training concerning treatments

RESEARCH DIRECTIONS:

- investigate why women frequently don't seek care for pelvic floor dysfunction
  - *the belief that UI is a normal result of aging*
  - *perceptions regarding surgery as a treatment for UI*
  - *embarrassment*
- Investigate whether PFMT adherence mediates pelvic floor dysfunction outcomes.
- Investigate why health care providers are not aware of the low rates of women seeking help
- Raise clinicians' awareness of the importance of behavior change strategies in PFMT, including patient information, goal settings and technique efficacy

STRATEGIES TO IMPROVE SUSTAINABILITY
KEY FEATURES/CLINICAL RECOMMENDATIONS

- Maximise self-management of such a chronic disease, including activities undertaken by the

patient to manage their disease or side effects (Bodenheimer 2002, Lorig 2003):
  - *defining the problem and generating possible solutions;*
  - *making an informed decision based on sufficient and appropriate information*
  - *improving internal motivation.*
- Barriers to long-term PFMT adherence must be identified
  - *patient's perception of minimal benefit of the therapy*
  - *poor identification with pelvic anatomy*
  - *poor understanding of the condition*
- Improve healthcare providers knowledge about long-term effectiveness both in cure and prevention of pelvic floor dysfunction

RESEARCH DIRECTIONS:

- future trials must be designed with longer term follow up, with evaluation of surgery rates compared with early surgery effectiveness
- research about an alternative approach to the problem, looking for new, simple, and easily accessible treatments

FROM THEORY TO PRACTICE

Pelvic floor rehabilitation is an effective therapy for female urinary incontinence, and it also showed to be effective in the treatment of pelvic organ prolapse symptoms. Biofeedback therapy and pelvic floor exercises have also been successfully used in the treatment of anal incontinence. Literature about male urinary incontinence has been centered on post-prostatectomy incontinence, demonstrating that pelvic floor treatment can have a role in fastening recovery of continence. During pregnancy and in the postpartum period, pelvic floor treatment has shown to play an important role both in the prevention and treatment of urinary incontinence. So we can conclude that pelvic floor muscle treatment is effective in many pelvic floor dysfunctions when we consider cure and/or reduction of symptoms. Scientific literature supports the use of rehabilitation for pelvic floor dysfunctions, but many other questions other than efficacy remain with less satisfying answers.

When we change our point of view, shifting from the clinical to a health policy one, questions become different: how can we optimize the management of the problem?

The approach to the patient can vary from a simple counseling to a group or an individually tailored treatment, and the number of therapy sessions is variable. What type of approach is better to optimize the use of healthcare professionals resources and obtaining the better results?

Rehabilitation has minimal contra-indications and collateral effects, theoretically, it can be applied to everybody to prevent or treat pelvic floor dysfunctions. The costs are low, but they became very high if we think of the great population that could have access to it.

National Health System has limited resources, and it is imperative to use them in the better way: for the patients who need more, who benefit more and for the most cost-effective treatment.

To deepen this theme, we can take as examples two populations:

- postpartum women
- post-prostatectomy men

These populations share some characteristics:

- large numbers
- high incidence of pelvic dysfunctions
- decreasing prevalence during the following months

1- POSTPARTUM PELVIC DYSFUNCTIONS

Pelvic floor muscle treatment (PFMT) has shown to be effective in the treatment of urinary incontinence (Grade of recommendation A), and a rehabilitative approach is also proposed for treatment of POP, anal incontinence, pain and dyspareunia. Literature other than on urinary incontinence is less rich; nevertheless, there is evidence that PFMT can improve POP symptoms and severity (Grade of recommendation A) and it is also recommended in the treatment of fecal incontinence as a part of a conservative management (grade B). A recent RCT (Johannessenn 2017) showed that post partum anal incontinence could benefit from PFMT

Strategies to deliver PFMT to women during pregnancy and in the postpartum period can vary widely: from providing PFMT to all women, either symptomatic or not (preventive approach) to providing it exclusively to symptomatic women as a specific treatment measure.

The first hypothesis is clearly not feasible while considering cost-benefit and sustainability of PFMT. In fact, even the 5th International Consultation on Incontinence states: "*it should be considered the cost*

benefit of population based approaches to health professional taught postpartum PFMT to all postpartum women regardless of their status".
The identification of selection criteria for PFMT during pregnancy and after delivery is, therefore, a key point.Two different approaches in selecting women to refer to PFMT after delivery can be considered:

- *Risk factors approach*: selecting at hospital discharge women considered at risk of developing pelvic dysfunctions
- *Signs of damage approach*: selecting women who still have symptoms or signs of pelvic dysfunction at follow up in the postpartum period

The Italian Society of Urodynamics, continence, neuro-urology and pelvic floor (SIUD) has proposed a recording tool named "*SIUD delivery & pelvic dysfunctions card*" with the double aim to provide a standardized evaluation system for epidemiological studies and to select women who could need conservative treatment in the postpartum period.

The "Italian Society of Urodynamics' (SIUD) delivery & pelvic dysfunctions card":

DELIVERY CARD

Surname.....Name.....(mother)
Delivery date ...../...../.....

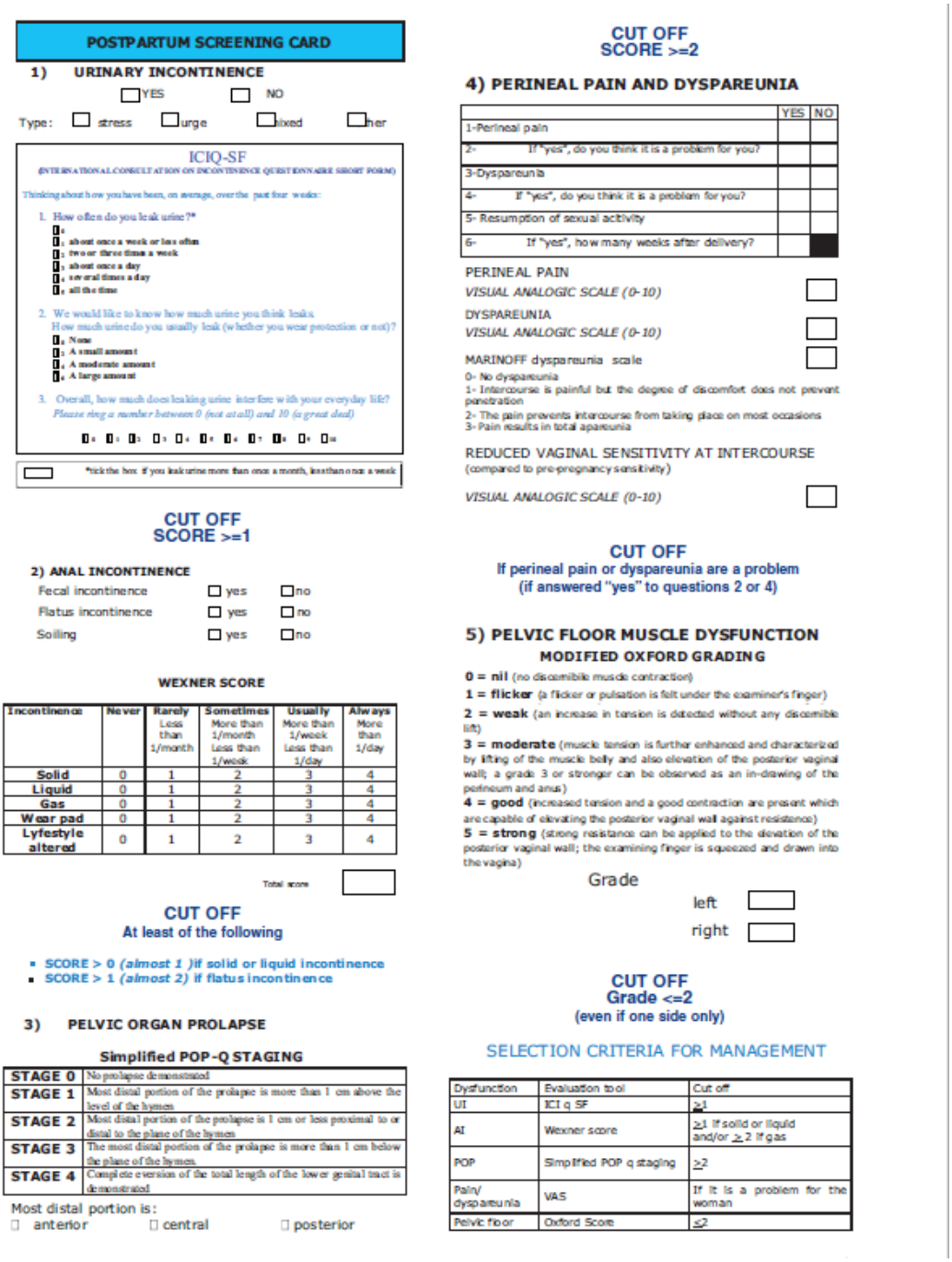
	NUMBER/ TEXT	YES	NO
Age (mother)			
Previous vaginal delivery (number)			
BMI (at delivery)			
Dystocic labour (type)		yes	no
Second stage of labour (minutes)			
Precipitous labour		yes	no
Induced labor (if "yes", specify the method: oxytocine, prostaglandines, amniotomy/other)		yes	no
If induced labor spedify the clinical indication: hypertensive disorders/gestational diabetes/post-term prolonged pregnancy/premature membrane rupture/other			
Emergency caesarean section		yes	no
Elective caesarean section		yes	no
Episiotomy (if "yes", specify if midline or mediolateral)		yes	no
Vaginal-perineal tear (0-4 scale as reported below)*		yes	no
Episiotomy complications (infection, haematoma, tear, other)			
Vacuum extraction delivery		yes	no
Forceps delivery		yes	no
Kristeller maneuver		yes	no
Epidural analgesia		yes	no
Cefalic circumference (cm)			
Fetal weight (grams)			
Twin birth (number)		yes	no
Labour position (recumbent, squat, on all fours, on the side, into water, other)			
Urinary retention after delivery (if persistent after 24 hours)		yes	no

Dysfunctions before delivery	Before pregnancy		During pregnancy	
Stress urinary incontinence	yes	no	yes	no
Urge urinary incontinence	yes	no	yes	no
Anal incontinence (flatus)	yes	no	yes	no
Anal incontinence (stool)	yes	no	yes	no
Dyspareunia	yes	no	yes	no

**Perineal-vaginal tear grading*

Intact No tissue separation at any site

First degree	Injury to the skin only (i.e. involving the fourchette, perineal skin and vaginal mucous membrane)	
Second degree	Injury to the perineum involving perineal muscles but not the anal sphincter	
Third degree	Injury to perineum involving the anal sphincter complex	• 3a: Less than 50% of external anal sphincter thickness torn • 3b: More than 50% of external anal sphincter thickness torn • 3c: Both internal and external anal sphincter torn
Fourth degree	Injury to perineum involving the anal sphincter complex (external and internal anal sphincter) and anal epithelium and/or rectal mucosa)	



POSTPARTUM SCREENING CARD

1) URINARY INCONTINENCE

☐ YES ☐ NO

Type: ☐ stress ☐ urge ☐ mixed ☐ other

ICIQ-SF

(INTERNATIONAL CONSULTATION ON INCONTINENCE QUESTIONNAIRE SHORT FORM)

Thinking about how you have been, on average, over the past four weeks:

1. How often do you leak urine?*
   - ☐ 0
   - ☐ 1 about once a week or less often
   - ☐ 2 two or three times a week
   - ☐ 3 about once a day
   - ☐ 4 several times a day
   - ☐ 5 all the time
2. We would like to know how much urine you think leaks.
   How much urine do you usually leak (whether you wear protection or not)?
   - ☐ 0 None
   - ☐ 2 A small amount
   - ☐ 4 A moderate amount
   - ☐ 6 A large amount
3. Overall, how much does leaking urine interfere with your everyday life?
   Please ring a number between 0 (not at all) and 10 (a great deal)

0 1 2 3 4 5 6 7 8 9 10

☐ *tick the box if you leak urine more than once a month, less than once a week

CUT OFF
SCORE >=1

2) ANAL INCONTINENCE

Fecal incontinence	☐ yes	☐ no
Flatus incontinence	☐ yes	☐ no
Soiling	☐ yes	☐ no

WEXNER SCORE

Incontinence	Never	Rarely Less than 1/month	Sometimes More than 1/month Less than 1/week	Usually More than 1/week Less than 1/day	Always More than 1/day
Solid	0	1	2	3	4
Liquid	0	1	2	3	4
Gas	0	1	2	3	4
Wear pad	0	1	2	3	4
Lyfestyle altered	0	1	2	3	4

Total score ☐

CUT OFF
At least of the following

- **SCORE > 0 *(almost 1)*if solid or liquid incontinence**
- **SCORE > 1 *(almost 2)* if flatus incontinence**

3) PELVIC ORGAN PROLAPSE

Simplified POP-Q STAGING

STAGE 0	No prolapse demonstrated
STAGE 1	Most distal portion of the prolapse is more than 1 cm above the level of the hymen
STAGE 2	Most distal portion of the prolapse is 1 cm or less proximal to or distal to the plane of the hymen
STAGE 3	The most distal portion of the prolapse is more than 1 cm below the plane of the hymen
STAGE 4	Complete eversion of the total length of the lower genital tract is demonstrated

Most distal portion is:
☐ anterior ☐ central ☐ posterior

CUT OFF
SCORE >=2

4) PERINEAL PAIN AND DYSPAREUNIA

	YES	NO
1-Perineal pain		
2- If "yes", do you think it is a problem for you?		
3-Dyspareunia		
4- If "yes", do you think it is a problem for you?		
5- Resumption of sexual activity		
6- If "yes", how many weeks after delivery?		

PERINEAL PAIN
VISUAL ANALOGIC SCALE (0-10) ☐

DYSPAREUNIA
VISUAL ANALOGIC SCALE (0-10) ☐

MARINOFF dyspareunia scale ☐

0- No dyspareunia
1- Intercourse is painful but the degree of discomfort does not prevent penetration
2- The pain prevents intercourse from taking place on most occasions
3- Pain results in total apareunia

REDUCED VAGINAL SENSITIVITY AT INTERCOURSE
(compared to pre-pregnancy sensitivity)

VISUAL ANALOGIC SCALE (0-10) ☐

CUT OFF
If perineal pain or dyspareunia are a problem
(if answered "yes" to questions 2 or 4)

5) PELVIC FLOOR MUSCLE DYSFUNCTION

MODIFIED OXFORD GRADING

0 = nil (no discernible muscle contraction)
1 = flicker (a flicker or pulsation is felt under the examiner's finger)
2 = weak (an increase in tension is detected without any discernible lift)
3 = moderate (muscle tension is further enhanced and characterized by lifting of the muscle belly and also elevation of the posterior vaginal wall; a grade 3 or stronger can be observed as an in-drawing of the perineum and anus)
4 = good (increased tension and a good contraction are present which are capable of elevating the posterior vaginal wall against resistance)
5 = strong (strong resistance can be applied to the elevation of the posterior vaginal wall; the examining finger is squeezed and drawn into the vagina)

Grade
left ☐
right ☐

CUT OFF
Grade <=2
(even if one side only)

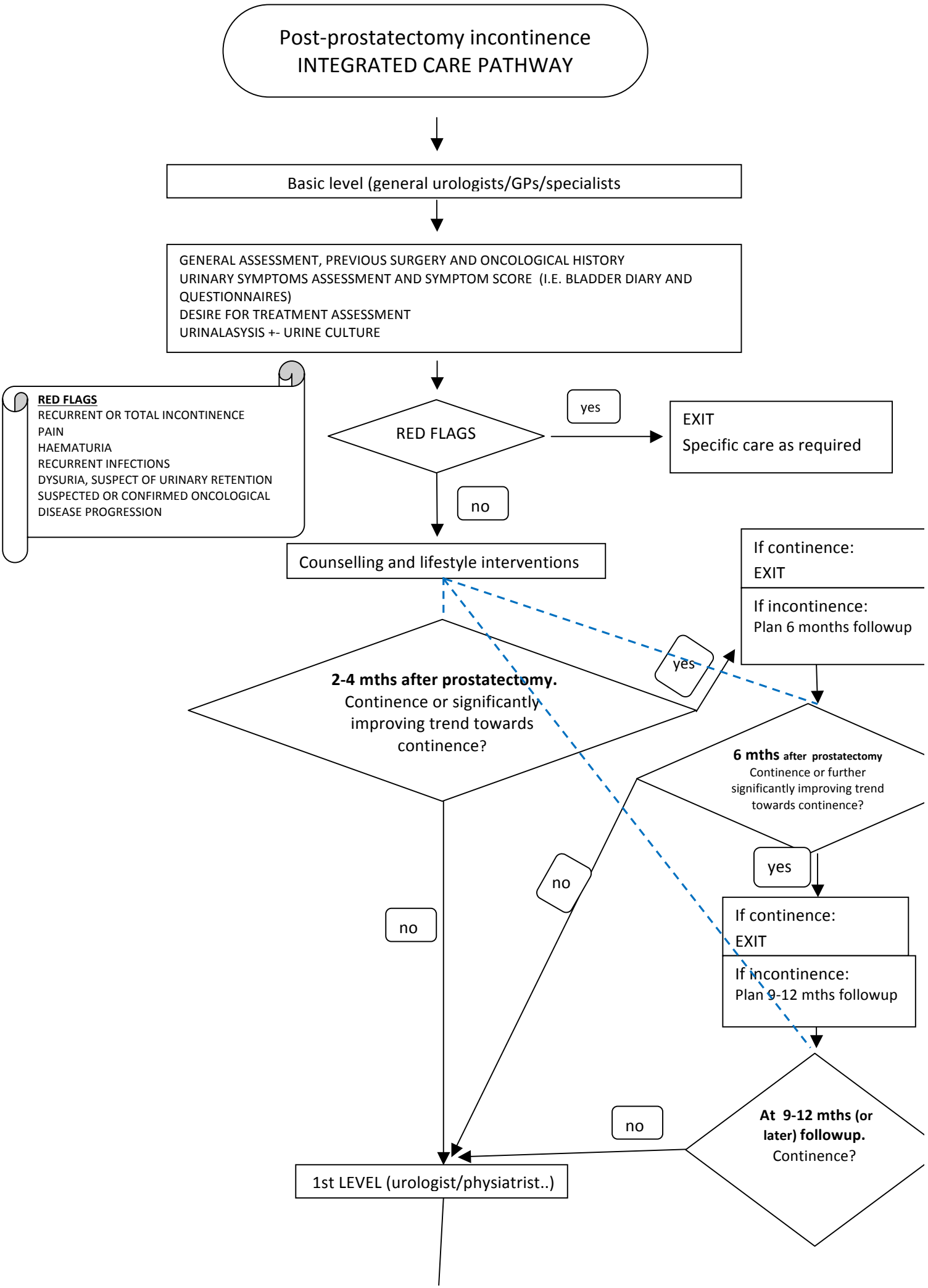
SELECTION CRITERIA FOR MANAGEMENT

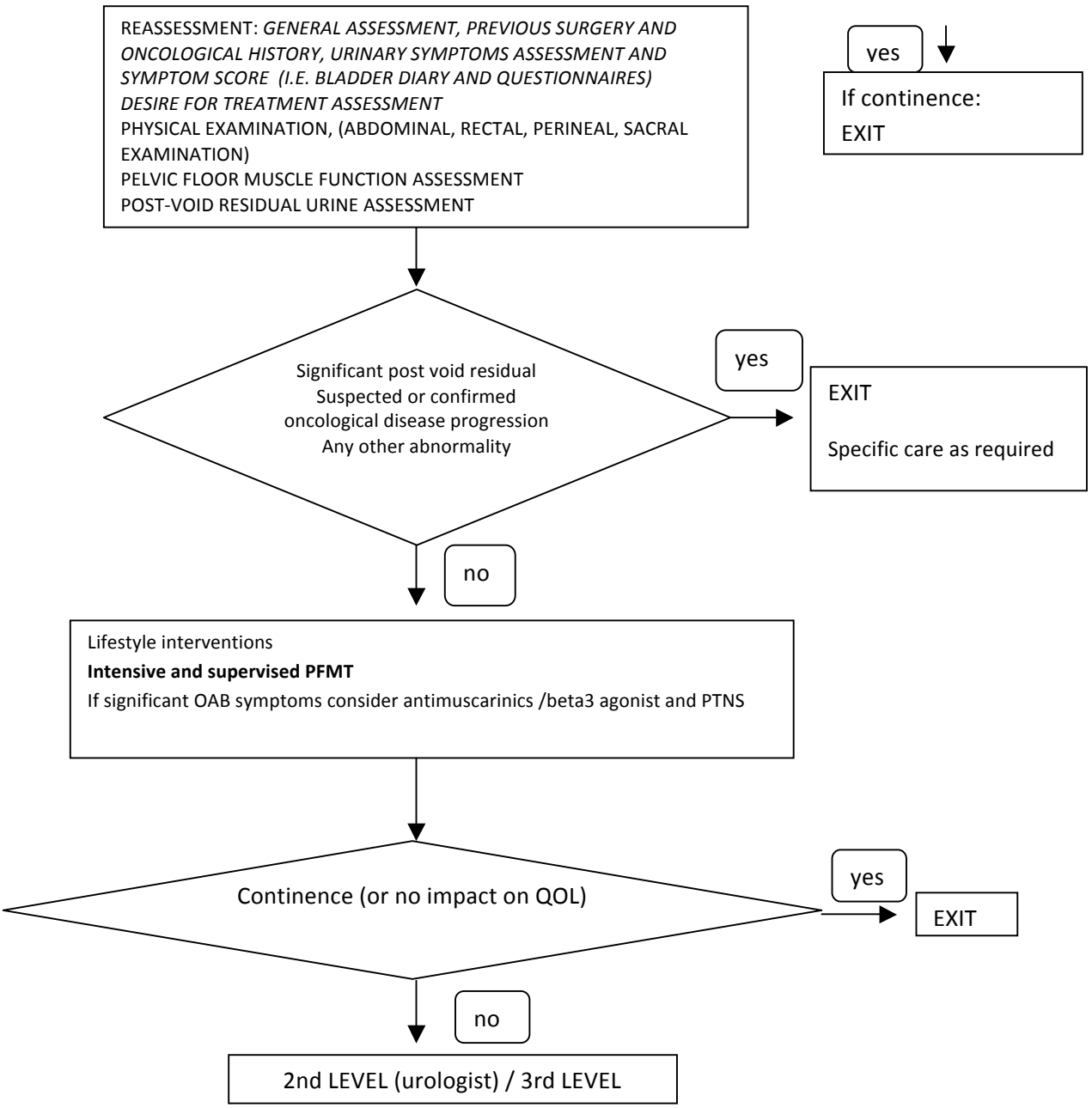
Dysfunction	Evaluation tool	Cut off
UI	ICI q SF	≥1
AI	Wexner score	≥1 if solid or liquid and/or ≥ 2 if gas
POP	Simplified POP q staging	≥2
Pain/ dyspareunia	VAS	If it is a problem for the woman
Pelvic floor	Oxford Score	≤2

2 – Postprostatectomy incontinence

Men' symptoms improve over time in the majority of cases, and the rate of incontinent drops from 80% at the catheter removal to 10% or less at 12 months after prostatectomy. So, every approach to post-prostatectomy incontinence should take in account the spontaneous recovery of continence in the majority of men. A cost–benefit point of view is essential when considering incontinence as a sanitary issue that policy should deal with and not only an individual problem. To this end, three key points became crucial for a correct rehabilitative approach to post-prostatectomy incontinence: effectiveness and timing of rehabilitation (pre and/or post surgery treatment) and screening to select patients who more need and could benefit from rehabilitation.According to a Cochrane review, there was no evidence that PFMT with or without BFB was better than control for incontinent men after prostatectomy (post prostatectomy *treatment approach*), as the confidence intervals were wide, reflecting uncertainty. The trials differ each other for incontinence definition but overall for some PFMT sessions from 1-4 to 24. The meta-analysis was dominated by the Glazener RP 2011 trial, that showed no good evidence to support a one-to one training in 1-4 sessions provided to all men who were incontinent at six weeks from the catheter removal, that is to say, the large majority of men. We

don’t know if a more intensive intervention, the use of a more structured training program (using more than two sets of 9 contractions for a day and other than only “contract as if holding on to wind”) and, finally, a selection of men who most need and could benefit from rehabilitation, could conduct to better results than a population intervention. More researches are needed in this field.
The adjunct of pelvic floor rehabilitation *preoperatively* could reduce the duration and severity of early urinary incontinence within three months, but this is still under debate as other Authors did not confirm this benefit.Finally, current recommendations by International Consultation on Incontinence conclude that there is a suggestion that men undergoing PFMT will achieve continence in a shorter time but it is uncertain if PFMT can reduce the rate of incontinent men at 12 months or more after surgery. Moreover, evidence about the better timing (after or post-surgery) or the number of sessions required are still inconclusive. There is a lack of studies about providing rehabilitation to men affected by persistent incontinence, that is to say after 12 months or more from surgery.
The topic of persistent incontinence is very interesting because - while in the first months all men can have a spontaneous recovery (meaning that the risk difference in urinary incontinence rates at one year between intervention and control could be low)-, incontinence at one year is considered stable. Therefore, the achievement of positive changes in continence status in men still incontinent is more remarkable.
In conclusion, in spite of inconclusive evidence about the effectiveness of conservative treatment in post-prostatectomy incontinence and the better type and timing of intervention, rehabilitation in men is still a hot topic. So, from a health policy point of view, it's not easy to decide how, when and how much to use sanitary resources for the treatment of post-prostatectomy incontinence. A possible diagnostic and therapeutic approach are resumed in the following algorithm, that takes in account on the one hand the ICI recommendations and on the other hand the most important prognostic factor, that is the individual temporal trend toward continence.


Post-prostatectomy incontinence
INTEGRATED CARE PATHWAY
Basic level (general urologists/GPs/specialists
GENERAL ASSESSMENT, PREVIOUS SURGERY AND ONCOLOGICAL HISTORY
URINARY SYMPTOMS ASSESSMENT AND SYMPTOM SCORE (I.E. BLADDER DIARY AND QUESTIONNAIRES)
DESIRE FOR TREATMENT ASSESSMENT
URINALASYSIS +- URINE CULTURE
RED FLAGS
RECURRENT OR TOTAL INCONTINENCE
PAIN
HAEMATURIA
RECURRENT INFECTIONS
DYSURIA, SUSPECT OF URINARY RETENTION
SUSPECTED OR CONFIRMED ONCOLOGICAL DISEASE PROGRESSION
RED FLAGS
yes
EXIT
Specific care as required
no
Counselling and lifestyle interventions
2-4 mths after prostatectomy.
Continence or significantly improving trend towards continence?
yes
If continence:
EXIT
If incontinence:
Plan 6 months followup
6 mths after prostatectomy
Continence or further significantly improving trend towards continence?
yes
no
no
If continence:
EXIT
If incontinence:
Plan 9-12 mths followup
At 9-12 mths (or later) followup.
Continence?
no
1st LEVEL (urologist/physiatrist..)


REASSESSMENT: *GENERAL ASSESSMENT, PREVIOUS SURGERY AND ONCOLOGICAL HISTORY, URINARY SYMPTOMS ASSESSMENT AND SYMPTOM SCORE (I.E. BLADDER DIARY AND QUESTIONNAIRES) DESIRE FOR TREATMENT ASSESSMENT*
PHYSICAL EXAMINATION, (ABDOMINAL, RECTAL, PERINEAL, SACRAL EXAMINATION)
PELVIC FLOOR MUSCLE FUNCTION ASSESSMENT
POST-VOID RESIDUAL URINE ASSESSMENT
yes
If continence:
EXIT
Significant post void residual
Suspected or confirmed
oncological disease progression
Any other abnormality
yes
EXIT
Specific care as required
no
Lifestyle interventions
Intensive and supervised PFMT
If significant OAB symptoms consider antimuscarinics /beta3 agonist and PTNS
Continence (or no impact on QOL)
yes
EXIT
no
2nd LEVEL (urologist) / 3rd LEVEL

TAKE HOME MESSAGES

The first line of PFD (pelvic floor dysfunction) treatment (urinary and fecal incontinence) is PFMT (pelvic floor muscles training), few studies have examined which treatment strategy is the most cost-effective for PFD.

Patient-centered care, stakeholder acceptability, high quality and evidence-based research are strongly recommended to improve effectiveness.

Time restrictions, mixed professional attitudes, lack of standardization and low investment priority were identified as significant barriers to optimal PFD treatment provision

We need to improve health care providers and affected persons knowledge about long-term effectiveness both in cure and prevention of PFD.

Scientific National Societies must propose tools to provide standardized assessment systems for epidemiological studies and to select affected persons who could need conservative treatment, supporting National Healthcare Systems in making good laws and regulations.

Male Pelvic Pain

Chronic prostatitis/chronic pelvic pain syndrome (CP/ CPPS) remains a challenging condition to diagnose and treat. Up to 85% of men with chronic pelvic pain may have pelvic floor tenderness and these areas of tenderness reproduce the patient's pain with palpation in many cases. For these patients, the first line treatment is usually pelvic floor physical therapy. Even in patients who have failed other therapies, PFPT has been shown to improve symptoms in up to 72% of these patients.

Pelvic pain manifests as a myofascial pain syndrome, in which abnormal muscular tension could explain much of the discomfort and abnormal urinary dysfunction seen in this disorder. Genitourinary disorders such as voiding dysfunction and ejaculatory pain are intimately related to the autonomic nervous system and smooth/striated muscle balance.

Myofascial TrPs in the anterior levator ani muscle often refer pain to the tip of the pênis but other muscle can be affected in man pelvic pain. This WS aims to explore causes and treatment of mal pelvic pain.

Case

A.R. 55 years old

After 15 days from a TRUP patient came back to the emergency with pain to urinate, supra pubic pain, low urine flow.

After a negative MRI, cystoscopy with anesthesia infusion with no results, antibiotics and morphine he was sent to a pelvic floor PT evaluation.

And now?

Shoskes DA, Berger R, Elmi A, et al. Muscle tenderness in men with chronic prostatitis/chronic pelvic pain syndrome: the chronic prostatitis cohort study. J Urol 2008;179:556-60.

Anderson RU, Sawyer T, Wise D, et al. Painful myofascial trigger points and pain sites in men with chronic prostatitis/chronic pelvic pain syndrome. J Urol 2009;182:2753-8.

Anderson RU, Wise D, Sawyer T, et al. Integration of myofascial trigger point release and paradoxical relaxation training treatment of chronic pelvic pain in men. J Urol 2005;174:155-60.

Ge HY, Nie H, Madeleine P, et al. Contribution of the local and referred pain from active myofascial trigger points in fibromyalgia. Pain. 2009;147:233–240.

Potts JM, O'Dougherty E. Pelvic floor physical therapy for patients with prostatitis. Curr Urol Rep. 2000;1:155–158.

Fitzgerald MP, Anderson RU, Potts J, et al. Randomized multicenter feasibility trial of myofascial physical therapy for treatment of urologic chronic pelvic pain syndrome. J Urol. 2009;182:570–580.

Sexual Dysfunction

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Diagnostic and Statistical Manual of Mental Disorders (DSM) addressed "men's and women's "psychosexual dysfunction" in 1980, revised it in 1987, and then expanded the list in their 1994 edition (DSM-IV), revised the list again with the 2013 edition (DSM-V): Sexual dysfunctions are characterized by a clinically significant disturbance in a person's ability to respond sexually or to experience sexual pleasure.

Sexual Dysfunctions according to DSM-V:

Male

1. Delayed ejaculation
2. Erectile disorder
3. Male hypoactive sexual desire disorder
4. Premature ejaculation

Female

5. Female orgasmic disorder
6. Female sexual interest/arousal disorder
7. Genito-pelvic pain/penetration disorder
8. Substance/medication induced sexual dysfunction

Diagnosis requirements:

1. All of the above but #8 requires a minimum duration of 6 months
2. Present 75%-100% of the time
3. Cause significant distress

Sexual pain disorders DSM-IV:

1. Dyspareunia: prevalence 6%-45% age dependent
2. Vaginismus: prevalence 1%-6%

Sexual pain disorder DSM-V:

1. Genito-pelvic Pain Disorder
    a. Lifelong vs. acquired
    b. Generalized vs. situational

Combining vaginismus and dyspareunia occurred because the two disorders could not be reliably differentiated. The main reasons being vaginal muscle spasm was not supported by empirical evidence and fear of pain or penetration associated with the clinical description of vaginismus.

Diagnosis of Genito-pelvic pain disorder: 2 of 4 must be present:

1. Difficulty in having intercourse
2. Genito-pelvic pain
3. Fear of pain or penetration
4. Tension of the pelvic floor muscles

In addition:

1. Experience it 75-100% of the time
2. 6 months duration
3. Cause significant distress

Morin M, et al Systematic Review of the effectiveness of physical therapy modalities in women with provoked vestibulodynia. Sex Med Rev (2017) Jul;5(3):295-322.

Aim: To systematically review current literature as to the effectiveness of physical therapy modalities for decreasing pain with intercourse and improving sexual function in women diagnosed with provoked vestibulodynia (PVD).

Method: Systematic literature search, which included PubMed, Scopus, CINHAL and PEDro was done through October 2016. Manual search from the reference lists of the chosen articles. Clinicaltrial.gov and ISRCTNregistry provided ongoing trials. Types of studies included in the review were RCT's, prospective/retrospective cohorts and case reports that were studying the effect of isolated or combined PT modalities to treat women with PVD.

Outcome measures: Pain during intercourse, sexual function and patient's perceived improvement.

Results: 43 studies: 7 RCTs, 20 prospective studies, 5 retrospective studies, 6 case reports, 6 study protocols. High risk of bias: lack of a comparison group. Ancillary sources of bias: insufficient sample size, non-validated outcomes, non-standardized intervention, use of other ongoing treatment. Most indicated that PT modalities were effective in decreasing pain during intercourse and improved sexual function. PT modalities varied but included biofeedback, electrical stimulation, education and multimodal PT. A multidisciplinary approach also positively impacted pain of intercourse and improved sexual function.

Conclusion: PT modalities to treat women with PVD needs to be further studied with well-designed randomized controlled trials.

Goldfinger C, et al Effectiveness of cognitive-behavioral therapy and physical therapy for provoked vestibulodynia: A randomized pilot study. J Sex Med (2016) Jan;13(1):88-94.

Aim: Compare effects of CBT and PT on pain and psychosexual outcomes in women with PVD.

Methods: 20 women with provoked vestibulodynia (PVD) were randomly assigned to CBT or comprehensive PT. Assessment before treatment, after and at 6-month follow-up. This included a gynecologic exam, structured interviews, and standardized questionnaires measuring pain, psychological and sexual variables.

Outcome measures: Primary outcome was change in intercourse pain intensity. Secondary outcomes were pain during the cotton swab test, pain with various sexual and non-sexual activities, sexual functioning and negative pain conditions.

Results: Both groups experienced significant decreases in vulvar pain during sexual intercourse: 70% of CBT; 80% PT moderate clinically significant (≥ 30%) decrease in pain after treatment. Other significant improvements for both groups: pain with gynecologic exam, percentage of painful coitus attempts, percentage of activities resulting in pain, ability to continue with uninterrupted coitus. Both groups had Improvements in psychological outcomes: pain catastrophizing and perceived control over pain. Only the CBT group had improvement in sexual functioning. Most all improvements maintained at 6-month follow-up.

Conclusion: CBT and PT can provide clinically meaningful improvements in pain and psychosexual functioning in women diagnosed with PVD.

Morin M, et al Randomized clinical trial of multimodal physiotherapy treatment compared to overnight lidocaine ointment in women with provoked vestibulodynia: Design and methods. Contemporary Clinical Trials 46 (2016) 52-59.

Aim: To evaluate the efficacy of multimodal PT compared to topical overnight lidocaine in women with PVD. This would be a bi-center, single-blind, parallel group, randomized controlled trial. Their hypothesis is women receiving PT will have a greater reduction in pain post-treatment and at the 6-month follow-up. Secondary aims were to also compare the effects of the two treatments on pain quality (affective sensory and evaluative components), sexual function, psychological variables (catastrophizing, anxiety, depression, fear of pain), PFM morphology and function, patient's global impression of change.

Methods: 212 nulliparous women with PVD between 18-45. Diagnosis confirmed by medical history interview, physical exam, standardized pelvic exam by gynecologist. Additional baseline assessment: (1) interview for socio-demographic information, pain, medical and gynecological history, (2) validated questionnaires to evaluate pain, sexual

function and psychological variables, (3) physical examination including PFM morphometry and function.

Multimodal PT: 10 - 60 minute weekly sessions with PF PT.
Education included: PVD pathophysiology, involvement of the PFM, healthy vulvo-vaginal and sexual behaviors, chronic pain and factors impacting pain, relaxation techniques, sexual function and recovery of non-painful sexual activities. Education was also extended to partners.

20-25 minutes of manual therapy: stretching, myofascial release, pressure and massage (to increase flexibility, release muscle tensions and trigger points in the PFM) Specific muscles addressed were the obturator internus, piriformis, gluteus, adductors and abdominals. Techniques individually adapted.

20 minutes biofeedback: transvaginal "to promote relaxation, control and strength, speed of contraction and endurance.

HEP: Deep breathing exercises, PFM contraction and control, stretching with dilators, massage and mobilization of the vulvar tissues.

Lidocaine treatment: Participants to apply 5% lidocaine ointment to vestibule nightly. Cleanse area; apply marble size of ointment to vestibule, same amount to be applied to cotton gauze, which is place at the entrance to the vagina. Continuous contact to be maintained for at least 8 hours. Cotton underwear to be worn. Repeated nightly for 10 weeks.

Outcome measures: Primary out come measure is pain intensity on a numerical rating scale: average intensity reported during sexual intercourse. Secondary outcome measures: McGill-Melzack Pain Questionnaire, Female Sexual Function Index, Interpersonal Exchange Model of Sexual Satisfaction Questionnaire, Female Sexual Distress Scale, Pain Catastrophizing Scale, State and Trait Anxiety Inventory, Beck Depression Inventory, Pain Anxiety Symptoms Scale, Patient's Global Impression of Change, 4D Ultrasound and PF Dynamometry.

Results: Being compiled. Study predicted to end December 2015.

Naess I, Bo K. Pelvic floor muscle function in women with provoked vestibulodynia and asymptomatic controls. Int Urogynecol J (2015) 26:1467-1473.

Aim: To assess the vaginal resting pressure (VRP), pelvic muscle strength and endurance and surface EMG activity in women with PVD and without PVD.

Methods: VRP and PFM strength and endurance were measured with a high precision pressure transducer connected to a vaginal balloon. PFM activity measured with surface EMG.

Results: PVD group had significantly higher: VRP 20.6 cmH_20 (SD 7.1) Controls 17.3 cmH_2O (SD4.4). PVD group had lower muscle activity during a 10 sec contraction: 465.2 microvolts (SD 218.4) Controls: 591.1 microvolts (SD 277.7).

Conclusion: Young nulliparous women with PVD have higher vaginal resting tone. Not confirmed with EMG.

Thibault-Gagnon S, et al. Differences in the biometry of the levator hiatus at rest, during contraction, and during Valsalva maneuver between women with and without provoked vestibulodynia assessed by transperineal ultrasound imagining. J Sex Med (2016) Feb;13(2):243-52.

Aim: To study the nature of the pelvic floor muscle involvement in women with PVD by evaluating the biometry of the levator hiatus at rest, with maximal voluntary contraction (MVC) and maximal Valsalva maneuver (MVM).

Methods: 38 women with PVD, 39 controls imaged with 3D transperineal ultrasound. Levator hiatus dimensions which included area, left-right and anteroposterior at rest, MVC and MVM.

Outcome measures: Levator hiatal area, left-right and anteroposterior diameters at rest, MVC and MVM.

Results: Women with PVD had smaller hiatal areas at rest, on MVC and MVM, concurrent smaller left-right diameters on MVM, smaller change in hiatal area on MVM. No differences were noted on MVC between the groups. Smaller levator hiatus dimensions at rest were associated with smaller decreases in dimensions on MVC and larger relative increases in dimensions on MVM were noted in both groups.

Rabinowitz D, et al. Fear of vaginal penetration in the absence of pain as a separate category of female sexual dysfunction: a conceptual overview. Rambam Maimonides Med J (2017) 8(2):1-5.

Vaginal penetration phobia (VPP)

"The point we wish to make is that phobic avoidance of vaginal penetration is not always vaginismus or pain-based."

"At this point the core differences between vaginismus and what may be termed "penetration phobia" can be summed up: in vaginismus the phobic avoidance behavior protects against expected intolerable pain, while in penetration phobia the phobic avoidance behavior protects against fulminating panic anxiety. This form of anxiety, bordering on terror, is no less intolerable that pain."

Contracture: Can it occur in the pelvic floor?

In October I had the privilege of presenting at the International Pelvic Pain Society's annual meeting. During one of the presentations, a discussion ensued regarding the term contracture. The discussion was centered on whether or not the pelvic floor could ever be in a state of contracture. Given the confusion that was evident during this discussion, I thought a review of the muscle physiology associated with skeletal muscle contracture would be useful to our membership.

First, one should review the definition of contracture. Central to the definition is that a muscle or group of muscles remains in a persistent state of shortening to the point that complete range of motion of the muscle is limited and is resistant to stretching.[1] Kendall et al defines a contracture as a marked decrease in muscle length where the range of motion in the direction of elongation of the muscle is markedly limited. [2] Of course there are neuromuscular and ischemic pathological conditions where contractures can develop. Contractures associated with pathological conditions are usually considered irreversible.

An additional skeletal muscle phenomenon is the length-tension curve of muscle. The maximal force generated by a muscle contraction is when the muscle is at some midpoint in its range of motion. A muscle that is too short or too long will have a decreased force generation. Therefore, a muscle in a state of contracture will be weak when assessed for strength.

Given the definitions above, can the pelvic floor be in a state of contracture? The pelvic floor, with its supportive function, is considered a postural muscle composed of predominately slow twitch muscle fibers. Slow twitch muscle fibers trigger more easily and are capable of sustained contraction therefore are more inclined to become shortened and tight.[3] Even though there are fast twitch muscle fibers within the pelvic floor muscles it is possible that they can be transformed from fast twitch to slow twitch. The neural impulse transmitted by the nerve conditions the fiber type.[4] A contracture develops slowly but is maintained by constant continued neural stimulation.[5] Postural muscles are known to shorten in response to stress.[6] With pain or a constant sense of urinary urge, there is psychological stress but there is also the physical response of protective guarding. Guarding is the additional recruitment of the pelvic floor in response to pain or to inhibit urge. Initially there will be active shortening, but it will lead to a shortening of the muscle(s) without any electrical activity.[7]

Therefore, it appears that the pelvic floor should respond as any other skeletal muscle in the body, and is capable of developing a reversible contracture. The next question to answer is how best to *evaluate* the pelvic floor for contracture – is it short and weak or long and weak?

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[1] Salter R B, Textbook of Disorders and Injuries of the Musculoskeletal System. Philadelphia, Lippincott Williams &Wilkins. 1999.

[2] Kendall F P, McCreary E K, Provance P G. Muscles Testing and Function. Baltimore. Williams and Wilkins Inc. 1993.
[3] Waddell G. The Back Pain Revolution. Churchill Livingston, Edinburgh. 1998.
[4] Buller A. Interactions between motor neurons and muscles. Journal of Physiology (London) 150:417-439.
[5] Graham H. Muscles and Their Neural Control. New York, John Wiley & Sons. 1983.
[6] Chaitow L. Muscle Energy Techniques. Edinburgh, Churchill Livingstone, 2006.
[7] An Exploratory and Analytical Survey of Therapeutic Exercise, Northwestern University Special Therapeutic Exercise Project. Am J Phys Med. 1967:46;1.

Optimising first line therapy for overactive bladder

Presenter: Dr Rebekah Das (PhD)

Urinary urgency is the defining symptom of the **overactive bladder symptom complex**.

Urgency = the sudden compelling desire to pass urine which is difficult to defer[1].

Urgency ≠ DO: urgency is now viewed as a ***multidimensional sensory experience*** of complex and uncertain aetiology[2,3,4,5].

Urgency has **physical and affective dimensions** (as do pain/dyspnoea/pruritis)[6].

		Does not describe my sensation at all	Describes my sensation a little bit	Describes my sensation moderately	Describes my sensation quite well	Describes my sensation very well	Describes my sensation extremely well
1	**Pressure**	0	1	2	3	4	5
2	**Anxious**	0	1	2	3	4	5
3	**Urgent**	0	1	2	3	4	5
4	**Unpleasant**	0	1	2	3	4	5
5	**Intense**	0	1	2	3	4	5
6	**Uncomfortable**	0	1	2	3	4	5
7	**Sudden**	0	1	2	3	4	5
8	**Hard to hold on**	0	1	2	3	4	5
9	**Fullness**	0	1	2	3	4	5
10	**Annoyed**	0	1	2	3	4	5

Figure 1: the sensory profile of normal 'desire to void' (pale shading) as compared with urgency (dark shading) as assessed by the University of South Australia Urinary Sensation Assessment (USA[2])[7].

A copy of the University of South Australia Urinary Sensation Assessment (USA[2]) is provided on page 2.

The University of South Australia Urinary Sensation Assessment (USA^2)

Instructions: Below are 10 words or phrases. Please rate **how well each word or phrase describes the sensation you feel** when you want to go to the toilet to wee.
Please consider your sensation on average over the past month and circle a response for each word or phrase.

		Does not describe my sensation at all	Describes my sensation a little bit	Describes my sensation moderately	Describes my sensation quite well	Describes my sensation very well	Describes my sensation extremely well
1	**Pressure**	0	1	2	3	4	5
2	**Anxious**	0	1	2	3	4	5
3	**Urgent**	0	1	2	3	4	5
4	**Unpleasant**	0	1	2	3	4	5
5	**Intense**	0	1	2	3	4	5
6	**Uncomfortable**	0	1	2	3	4	5
7	**Sudden**	0	1	2	3	4	5
8	**Hard to hold on**	0	1	2	3	4	5
9	**Fullness**	0	1	2	3	4	5
10	**Annoyed**	0	1	2	3	4	5

Of all the words or phrases, which one best describes your sensation?.....

Finally, please check that you have circled a response for each word or phrase.

Overactive bladder management guidelines: 'established' first line therapy

Clinical guidelines have been published by Gormley et al[8] (AUA/SUFU: American Urological Association/Society of Urodynamics, Female Pelvic Medicine & Urogenital Reconstruction), Yamaguchi et al[9] (Japanese Urological Association) and Tse et al[10] (USANZ and UGSA: Conjoint Urological Society of Australia and New Zealand and Urological Society of Australasia). In addition, guidelines developed in the UK (NICE), and Australia (RACGP) are available online. Each guideline provides variable detail regarding the range of therapies included as 'first line therapy' and the underpinning rationale. **Table 1** summarises the treatment strategies presented in these guidelines.

Table 1: Behavioural therapies/conservative management recommended for the treatment of overactive bladder in clinical guidelines.

	AUA/SUFU	JUA	USANZ/UGSA	NICE*	RACGP**
Patient education	√			√	
Bladder training	√	√	√	√	√
Bladder control strategies	√	√	√		√
Pelvic floor muscle training (PFMT)	√	√	√	√	√
Biofeedback (adjunct to PFMT)		√			√
Lifestyle advice					
• Fluid management					
○ Volume reduction	√	√	√	√	√
○ Volume increase				√	√
○ Caffeine reduction	√	√	√	√	
○ Alcohol reduction			√		√
○ Carbonated beverage reduction			√		√
• Constipation advice/healthy eating			√	√	√
• Weight loss	√		√	√	√
• Smoking cessation				√	
• Exercise				√	
• Toileting assistance (for elderly)		√			
Intravaginal oestrogens			√	√	

*NICE guidelines: http://www.nottsapc.nhs.uk/attachments/article/3/overactive%20bladder%20clinical%20guidance.pdf

**RACGP guidelines: http://www.racgp.org.au/afp/2012/november/overactive-bladder-syndrome/

Some research evidence is reported in published guidelines to support first line therapies including bladder training, pelvic floor muscle training, fluid volume reduction, caffeine reduction and weight loss[8,11]. However, other frequently recommended strategies rely largely on 'accepted wisdom'.

Re-thinking the rationale underpinning first line therapy

Historical views of urgency as a manifestation of underlying detrusor overactivity or 'irritation' have underpinned much of the rationale presented for first line therapies. However, with a broader view of urgency that includes aspects of sensory processing, the rationale underpinning treatment choices can be expanded. Some examples follow.

Pelvic floor muscle training?

- Strength training?
- Confidence
- Awareness
- Coordination
- Endurance
- Improve circulation

Bladder training/urgency suppression techniques?

Are we aiming for 'suppression' or mindful control and a reduction in catastrophising, anxiety or panic?

- Stress management: stress can perpetuate urgency or abnormal bladder sensation[12], via a number of mechanisms including impairment of urothelial protection and repair mechanisms [13].
- Mindfulness techniques[14]
- Cognitive behavioural therapy[15]

Techniques that can be learned for use during urgency episodes:

- Breathing techniques ('centering', avoiding breath holding, coordinating breathing with PFM hold)
- Mental imagery of a closed urethra (water-tight seal, lifted bladder)
- Mental imagery of a comfortable, soft bladder
- 'NO" practice. Taking command. Positive self statements about being in charge.
- 'Stop' practice: recognising and avoiding panic
- Brief body scan, non judgemental awareness of urgency.

Education?

Neurophysiological education (helps people understand how chronicity develops and the intrinsic and extrinsic factors that can be involved): applied successfully in chronic pain management[16-19]. What about chronic urgency management?

'Myth-busting' as therapy: could myths/unhelpful beliefs about bladder function play a role in the perpetuation of stress and urgency? Consider some of the following myths:

- Drink at least 2 litres of water a day: better advice is to drink when thirsty.
- Tea and coffee do not count as fluid: all fluid counts.
- You should never go 'just in case': actually going just in case has been shown to be normal behaviour[20]. It might better to reduce obsessive behaviour but not apply unrealistic rules about 'never' going just in case.

Other treatment options: TENS and CTM

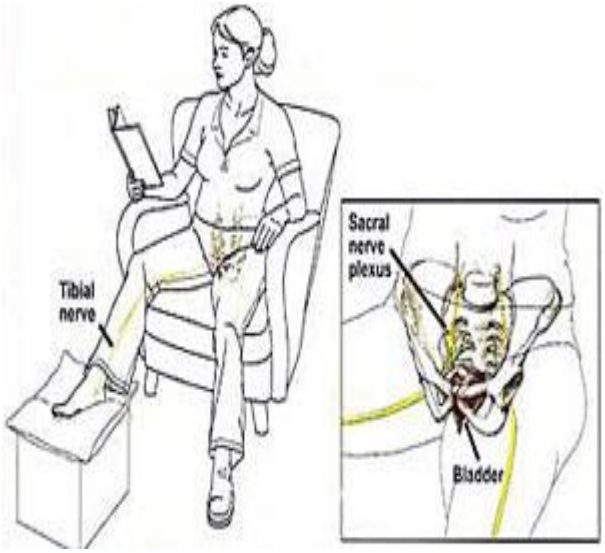
Electrical stimulation therapies, described as 'neuromodulation' are hypothesised to alter the balance of excitatory and inhibitory signals along the nerve tracts involving the 2nd to 4th sacral segments, particularly the 3rd sacral nerve. These therapies have included sacral neuromodulation with an implanted stimulator, percutaneous tibial nerve stimulation and transcutaneous stimulation involving several sites.

Table 2: TENS parameters reported in published journal articles (unpublished systematic RV, 29 studies, 13 involving children). **Grey shaded cells indicate the most common of each of the parameters.** Surface stimulation rather than transvaginal[21,22] stimulation was the focus of the review.

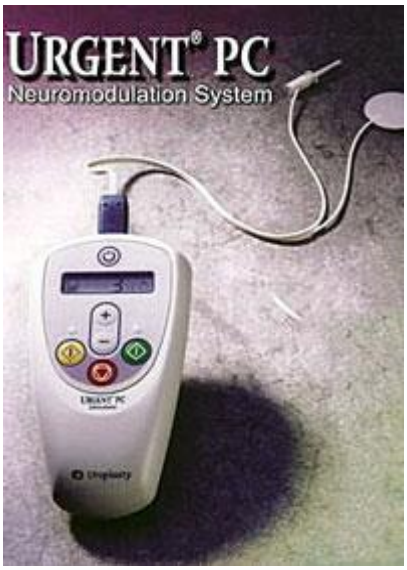
Frequency	Pulse width	Electrode placement	Dosage*
1 Hz 1 study[23] (adult)	**100 µsec** 1 study[23] (adult)	**Sacral and perineal** 1 study[24]	**20 mins 2-3x/wk** 5 studies[25-29]
2 Hz 1 study[30]	**150 µsec** 1 study[30]	**Bilateral sacral** 13 studies[26-28,30-39] (5 adult)	**20 mins/day** 2 studies[40,41] (1 adult)
8 Hz 1 study[42] (adult)	**200 µsec** 7 studies[24,31,34-36,41,43] (5 adult)	**Tibial nerve** 6 studies[23,41,43-46] (5 adult)	**30 mins 1x/wk** 1 study[23] (adult)
10 Hz 17 studies[24-28,31,33,35,37,39,41,43-48] (8 adult)	**250 µsec** 1 study[45] (adult)	**Vaginal/penile** 2 studies[42,48] (both adult)	**15-20 mins 2x/day** 5 studies[32,33,38,42,48] (3 adult)
20 Hz 4 studies[34,36,40,49] (3 adult)	**300 µsec** 1 study[38]	**Anal/perianal** 2 studies[40,49] (1 adult)	**30 mins 2x/wk** 3 studies[43,45,46] (all adult)
100 Hz 2 studies[32,49] (1 adult)	**400 µsec** 1 study[42] (adult)	**Suprapubic** 2 studies[35,47] (1 adult)	**1 hr 2x/day** 1 study[47]
150 Hz 2 studies[35,47] (1 adult)	**500 µsec** 1 study[49] (adult)		**1 hr/day** 1 study[24]
	700 µsec 3 studies[26-28]		**90 mins 2x/day** 1 study[34] (adult)
	1000 µsec (1 msec) 2 studies[40,48]		**2 hrs daily** 2 studies[30,31]
	200 msec 3 studies[39,44,46] (all adult)		**Up to 6 hrs daily** 1 study[36] (adult)
	Unreported 5 studies[25,32,33,37,47]		

*For all studies, **amplitude** directed by tolerance. In 4 studies, stimulation performed during urodynamic testing rather than as a treatment course[35,39,44,49]. For 3 studies, full text and parameters not available[50-52].

See also Slovac et al 2015, Non-invasive transcutaneous electrical stimulation in the treatment of overactive bladder[53]



www.gm-medizintechnik.at



Firma Uroplasty: Urgent PC Neuromodulation System

Figure 3: PTNS suggested patient position and device.

TENS (various application sites of surface electrodes): rationale is that it is less invasive but it remains unclear whether it is equally effective. It is also unclear whether the same parameters as for SNS or PTNS should be chosen. Treatment can target S3 (placed over the sacrum), hypogastric nerves (electrodes placed suprapubically) or the tibial nerve with electrodes placed to mimic electrode placement in PTNS. TENS can also be used to directly stimulate pelvic floor muscles in support of behavioural or biofeedback training to enhance pelvic floor muscle training (using vaginal or anal probes)[54,55]. Some examples of electrode placement and vaginal/anal electrodes are provided in **Figure 4**.

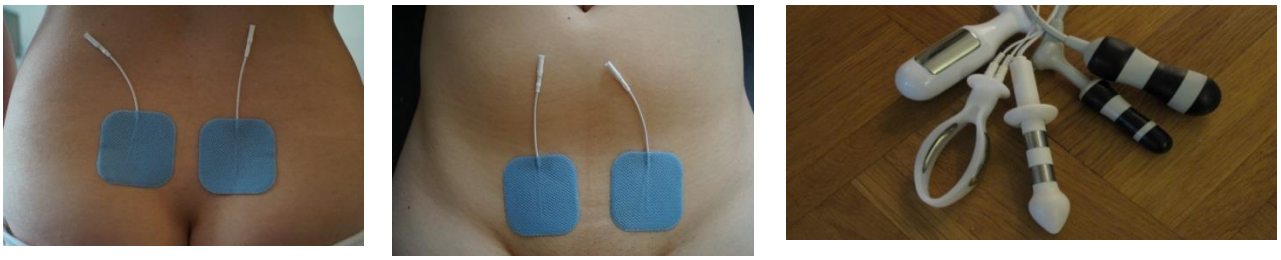


Figure 4: examples of electrode placement and vaginal/anal electrodes.

Another therapy traditionally within the realm of physiotherapy that has received some recent attention is **Connective tissue massage (CTM).** There is some evidence that autonomic dysfunction, particularly of the sympathetic nervous system may play a part in the aetiology of urgency[56,57]. Connective tissue massage is a manual therapy directed at manipulating subcutaneous fascial layers, thereby acting on the autonomic nervous system[58]. Recent research has demonstrated a positive therapeutic effect for constipation[59]. It may be hypothesised that CTM could also be effective in treating OAB if autonomic dysfunction is considered one of the aetiological factors. A review by Holey at al (2014)[58] summarises research which demonstrates physiological responses to CTM.

Case Studies

	BD 1	**BD 2**	**BD 3**
Patient information gleaned from bladder diaries (kept for 2-3 days).	61yo F, 71kg, MUI and insensible UI. Triggers of UUI, KIL and enroute too loo. Damp (regular), flood (rare). Long Hx urgency, UI last 4 yrs.	81 yo F, 74 kg, 8 yr Hx OAB with UUI enroute to loo (dripping, can't control). Regular double voids.	38 yo F, 70kg, s/a MUI, feels PF is weak. Breastfeeding 3 mo. Trigger for UUI enroute too loo, rare, damp only.
Daytime frequency	15	11	11
Night time frequency	1	2	1
24 hour vol (24 ml/kg target)	2325 (1704)	1125 (1776)	3450 (1680)
Night volume and ratio to 24 hr vol	650, 27%	Very variable up to 600ml (53%)	600 (17%)
Ml per kilo	32	15	49
Vol max	450	200	700
Vol min	25	25	200
Vol Avg	170	84	332
Max daytime intervoid interval	3.5 hrs	3 hrs	2.5 hrs
Urgency episodes per 24 hrs	1-3	Not recorded	Not recorded
Incontinence episodes per 24 hrs	2	3	0
Physical examination of pelvic floor muscle function.	Normal tone, intact PFM, weak, 1 sec endurance, significant urethral hypermobility, °Prolapse.	Normal tone, intact PFM, moderate strength (hiatal closure and lift), 3 sec endurance, breath holding (cant maintain contraction with breath out). °Prolapse, urethral hypermobility.	Mildly hyertonic and overactive superficial perineal muscles, underactive, thin but intact levator ani, very weak, 1 sec endurance, but slow to relax completely. °Prolapse, urethral hypermobility.

Polyuria = 2.8L per 24 hrs for a woman up to 70 kg OR 40 ml.kg[60]

Nocturnal polyuria = nocturnal voided volume/total 24 h voided volume × 100% > 20-30%

What do you think are the main problems?

What else do you want to know?

What treatment ideas do you have?

References

1. Abrams P, Cardozo L, Fall M, et al. The standardisation of terminology of lower urinary tract function: Report from the standardisation sub-committee of the International Continence Society. *Neurourol. Urodyn.* 2002;21(2):179-183.
2. Das R, Buckley JD, Williams MT. Descriptors of sensation confirm the multidimensional nature of desire to void. *Neurourol. Urodyn.* 2015;34(2):161-166.
3. Gillespie JI, van Koeveringe GA, De Wachter S, de Vente J. On the origins of the sensory output from the bladder: the concept of afferent noise. *BJU Int.* 2009;103(10):1324-1333.
4. Griffiths D, Tadic SD, Schaefer W, Resnick NM. Cerebral control of the bladder in normal and urge-incontinent women. *Neuroimage.* 2007;37(1):1-7.
5. De Wachter S, Heeringa R, van Koeveringe GA, Gillespie JI. On the nature of bladder sensation: The concept of sensory modulation. *Neurourol. Urodyn.* 2011;30(7):1220-1226.
6. Lansing RW, Gracely RH, Banzett RB. The multiple dimensions of dyspnea: Review and hypotheses. *Respiratory Physiology and Neurobiology.* 2009;167(1):53-60.
7. Das R, Buckley J, Williams M. Assessing multiple dimensions of urgency sensation: The University of South Australia Urinary Sensation Assessment (USA2). *Neurourol. Urodyn.* 2017;36(3):667-672.
8. Gormley EA, Lightner DJ, Burgio KL, et al. Diagnosis and treatment of overactive bladder (non-neurogenic) in adults: AUA/SUFU guideline. *The Journal of Urology.* 2012;188(6, Supplement):2455-2463.
9. Yamaguchi O, Nishizawa O, Takeda M, et al. Clinical guidelines for overactive bladder: Guidelines. *Int. J. Urol.* 2009;16(2):126-142.
10. Tse V, King J, Dowling C, et al. Conjoint Urological Society of Australia and New Zealand (USANZ) and Urogynaecological Society of Australasia (UGSA) Guidelines on the management of adult non-neurogenic overactive bladder. *BJU Int.* 2016;117(1):34-47.
11. Cardozo L, Chapple CR, Dmochowski R, et al. Urinary urgency - translating the evidence base into daily clinical practice. *Int. J. Clin. Pract.* 2009;63(12):1675-1682.
12. Hanna-Mitchell AT, Kashyap M, Chan WV, Andersson K-E, Tannenbaum C. Pathophysiology of idiopathic overactive bladder and the success of treatment: A systematic review from ICI-RS 2013. *Neurourol. Urodyn.* 2014;33(5):611-617.
13. Birder LA. Nervous network for lower urinary tract function. *Int. J. Urol.* 2013;20(1):4-12.
14. Baker J, Costa D, Guarino JM, Nygaard I. Comparison of mindfulness-based stress reduction versus yoga on urinary urge incontinence: a randomized pilot study. With 6-month and 1-year follow-up visits. *Female Pelvic Medicine & Reconstructive Surgery.* 2014;20(3):141-146.
15. Marti B, Valentini F, Robain G. Contribution of behavioral and cognitive therapy to managing overactive bladder syndrome in women in the absence of contributive urodynamic diagnosis. *International Urogynecology Journal.* 2015;26(2):169-173.
16. Williams MT, Cafarella P, Paquet C, Frith P. Cognitive behavioral therapy for management of dyspnea: a pilot study. *Respir. Care.* 2015.
17. Clarke CL, Ryan CG, Martin DJ. Pain neurophysiology education for the management of individuals with chronic low back pain: A systematic review and meta-analysis. *Manual Therapy.* 2011;16(6):544-549.
18. Gatchel RJ, Rollings KH. Evidence-informed management of chronic low back pain with cognitive behavioral therapy. *The Spine Journal.* 2008;8(1):40-44.
19. O'Sullivan K, Dankaerts W, O'Sullivan L, O'Sullivan PB. Cognitive Functional Therapy for Disabling Nonspecific Chronic Low Back Pain: Multiple Case-Cohort Study. *Phys. Ther.* 2015;95(11):1478-1488.

20. Gillespie JI. What determines when you go to the toilet? The concept of cognitive voiding. *BJOG: An International Journal of Obstetrics & Gynaecology.* 2013;120(2):133-136.
21. Franzen K, Johansson JE, Lauridsen I, Canelid J, Heiwall B, Nilsson K. Electrical stimulation compared with tolterodine for treatment of urge/urge incontinence amongst women--a randomized controlled trial. *Int Urogynecol J.* 2010;21(12):1517-1524.
22. Ozdedeli S, Karapolat H, Akkoc Y. Comparison of intravaginal electrical stimulation and trospium hydrochloride in women with overactive bladder syndrome: a randomized controlled study. *Clin. Rehabil.* 2010;24(4):342-351.
23. Svihra J, Kurca E, Luptak J, Kliment J. Neuromodulative treatment of overactive bladder--noninvasive tibial nerve stimulation. *Bratisl. Lek. Listy.* 2002;103(12):480-483.
24. Marshall DF, Boston VE. Altered bladder and bowel function following cutaneous electrical field stimulation in children with spina bifida - interim results of a randomized double-blind placebo-controlled trial. *Eur. J. Pediatr. Surg.* 1997;7(S 1):41-43.
25. Gladh G, Mattsson S, Lindström S. Anogenital electrical stimulation as treatment of urge incontinence in children. *BJU Int.* 2001;87(4):366-371.
26. Lordelo P, Soares PV, Maciel I, Macedo A, Jr., Barroso U, Jr. Prospective study of transcutaneous parasacral electrical stimulation for overactive bladder in children: long-term results. *J. Urol.* 2009;182(6):2900-2904.
27. Lordelo P, Teles A, Veiga ML, Correia LC, Barroso U, Jr. Transcutaneous electrical nerve stimulation in children with overactive bladder: a randomized clinical trial. *J. Urol.* 2010;184(2):683-689.
28. Barroso U, Jr., Viterbo W, Bittencourt J, Farias T, Lordelo P. Posterior tibial nerve stimulation vs parasacral transcutaneous neuromodulation for overactive bladder in children. *J. Urol.* 2013;190(2):673-677.
29. Barroso Jr U, Dultra A, De Bessa Jr J, et al. Comparative analysis of the frequency of lower urinary tract dysfunction among institutionalised and non-institutionalised children. *BJU Int.* 2006;97(4):813-815.
30. Hoebeke P, Van Laecke E, Everaert K, et al. Transcutaneous neuromodulation for the urge syndrome in children: a pilot study. *J. Urol.* 2001;166(6):2416-2419.
31. Hagstroem S, Mahler B, Madsen B, Djurhuus JC, Rittig S. Transcutaneous electrical nerve stimulation for refractory daytime urinary urge incontinence. *J. Urol.* 2009;182(4 Suppl):2072-2078.
32. Malm-Buatsi E, Nepple KG, Boyt MA, Austin JC, Cooper CS. Efficacy of transcutaneous electrical nerve stimulation in children with overactive bladder refractory to pharmacotherapy. *Urology.* 2007;70(5):980-983.
33. Sillen U, Arwidsson C, Doroszkiewicz M, et al. Effects of transcutaneous neuromodulation (TENS) on overactive bladder symptoms in children: a randomized controlled trial. *Journal of pediatric urology.* 2014;10(6):1100-1105.
34. Skeil D, Thorpe AC. Transcutaneous electrical nerve stimulation in the treatment of neurological patients with urinary symptoms. *BJU Int.* 2001;88(9):899-908.
35. Bower WF, Moore KH, Adams RD, Shepherd R. A urodynamic study of surface neuromodulation versus sham in detrusor instability and sensory urgency. *J. Urol.* 1998;160(6 Pt 1):2133-2136.
36. Soomro NA, Khadra MH, Robson W, Neal DE. A crossover randomized trial of transcutaneous electrical nerve stimulation and oxybutynin in patients with detrusor instability. *J. Urol.* 2001;166(1):146-149.
37. Barroso Jr U, Lordêlo P, Lopes AA, Andrade J, Macedo Jr A, Ortiz V. Nonpharmacological treatment of lower urinary tract dysfunction using biofeedback and transcutaneous electrical stimulation: A pilot study. *BJU Int.* 2006;98(1):166-171.

38. Yokozuka M, Namima T, Nakagawa H, Ichie M, Handa Y. Effects and indications of sacral surface therapeutic electrical stimulation in refractory urinary incontinence. *Clin. Rehabil.* 2004;18(8):899-907.
39. Walsh IK, Thompson T, Loughridge WG, Johnston SR, Keane PF, Stone AR. Non-invasive antidromic neurostimulation: a simple effective method for improving bladder storage. *Neurourol. Urodyn.* 2001;20(1):73-84.
40. Tršinar B, Kralj B. Maximal electrical stimulation in children with unstable bladder and nocturnal enuresis and/or daytime incontinence: A controlled study. *Neurourol. Urodyn.* 1996;15(2):133-142.
41. de Seze M, Raibaut P, Gallien P, et al. Transcutaneous posterior tibial nerve stimulation for treatment of the overactive bladder syndrome in multiple sclerosis: results of a multicenter prospective study. *Neurourol. Urodyn.* 2011;30(3):306-311.
42. Tellenbach M, Schneider M, Mordasini L, Thalmann GN, Kessler TM. Transcutaneous electrical nerve stimulation: an effective treatment for refractory non-neurogenic overactive bladder syndrome? *World J. Urol.* 2013;31(5):1205-1210.
43. Perissinotto MC, D'Ancona CAL, Lucio A, Campos RM, Abreu A. Transcutaneous tibial nerve stimulation in the treatment of lower urinary tract symptoms and its impact on health-related quality of life in patients with Parkinson disease: a randomized controlled trial. *J. Wound. Ostomy Continence Nurs.* 2015;42(1):94-99.
44. Amarenco G, Ismael SS, Even-Schneider A, et al. Urodynamic effect of acute transcutaneous posterior tibial nerve stimulation in overactive bladder. *J. Urol.* 2003;169(6):2210-2215.
45. Souto SC, Reis LO, Palma T, Palma P, Denardi F. Prospective and randomized comparison of electrical stimulation of the posterior tibial nerve versus oxybutynin versus their combination for treatment of women with overactive bladder syndrome. *World J. Urol.* 2014;32(1):179-184.
46. Booth J, Hagen S, McClurg D, et al. A feasibility study of transcutaneous posterior tibial nerve stimulation for bladder and bowel dysfunction in elderly adults in residential care. *Journal of the American Medical Directors Association.* 2013;14(4):270-274.
47. Bower WF, Moore KH, Adams RD. A pilot study of the home application of transcutaneous neuromodulation in children with urgency or urge incontinence. *J. Urol.* 2001;166(6):2420-2422.
48. Yamanishi T, Yasuda K, Sakakibara R, Hattori T, Suda S. Randomized, double-blind study of electrical stimulation for urinary incontinence due to detrusor overactivity. *Urology.* 2000;55(3):353-357.
49. Nakamura M, Sakurai T, Tsujimoto Y, Tada Y. Bladder inhibition by electrical stimulation of the perianal skin. *Urol. Int.* 1986;41(1):62-63.
50. McGuire EJ, Zhang SC, Horwinski ER, Lytton B. Treatment of motor and sensory detrusor instability by electrical stimulation. *J. Urol.* 1983;129(1):78-79.
51. Hasan ST, Robson WA, Pridie AK, Neal DE. Transcutaneous electrical nerve stimulation and temporary S3 neuromodulation in idiopathic detrusor instability. *J. Urol.* 1996;155(6):2005-2011.
52. Walsh IK, Johnston RS, Keane PF. Transcutaneous sacral neurostimulation for irritative voiding dysfunction. *Eur. Urol.* 1999;35(3):192-196.
53. Slovak M, Chapple CR, Barker AT. Non-invasive transcutaneous electrical stimulation in the treatment of overactive bladder. *Asian Journal of Urology.* 2015;2(2):92-101.
54. Arruda RM, Castro RA, Sousa GC, Sartori MG, Baracat EC, Girao MJ. Prospective randomized comparison of oxybutynin, functional electrostimulation, and pelvic floor training for treatment of detrusor overactivity in women. *Int. Urogynecol. J. Pelvic Floor Dysfunct.* 2008;19(8):1055-1061.
55. Brubaker L. Electrical stimulation in overactive bladder. *Urology.* 2000;55(5A Suppl):17-23; discussion 31-12.
56. Ben-Dror I, Weissman A, Leurer M, Eldor-Itskovitz J, Lowenstein L. Alterations of heart rate variability in women with overactive bladder syndrome. *International Urogynecology Journal.* 2012;23(8):1081-1086.

57. Hubeaux K, Deffieux X, Raibaut P, Le Breton F, Jousse M, Amarenco G. Evidence for autonomic nervous system dysfunction in females with idiopathic overactive bladder syndrome. *Neurourol. Urodyn.* 2011;30(8):1467-1472.
58. Holey LA, Dixon J. Connective tissue manipulation: A review of theory and clinical evidence. *Journal of Bodywork and Movement Therapies.* 2014;18(1):112-118.
59. Gursen C, Kerem GM, Kaya S, Kav, T., Akbayrak T. Effects of connective tissue manipulation in patients with constipation: a randomised controlled trial. *Neurourol. Urodyn.* 2014;33(6):863-864.
60. Haylen B, Ridder D, Freeman R, et al. An International Urogynecological Association (IUGA)/International Continence Society (ICS) joint report on the terminology for female pelvic floor dysfunction. *International Urogynecology Journal.* 2010;21(1):5-26.

Anorectal dysfunction in adults

1.Review of the literature (15 minutes)

Keywords:

Pelvic floor dyssynergia, functional defecation disorders, biofeedback, constipation, anal pain

Evaluation/tests: Wexner, Altomare,VAS, SF36, BET, Manometry, Colon Transit time, PAC-Qof,

Therapy: PFME, ES, Biofeedback, laxatives

Definition dyssynergic defecation is characterized by paradoxal anal contraction, inadequate anal relaxation and/or inadequate push effort caused by lack of coordination of abdominal,rectal and anal muscles(RAO,2011)

Table 1: Overview of studies investigating the efficacy of physiotherapy for dyssynergic defecation

Autor year	Chiarioni et al 2006 RCT Biofeedback vs laxatives	Rao et al 2007 RCT Biofeedback vs sham(relaxationtechniques) and standard care(diet, excercise and laxatives)	Heymen et al 2009 RCT Biofeedback vs diazepam vs placebo	Rao, 2010 RCT Long term efficacy of biofeedbacktherapy	Cadeccu 2014 RCT Efficacy of BF plus anal elektrostimulation	Ahadi 2014 non -RCT BF on DD in pt with and without IBS	Lee, 2015 retrospective analyse longterm efficacy of BF
N	109 n=54 BF n=55 Control	65 n=21 BF n=21 Sham n= 23 Standard	84 n=30 BF n=30 Diazepam n=24 placebo	26 n=13 BF n=13 standard	81 n=40 BF and ES n=41 standard	41 19 pt IBS n=41 BF	85
Pt	Normal transit constipation secondary to DD	Chronic constipation and DD	Constipation and DD	Constipation and DD	Constipation and DD	Patients with and without IBS	DD
Question./ tests	Bowel diary Anorectal manometry EMG outcome BET	BET Global bowel satisfaction(VAS)	SF36 Bristol stool PAC-QOL	Stool diaries VAS Colonic transit Anorectal manometry BET	PAC-QOL Wexner(0-30) ODS(obstructed defecation score, altomare Manometry BET	BET Likert scale.	Manometrie BET Colon transit time Defecografie
Therapy content	Intervention: Bioufeedback Practice defecation with water filled balloon Control: laxatives and counseling sessions	Standard(diet, exercise, laxatives)(n-24 Sham: muscle relaxation with BF(n=25) Relaxationtechniques with audiotape) Biofeedback(n=28) rectoanal coordination	EMG BT diazepam placebo(pil)	BF including toilettraining vs standard treatment(Laxatives and toilettraining)	Compare EMG/ ES With standard Excercises/diet/laxatives	EMG	EMG
Sessions	5	5	6	6	6	8	6
Follow up(mths)	6,12,24	3	3,6,12	12	After treatment and 6 months	After treatment	44
Result	Major improvement 80%vs 22% at 6 months. Sustained 12 and 24 mnths Improved straining, abdominal pain Dyssynergia correction 63% Decreased BET	Improved Satisfaction 75%vs 63% vs 48% More CSBM(bowel movement without feeling of incomplete evacuation) More dyssynergia correction 79%vs 8,3 vs 4 Decreased BET BF vs standard vs sham	Adequate relief of constipation 70%vs 23%(diazepam) vs 38% placebo More pelvic floor relaxation at 3 mnth	Significant increasing CSBMs/week in BF group Dyssynergiapattern normalized, BETtime improved in BF group after one year Defecation index decreased	Wexner decrease sign16.7 to 10 ODS score 18.3 to 5,7 in BF group	Improvement of abdominal pain and bloating	Improvement of bowel symptoms in a considerable proportion of constipated pt with DD more than 2 years 58% estimated over 5 years

Case

48 year old women with obstructive defecation, chronic anal and abdominal pain and bloating for 4 years.

Patient is operated in 2010 for haemerroids ,3 months after delivery of her second child. 2 times RBL(Rubber band Ligation) and finally PPH in one year. She had a lot of pain after the operation during and after defecation. Because of pain she could not walk longer then 10 minutes and she avoids sitting.
1 year after the operation the surgeon tried Botox in the IAS with little succes. 4 years later she still has difficulty to evacuate and bleeding during defecation. She is anxious to go to toilet and has pain in her abdomen.
Untill now she is not able to walk and sit for longer than 30 minutes.

Discussion in small groups (20 Minutes); questions asked by the chair or the participants

- what more information on the history do you need?
- are all risk-factors asked?
- what diagnostic tools do you use and what are the expectations?
- what are the steps to take for the therapy?
- what will be your the hypothesis:
- what effect may be expected ? Short and long term?
- what do you explain to the patient?
- what is lacking? What need to be in a research program?

3. Take home message (5 minutes)

Therapeutic Pain Neuroscience Education in the treatment of Chronic Pelvic Pain

Dr Beth Shelly PT, DPT, WCS, BCB PMD

Physiotherapy Round Table at the ICS Annual Meeting - Florence Italy
Thursday September 14, 2017

Therapeutic Neuroscience education teaching patients about pain - Louw and Puentedura. 2013
Explain Pain Supercharged - Moseley and Butler 2017

Therapeutic Neuroscience Education (TNE)

- Education to help patients reconceptualize their pain
- Leading to decreased experience of pain, decreased catastropization and ultimately improved function.
- Simply said - the more you learn about your pain the less pain you have.
- We do not teach biomechanics of the body - we teach about pain
- Using metaphors and stories

12 RCT and 2 systematic reviews on pain education (Louw 2011)

- Ave pain reduction of 3.1 points on VAS after a single one on one session
- After 4 week combined PT and TNE - significant treatment effect in 86% of patients with chronic LBP
- Decreased fear of movement
- Less catastrophizing
- Better pain coping, pain attitudes, pain self efficacy
- Better movement
    - Neurodynamic test
    - Spinal movement
    - Motor control, physical performance

Treatments to decrease the sensitivity and/or activity of the nervous system

Hands off	Hands on / modalities

• Cognitive Behavioral Therapy (CBT)
• **Neurophysiologically-based pain education**
• Affirmations and positive thinking, joy and laughter
• Diaphragm Breathing
• Relaxation training
  ○ Suggestions for autosuggestion
  ○ Visualization, Imagery
  ○ Breath work - Diaphragmatic breathing
  ○ Body scanning
  ○ Contract relax
  ○ Motor imagery
  ○ Perineal bulging
  ○ Sexual desensitization
• Yoga
• Aerobic exercise
• Graded Motor exposure / imagery
	• Generalized connective tissue mobilization
	• Massage for relaxation
	• Heat / cold
	• Transcutaneous electrical nerve stimulation (TENS)

Which patients can benefit - Central sensitization

- Strongest predictor = disproportionate, non-mechanical pain, and unpredictable pattern of pain provocation
- Logistical regression - cluster of 3 symptoms and 1 sign predictive of CS (Smart 2012)
    - Disproportionate, non-mechanical pain, and unpredictable pattern of pain provocation
    - Pain disproportionate to type of injury or pathology - less pain tolerance
    - Strong association with maladaptive psychosocial factors (negative emotions, poor self efficacy, pain behaviors) - Pain responds to stress and anxiety
    - Defuse / non-anatomic areas of pain and tenderness on palpation
- Pain longer than 12 weeks
- Pain increased by small movement or no movement
- Diffuse and bilateral pain / tenderness, wide spread, non anatomical, spread of pain
- Burning shooting, crushing, non-dermatomal, allodynia or hyperalgesia
- Multiple systems involved – sleep, bladder, bowel, muscles, joints, immune system
- Depression, fear avoidance, catastrophization - patient consider their pain as more threatening and demonstrate less adaptive coping strategies
- Previous treatment failure - treatment adherence for active treatments is low

Time

- Ideally started on the first visit
- Class session - class(es) 1 to 4 hrs, 4 to 10 participants
- One session with one patient - Evidence suggests one on one is best
- Throughout PT - 10 to 20 min each PT session - total 2.5 to 4 hrs
- TNE can be billed under Ther act, Ther ex or NM

Method

- Also best if used with manual therapy and exercise
- Free form - address incorrect assumptions as they arise (might miss some concepts)
- Structured - follow a workbook, education system cards, or review questions on the Pain test
- Give homework between sessions
- Teach about pain using metaphors and stories

Three type of patients

- No way
    - Not ready to hear
    - Become upset and challenge you, might not come back
    - 5 to 10% of patients
- I get it
    - Say they understand but do not integrate information
    - Superficial learning
    - Majority of patients
- YES! I get it
    - Deep learning
    - Internalizes messages
    - Applies principles

Teaching topics

1. Pain is normal, personal and always real

2. There are danger sensors, not pain sensors

3. Pain and tissue damage rarely relate

4. Pain depends on the balance of danger and safety

5. Pain involves distributed brain activity

6. Pain relies on context

7. Pain is one of many protective outputs

8. We are bioplastic

9. Learning about pain can help the individual and society

10. Active treatment strategies promote recovery

Louw A, Puentedura EJ. Therapeutic neuroscience education - Teaching patients about pain. International Spine and Pain Institute USA 2013.

Louw A, Diener I, Butler DS, Puentedura EJ. Systematic review: The effect of neuroscience education on pain, disability, anxiety, and stress in chronic musculoskeletal pain. Arch Phys Med Rehabil (2011) 92:2041-2056).

Moseley GL, Butler DS. Explain pain supercharged. Noigroup South Australia 2017.

Smart KM, et al. The discriminative validity of "nocicepetive," "peripheral neuropathic," and "central sensitization" as mechanism-based classifications of musculoskeletal pain. Clin J Pain 2011;27(8):655-663.

Workshop Pelvic Floor Therapy in children with constipation, bloating and or abdominal pain. The Dutch way of coaching?

Bernadette Berendes-van Dijk

1.Review of the literature (10 minutes)

Childhood boweldysfunctions, daily incontinence for feces, constipation, bloating, abdominal pain.

Side effects: comorbid behaviour aspects, child's psychsocial functioning, effect on growth and thrive

The Rome criteria were revised in 2016 in favor for infants/toddlers and for children and adolescents.

Rome IV criteria:

At least two of the following present at least once per week for at least one month*

Two or fewer defecations in the toilet per week

At least one episode of fecal incontinence per week

History of painful or hard bowel movements

Presence of a large fecal mass in the rectum

History of large-diameter stools that may obstruct the toilet

The symptoms cannot be fully explained by another medical condition.

* In addition, the symptoms are insufficient to fulfill the diagnostic criteria of irritable bowel syndrome.

Patiënts: children 4-18 years
Questionnaires: CBBDQ (childhood bladder and bowel dysfunction Questionnaire
SDQ(Strength & Difficulties Questionnaire
PedsQL
Diary miction, defecation
GPE

Advantage: child friendly, painless, low-cost, non-invasive

Literature overview concerning efficacy of pelvic floor physiotherapy in children with constipation

author	N	effect	therapy	time
Marieke van Engelenburg et all. 2017 **Functional Constipation** **PPT versus SMC**	**53 child** **4-17 yr.**	**Increase bowelmovements** **5,1d/w versus 3.9 d/w** **Significant decrease of use laxatives** **Significant decrease of FI**	**Pelvic Physiotherapy**	**6 wk** **6 month**
Da Silva, Motta 2013 **Functional Constipation** **Physiotherapy versus use of laxatives**	**72 child** **4-18 yr.**	**Bowelmovements increase** **FI stays unchanged**	**Abdominal massage** **Breathing exercise** **Abdominal muscle training**	**6 wk**
Zivkovic et all. 2016 **Children with bladder and/or Bowel dysfunction**	**79 child** **5-15 yr**	**Increase of defecation** **Decreease of FI** **Reduce of LUTS**	**Interferential electrostimulation** **Diaphragmatic Breathing exercise**	**6 wk**
Marieke van Dijk et all. 2007 **Behavioural therapy for children with constipation** **Behavioural therapy versus conservative treatment**	**134 child** **4-18 yr.**	**No decrease of FI** **No increase of bowelmovement**	**Behavioural therapy**	**6 month**

PPT = pelvic Physiotherapy

SMC= standard medical care

2. Case

Boy, 7 years old, referred by the pediatrician for bladder and bowel dysfunction with constipation and incontinence for feces.

Never been house- trained.

Now wearing an incontinence diper for the night, during the day an Underwunder pant.

absorption 75 ml in 4 hours.

When he was starting the treatment physiotherapy , he got oxybutynin to relax the bladder so he could void bigger volumes. The second problem was the constipation, which may be a possible side effect of using oxybutynin. But before using that medicine, he also was seen in a tertiary healthcare centre the AMC (Amsterdam Medical Centre, a university hospital) for constipation. There he was prescribed laxation (macrogol).

He had some education from the uro-therapist but it wasn't enough to get rid of the problem.

History taking:

Micturition pattern: Frequency , voiding> 8x; highest volume 100 ml, mostly 80 ml/ void (normal for his age = 210-270 ml)

Short delay of voiding isn't possible

Fluid intake: < 1 liter

Food: mother tells he is a good eater and she takes care for healthy food, rich of fibres, fruit and vegetables, dark bread.

Stool: Bristol 3 or 4. At the moment there is no constipation, but sometimes it occurs.

Using laxation (macrogol) and 3 times a day taking time to sit on the toilet seems to be under control but despite using the behaviour rules there are each day wet and dirty pants.

Questions asked by participants, or questions to discuss

- which more information on the history do you need?

- are all risk-factors asked?

- what are the steps to make in therapy?

- what do you explain/ tell to the patient/parents?

- which information is lacking? What need to be placed in a research program?

3. Take home message (5 minutes)

- It seems that Pelvic Physiotherapy has great effects on bowel dysfunction in children. However studies are scarce and it concerned a relative little group children, so the studies are small.

- PPT isn't automatically the same therapy worldwide, so wich components have to be focused to know what are the most effective elements in PPT.
- The complaints of boweldysfunction are often accompanied by other problems, abdominal pain and LUTS (enuresis, daytime urinary incontinence, urinary tract infection). Jojanneke van Summeren, researcher in the UMCG, university Groningen, has found that constipation and LUTS often accompany each other but the reported prevalence is various. Therefore further research about this topic, LUTS in children with constipation, is important.

Workshop: How to Exam and Train Involuntary Pelvic Floor Muscle Function?

Jacqueline de Jong

1.Review of the literature

Increased IAP, which is transmitted to the bladder and urethra and occurs for example during coughing and lifting [1,2,3] may be associated with stress urinary incontinence (SUI) [4,5]. When IAP rises, the PFMs should involuntary contract to maintain continence. Various studies have shown that conscious contraction of the PFMs prior to coughing (Knack-Manoeuvre) can reduce or prevent urinary leakage in stress incontinent subjects [5,6]. Miller et al. found a reduced vesical neck displacement in dorsocaudal direction visualized by perineal ultrasound, during a cough performed with the Knack compared to a cough without a contraction of pelvic floor muscles. The hypothesis was tested in healthy nulliparous and in incontinent parous women. It can therefore be assumed that an involuntary contraction of the PFMs during a cough or forced expiration should have the same effect. Multiple studies have shown that activity of the PFMs during coughing differs in continent and incontinent women [1,7]. Lovegrove and Constantinou showed that during a cough in subjects with a normal PFM function the PFM contracts and compresses the urogenital structures towards the symphysis pubis, providings external support to the urethra, reducing displacement velocity and acceleration. In women with SUI this compression was weak or absent [1, 2]. In women with a weak PF an absent or altered pattern of PFMC during coughing has been described [9,10]. Thomson et al. 2006 demonstrated an altered pattern of muscle activation of PFM and [8] abdominal muscles in SUI symptomatic subjects . In the treatment of SUI, PFM-training has, based on meta-analysis, received Level-A evidence rating. [11,12]. Goal of PFM- training is to improve PFM function in strength, endurance and coordination (muscular activity during effort and on exertion)[13]. Multiple studies exploring motor control strategies between abdominal muscles and PFMs demonstrate that the AAMs work in synergy with the PFMs. Studies of Sapsford, Urugart and Ferreira showed a synergic PFMs activation during abdominal exercises [14,15,16]. Hodges et al. reported that it was not possible to contract the PFMs without contracting the TrA and IO [14,17,18,19]. In clinical practice an involuntary PFMC can be assessed by different tools such as visual inspection (VIP), palpation (PA), and transperineal ultrasound (US). Although reliability of PFM strength assessment has been evaluated and clinically established, there is still a lack of consistency in evaluating an involuntary PFMC.

2. Case history

Helena is a 34-year-old woman with the diagnosis of a functional stool incontinence. She is referred by a gastroenterologist to a pelvic floor physiotherapist. Helena is an independent working podiatrist with a fully booked agenda. She has two children and is married with her husband mainly working.

History

Helena has suffered since her adolescence of an irritable bowel syndrome with episodes of diarrhoea and constipation. Following a rupture of the uterus, after childbirth, symptoms of faecal incontinence occurred. After three years endometriosis was diagnosed and Helena underwent abdominopelvic surgery including hysterectomy, dorsal vaginectomy and a low-anterior rectum resection with re-anastomose. Since this operation massive exacerbation of faecal incontinence, abdominal bloating, flatulence, and abdominal pain. Especially during her work, she is suffering of gas and stool discharge while bending over to the customers. She also reported of a stool discharge during asthma attacks. Vaginal and abdominal pain occur during sexual intercourse. Normal bladder and micturition history. General health is o.k.

Consultation reason:	**Stool Incontinence**
Patient's name:	Helena
Psychosocial Context:	• Age: 34 years • Sex: female • Occupation: podiatrist • marital status: married • Physical activity: occasional walks • ADL: sitting during work, frequently car driving to transfer her sons to the football (6 times a week)
Medical context:	**No other treatment or Co-morbidities** **Gynaecological and obstetrical history:** • 1 caesarean sections • 1 spontaneous childbirth • uterus rupture after childbirth • hysterectomy and dorsal vaginectomy (endometriosis) **Defecation history** • low anterior rectum resection • stricture of the anastomosis **Micturition history** • No abnormalities **Sexual function** • Vaginal pain during sexual intercourse

Discussion in groups (20 minutes)

Would you treat this patient?

Do you have enough information about the patient?

How would you evaluate this patient?

How would you substantiate your choice of treatment?

How would you expect the success rate to be?

3. Take home message (5 minutes)

References:

1. *Lovegrove Jones RC, Peng Q, Stokes M, Humphrey VF, Payne C, Constantinou CE. Mechanisms of PFM function and the effect on the urethra during a cough. Eur Urol. 2010 Jun;57(6):1101-10.*

2. *Deffieux X, Raibault P, Rene-Corail P, Katz R, Perrigot M, Ismael S, Thoumie P, Amarenco G. External Anal Sphincter Contraction During Cough: Not a simple spinal reflex. 2006: Neurouro and Urodyn 25:782-787*

3. *Peng Q, Jones R, Shishido K, Constantinou CE, Ultrasound Evaluation of Dynamic Responses of Female Pelvic Floor Muscles. Ultrasound Med. Biol. 2007 March; 33(3): 342-352*

4. *Petros Papa PE, Ulmsten U. Urethral pressure increase on effort orginates from within the urethra and continence from muscolovaginal closure. Neurourol and urodyn. 1995;14:337-350*

5. *DeLancey JO. Why do women have stress urinary incontinence? Neururol and Urodyn. 2010;29:13-17*

6. *Miller JM, Ashton-Miller JA, DeLancey JO.A pelvic floor precontraction can reduce cough-related urine loss in selected women with mild SUI. J Am Geriatr Soc. 1998 Jul; 46(7):870-4.*

7. *Miller JM, Perucchini D, Carchidi LT, Delancey JO, Ashton Miller J. Pelvic floor muscle contraction during a cough and decreased vesical neck mobility. Obstet Gynecol. 2001 Feb;97(2):255-60.*

8. *Thompson JA, O`Sullivan PB, Briffa NK, Neumann P. Altered muscle activation patterns in symptomatic women during PFM contraction and valsalva manoeuvre. Neurourol Urodyn 2006;25(3):268-76*

9. *Deffieux X, Hubeaux K, Porcher R, Ismael S, Raibault P, Amarenco G, Abnormal Pelvic Response to Cough in Women with Stress Urinary Incontinence, Neurourology and Urodynamics 2008 27:291–296*

10. *Bø K, Mørkved S, Frawley H, Sherburn M. Evidence for benefit of transversus abdominis training alone or in combination with pelvic floor muscle training to treat female urinary incontinence: A systematic review. Neurourol Urodyn. 2009; 28(5):368-73*

11. *Hay-Smith EJ, Herderschee R, Dumoulin C, Herbison GP. Comparisons of approaches to PFMT for urinary incontinence in women. Cochrane Database Syst Rev. 2011 Dec 7; (12):CD009508.*

12. *Dumoulin C, Hay-Smith J. Pelvic floor muscle training versus no treatment, or inactive control treatments, for urinary incontinence in women. Cochrane Database Syst Rev. 2010 Jan 20; (1):CD005654.*

13. *Messelink B et al. Standardization of terminology in pelvic floor muscle function and dysfunction. Report from the pelvic floor clinical assessment group of the ICS. Neurourol and Urodyn. 2005;24:374-380*

14. *Sapsford RR, Hodges PW, Richardson CA, Cooper DH, Markwell SJ, Jull GA, Co-activation of the abdominal and PFMS during voluntary exercises. Neurourol Urodyn 2001;20(1):31-42*

15. *Urguhart DM, Hodges PW, Story JH. Postural activity of the abdominal muscles varies between regions of the muscles and between body positions. Gait posture. 2005;22:295-301*

16. *Ferreira PH, Ferreira ML, Nascimento DP, Pinto RZ, Franco MR, Hodges PW. Discriminative and reliability analysis of ultrasound measurement of abdominal muscle recruitment. Manual Therapy. 2012;16:463-68*

17. *Hodges PW, Sapsfors R, Pengel LH,Postural and repiratory functions of the pelvic floor muscles. Neurourol. Urodyn 2007;26(3):362-71.*

18. *Junginger B, Baessler K, Sapsford R, Hodges PW. Effect of abdominal and PF tasks on muscle activity, abdominal pressure and bladder neck. Int Urogynecol J Pelvic Floor Dysfunct. 2010 Jan; 21(1):69-77.*

19. *Madill SJ, McLean L. Quantification of abdominal and pelvic floor muscle synergies in response to voluntary pelvic floor muscle contractions. J of Electromyography and Kinesiology. 2008:955-64*

Case study: Vulval and Urethral Pain

27 year old Italian woman who has been living in Australia for the last 4 years. She has recently been to Italy to see family and friends – no relief from pain while on holiday, and significant pain with sexual intercourse (with previous Italian partner from before coming to Australia – really wants to be with him but also wants to be in Australia and so won't just return home for his sake). She is otherwise not sexually active and hasn't been for some time. Nulliparous, works in retail, occasionally drinks with friends.
Past Medical Hx: nil of note

Current Problem: Vulvar pain, started 6-7 years ago, not getting worse or better, burning pain
Q-tip: P6/10 - 1 o'clock – 12 o'clock

- No asthma, eczema, hayfever
- Nil bladder or bowel pain, incontinence or dysfunction
- Urethral pain but no dysuria
- Urinalysis: +ve for Leukocytes, Nitrites & Haemoglobin ++

Aggravating factors – tampons P10/10, sex intercourse P10/10, tight clothing P8/10
Unsure of **Ease factors**

- First sexually active age 16, 3 yrs painfree
- pain is in one spot/lump near urethra – no deep vaginal pain
- last sex activity (other than in Italy) was >5yrs ago

Urethral pain felt as a 'lump' - Altered body perception
Belief she needed a surgical fix for "vaginal lump"
- very distressed by "lump" -"it's not mine", "it shouldn't be there", "I want it removed"

VE: Thickened urethra at vaginal introitus, no real "lump".
Unable to do complete VE due to burning pain at vaginal introitus.
Perineal muscles overactive (bulbospongiosis)

Case Study: Secondary Vaginismus

32 year old, nulliparous, married for 3 years, working long hours as a lawyer in personal injury and abuse law, under a 'manipulative' boss who is abusive to her. She has a history of family dysfunction and trauma, plus sexual abuse by an uncle when she was a young teenager. Her family did not support her through this and she had enforced ongoing social contact with him. Her marriage is close and non-abusive. She has a supportive friendship group who she can relax and have fun with.

Current Problem: Dyspareunia and secondary vaginismus for past 2 years.
This problem has resulted in the secondary effects of reduced sexual interest, arousal and sexual relationship with her husband.
No bladder or bowel issues.
Is currently seeing a sexual counsellor and has good insight into her issues.
Also:

- severe migraines
- neck and back pain
- heavy painful menstruation

Past issues: Was sexually active at university and now feels as though she was 'used' in these sexual contacts. She feels she now has a 'trust' issue.

On Examination:
VE: Pelvic floor and Perineal muscles overactive
Unable to contract/relax PF muscles with speed - sluggish relaxation
PFM strength ICS scale: Moderate
10 sec PFM hold with normal respiration
Normal respiration at rest, able to correctly do abdominal breathing
Unable to do isolated pelvic movements – pelvic rock, circling

Electrostimulation of the pevic floor

1. Review of the literature

Keywords:
Electrical stimulation, pelvic floor , contraction , relaxation, urine incontinence , fecal incontinence, constipation, pelvic pain, multiple sclerosis

Therapy; ES; PFME with ES, Biofeedback with ES
Symptoms : SUI, OAB, FI,constipation, sexual dysorder (vaginisme, ED) pelvic floor dyssynergia

autor	Kampen 2003 cohort	Mc Clurg 2008 RCT	Mariotti 2015 Prospective cohort	Norton C 2012 cochrane review	Cadeddu 2014 randomized trial
N	51	74 17 male	120 I :60 :14 days after catheter removal II: 60: 12 month after surgery	1525 21 studies 6 ES 2 ES meta-analyse Schwandner/Fynes	80
Pt	ED	MS with lower urinary tract dysfunction	After surgery RP	Fecal incontinence	Dyssynergie constipation
Questionnaire /test	interview	3-day bladder diary 24-pad test Leakage episodes-24hour (IIQ, UDI, IPSS,VAS MSIS, Barthel index)	24 hour pad-test voiding diary	Wexner Manometry Vaizy FIQOL	Wexner ODS (obstructed defecation score) Manometry BET
Therapy Content Intervention	BFB and ES	BFB I BFB sham ES II BFB active ES	BFB and ES	Fynes:ES / BFB Schwandner:Middle frequency/low frequency	EMG/ES Standard exercise diet laxatives
Intervention ES	50Hz pulsduration 200µsec Stim 6sec 12 sec rest 15 min	40Hz puls duration 250µsec 5sec stim 10sec rest ramp 1 sec Bi-phasic 10Hz pulsduration 450µsec stim 10sec rest 3 sec Daily maximum of 30 min	(BFB 15 min) 30Hz 10 min 50Hz 10 min Puls duraion 300µs Visual lifting	Fynes: 20Hz 10 min 5sec stim 8sec rest 50Hz (min?)8sec stim 30 sec rest Schwandner: 25kHz modulation 40Hz 5-8 s stim 10-15 s rest	2 Hz Puls width 360-960µsec 30-35V 20 min 6/6weeks
Therapy sessions		54? /9 weeks	12/ (6weeks)	12 (12 weeks)	6/6weeks
results	47% normal erection	Leakage episode from 2 to II :0.4 /I:0.6 -24 uur pad-test I:220ml to 110ml II :150ml to 10ml in 24 hour	1year follow up I:96,7% II:91,7 % maintained continent	Meta analyse Fix RR 0.6 CI(0.46-0.78) ES : 40% more likely to achieve full continence	Wexner decrease from 16.7 naar 10 ODS decrease from 18.3 to 5.7 PAC-QOL from 61 to 23

autor	Berghmans B 2013 cochrane review	Voorham 2016 RCT	Jerez-Riog 2012 systematic review
N	544 6 ES	58	27 study
patients	UI in man (Radical prostectatomy)	OAB adult women	UI and OAB in women
Questionare test	24-hour pad test: 4 studies 20 min pad-test 1 studie 1 hour pad-test 1 studie IIQ 1 studie QOL 2 studies I-QOL 1 studie ICIQ-SF 1 studie KHQ 1studie	PeLFIs KHQ 24-hour pad-test Voiding diary Vaginal EMG	Pad test Voiding diary US VAS Strength evaluation with vaginal cones/ vaginal pressure/ subjective Number of pads/ urinations/ losses Subjective improvement QOL questionaires Severity of the symptoms
Therapy Content Intervention	ES versus no (active) treatment or other treatments	I: Biofeedback assisted pelvic floor muscle therapy 26 II: control toilet B Life style 23	ES versus placebo or other procedures for treatment
Intervention ES	Hoffman 2005: 14hz 250µsec Yokoyama 2004: 20Hz 300µsec Wille 2003 : 27Hz 1sec Moore 1999: 50Hz 1sec Yamanishi 2010: 50Hz 300µsec Cresoli 2002:?	8 Hz Puls duration 1000µs 20 min 11 : awareness 35 Hz pulsduration 250µs contractions	Home-based 12 (no study compared) 1 study compares different type ES Most symmetrical bifasic Most vaginal electrode Most commom 50Hz SUI 10Hz UUI/OAB Pulsduration 300µs Work-rest 2-10sec Maximum intensity 60-100mA 15-20 min most 20 min
Therapy sessions	Moore: 12 weeks 24 Wille: 2 times a day for 3 month Yamanishi: 2 daily Yokoyama: twice a day and twice a week	9 weeks:9	4 weeks- 6 month most 12 weeks
results	Some evidence ES effect in short term bur not after 6 month	I: Average loss of urine sign. reduction with 61% (46 to 18gm) PeLVIs sign improvement KHQ sign improvement (physical / social limitations,sleep/energy disturbance) Change emg-activity: decrease activity deeper parts in rest/MVC/endurance increase supperficial muscle activity during contractions	1 level II study 12 level III studies II and III: ES more effective than placebo ES by treatment UI and OAB Home-based ES not superial to placebo ES by treatment SUI II: 1 study PFMT more effective than ES by treatment SUI 5studies versus anticholinergic, ES fewer adverse effect and lower costs Subjective healing 25-90% Objective healing/improvement 15-88%

Case 1

Men, age 47, anal fissure, ointment for a period of 2 years,
regular obstipation

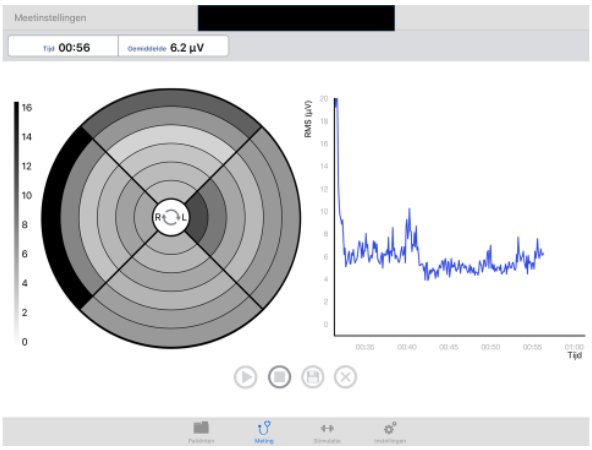
Feeling pressure during the day
During evacuation sometimes the fissure tear up and it bleeds , it sometimes hurts ; some times after defecation he has pain
The man is vital , likes the sport Kite surfing, seating accupation (ICT)

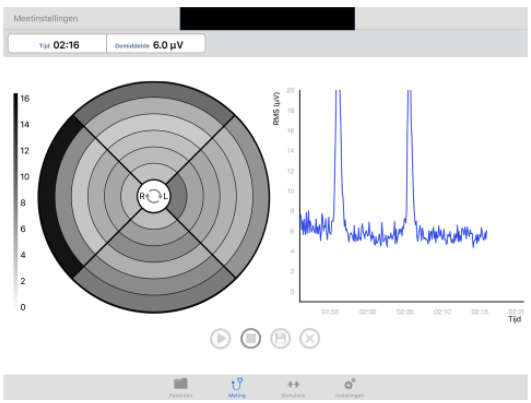
Untill now the fissure does not heal

Discussion:

- what more information on the history do you need?
- are all risk-factors asked?
- what diagnostic tools do you use and what are the expectations?
- what are the steps to take for the therapy?
- what effect may be expected ? Short and long term?
- what is lacking? What need to be in a research program?

Before treatment, first measurment



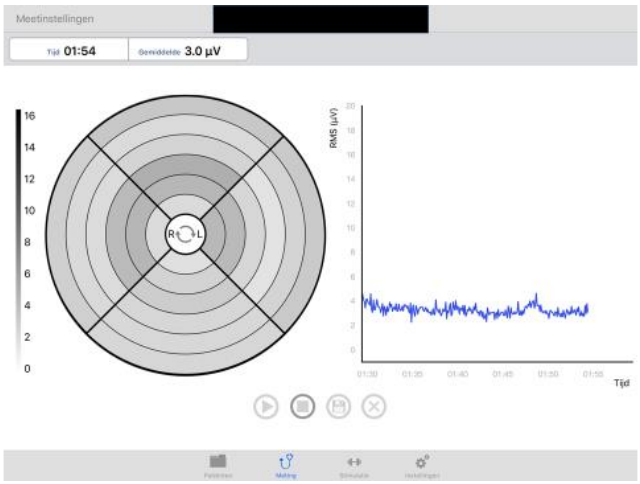


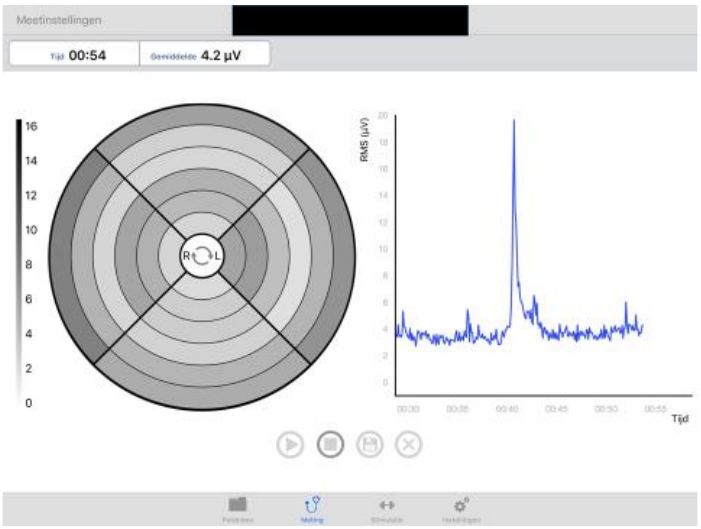
Treatment option:

Frequency 2Hz , pulsduration 400µs ,electrode position circle 4-5 , continuously

Frequency 35 Hz , pulsduration 250µs , electrode position circle 3-5, muscle contraction , fade in 2 s, hlod 4 s , fade out 2 s , rest 10 s 10 min

After treatment :





Case 2

Women age 76, fecal incontinence for years, every day

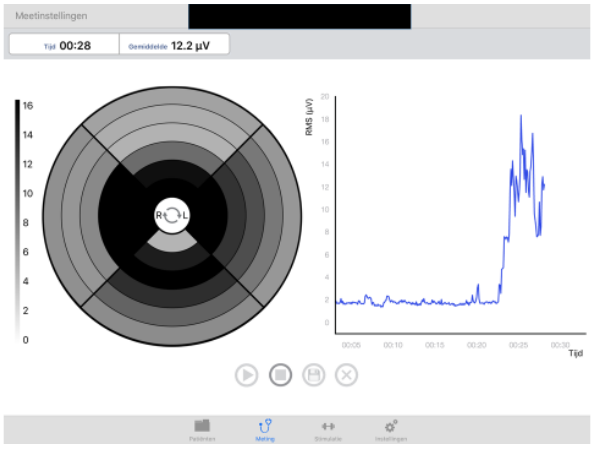
Often she has soft broad stool, she feels no urge for stools so often she has to run to the toilet because she feels she is going to loose some

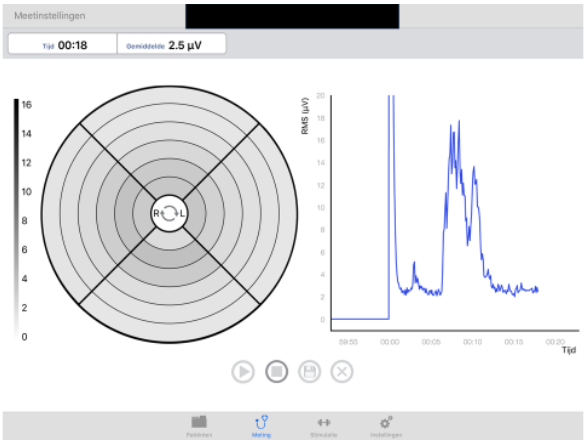
Vital women, she makes vast movements. Daily cycling and she likes to swim.

Discussion:

- what more information on the history do you need?
- are all risk-factors asked?
- what diagnostic tools do you use and what are the expectations?
- what are the steps to take for the therapy?
- what effect may be expected ? Short and long term?
- what is lacking? What need to be in a research program?

Before treatment, first measurement:

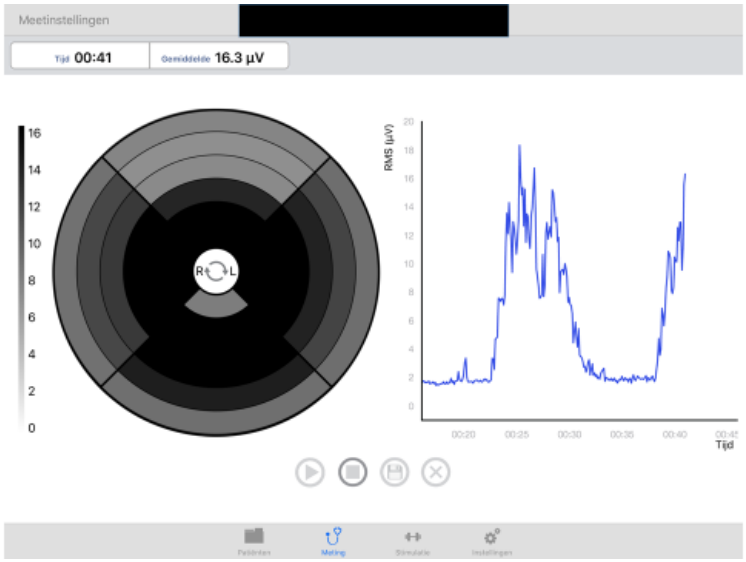


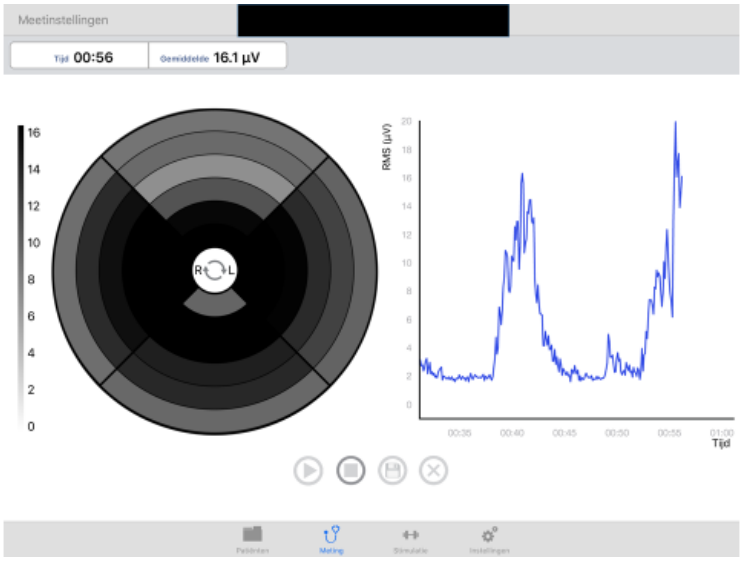


Treatment option:

Frequency 50 Hz, 250µs puls duration , circle 4-6 muscle contraction, fade in 2s , duration 4s, fade out 2 s, rest 10 s , 10-15 min

After treatment:





WORKSHOP Postpartum Consult

1.Review of your topic (20 minutes)

Definition:

A pelvic physiotherapy consultation for postpartum women with:

- Questions concerning changes and/or complaints due to pregnancy and childbirth.
- Pelvicfloor disfunctions postpartum: Urinary incontinence, anal incontinence, prolaps, pelvic pain and sexual disfunctions

Riskfactors for pelvicfloor disfunctions are: pregnancy >20 weeks, spontaneous vaginal delivery, ceasarean section, instrumental delivery, BMI

Prevalence of pelvic floor dysfunctions (MacLenan A.H. et al 2000)

Table 4. Prevalence of pelvic floor dysfunction by method of delivery for females. Values are given as *n* (%).

	No births ($n = 433$)	Caesarean section ($n = 100$)	Spontaneous vaginal delivery ($n = 718$)	Instrumental vaginal delivery ($n = 283$)
Stress	47 (10·9)	33 (33·0)	293 (40·8)	123 (43·5)
Urge	19 (4·4)	10 (10·0)	136 (19·1)	56 (19·8)
Flatus	23 (5·3)	9 (9·0)	91 (12·7)	45 (15·9)
Faecal	7 (1·6)	4 (4·0)	33 (4·6)	11 (3·9)
Bladder repairs	2 (0·5)	1 (1·0)	67 (9·2)	38 (11·0)
Rectal repairs	—	2 (2·0)	15 (2·1)	17 (6·0)
Prolapse symptoms	—	—	64 (8·9)	34 (12·0)
Vaginal hysterectomy	1 (0·2)	7 (7·0)	77 (10·7)	38 (13·4)
Any one of the above conditions	74 (12·4)	43 (43·0)	417 (58·0)	181 (64·0)

Prevalence increases in parity

Patients: Women from 6 weeks till 9 months Post Partum

Questionnaires:

- Incontinence Questionnaire-Urinary Incontinence-Short Form (ICIQ-UI-SF)
- Wexner
- Slieker-Pelvic Organ Prolaps Score (Slieker-POP Score)
- Numeric Pain Rating Scale (NPRS)

There are no studies on postpartum consultation for pelvic physiotherapy. Only studies on pelvicfloor disorders postpartum

Therapy: Pelvic Floor Muscle Therapy **(**PFMT) , Electro Stimulation (ES), Biofeedback (BF)

what is the evidence

Table 1: Overview of studies investigating the efficacy of physiotherapy on pelvicfloor dysfunction in postpartum women

Pelvicfloor disfunction	author	Subjects	Therapy	outcome
Urinary incontinence	Siv Mørkved, Kari Bø 2012 Systematic review	Women during pregnancy and after childbirth.	PFMT, ES,BF	Pelvic floor muscle training both during pregnancy and after delivery can prevent and treat urinary incontinence. A training protocol following general strength-training principles, emphasising close to maximum contractions and at least an 8-week training period can be recommended.
Urinary incontinence Anal incontinence	Boyle R1, Hay-Smith EJ, Cody JD, Mørkved S. Cochrane review 2014	antenatal and postnatal women	PFMT	Continent pregnant women (prevention) who had intensive antenatal PFMT were less likely to report urinary incontinence up to 6 months after delivery (risk ratio (RR) 0.71, 95% CI 0.54-0.95). Incontinent postnatal women (treatment) who received PFMT were less likely to report urinary incontinence 12 months after delivery (RR 0.60, 95% CI 0.35-1.03). In a mixed population (women with and without incontinence symptoms in late pregnancy or after delivery), PFMT did not reduce incontinence rates after delivery. There was little evidence about long-term effects for either urinary or fecal incontinence.
Urinary incontinence Anal incontinence Prolaps and dyspaeunia	Deffieux, Vieillefosse, Billecocq , Battut, Nizard , Coulm,, Thubert Review/guidelines 2015	Postpartum women	PFMT	Pelvic floor muscle therapy is recommended for persistent postpartum urinary (grade A) or anal (grade C) incontinence (3 months after delivery). Postpartum pelvic-floor rehabilitation is not associated with a decrease in the prevalence of dyspareunia at 1-year follow-up
Fecal incontinence	Rhona T. Mahony, MRCOG, Patricia A. Malone, MSc,Judith Nalty, B Physio, Michael Behan, FFR, RCSI, P. Ronan O'Connell, MD, Colm O'Herlihy, MD RCT 2004,	Postpartum women	BF PFMT ES	Intra-anal electromyographic biofeedback therapy was associated with improved continence and quality of life in women with altered fecal continence after delivery. The addition of electrical stimulation of the anal sphincter did not enhance symptomatic outcome.

Pelvicfloor dysfunction	author	Subjects	Therapy	outcome
Pelvic Girdle pain	Stuge et al. RCT 2004	Postpartum women		An individualized treatment approach with specific stabilizing exercises is shown to be effective for women with pelvic girdle pain 1 year after delivery. The significant differences between the groups persisted with continued low levels of pain and disability in the specific stabilizing exercise group 2 years after delivery. Significant reduction in disability was found within the control group. Those with the highest level of disability and greatest potential for improvements recovered most, regardless of intervention group

advantages of the therapy : painless, low cost, non-invasive

disadvantages of the therapy: none

Case Post Partum Consult

Women 37 years old, referred by the Obstetrician for prolapse and urinary incontinence 7 weeks Post Partum. She has often complaints of constipation.

During the last pregnancy were there also complaints of prolapse and stress urinary incontinence.

Para: 4
Vaginal delivery: 3, one miscarriage

First delivery episiotomy, other births without complications

Weight children: 3800gr, 4200gr, 4300 gr

She loses shoots of urine at bending forward, lifting and running. She experiences, in situations with abdominal pressure, a heavy feeling in her lower abdomen, whichi is getting worse during the day and with bending forward, lifting and running.

She has also problems to empty her bladder fully.

Fluid intake: 1-1,5 lters

Fiber: some times not enough, then that gives constipation. Uses no laxantia.

Stool : Bristol stool scale 2 or 4. Defecation daily

2.Discussion in groups (20 minutes)

Questions asked by the participants or questions to discuss

- what more information on the history do you need?

- are all risk-factors asked?

- what diagnostic tools do you use and what are the expectations?

- what are the steps to take for the therapy?

- what do you explain to the patient?

- what effect may be expected based on the literature? Short and long term?

- what is lifestyle change? What is physio?

- what is lacking? What need to be in a research program?

…

3.Take home message (5 minutes)

There are no studies on postpartum consultation for pelvic physiotherapy.

Pelvic floor muscle training both in pregnancy and after delivery can prevent and treat urinary incontinence. A training protocol following general strength-training principles, emphasising close to maximum contractions and at least an 8-week training period can be recommended.

There is little evidence that pelvic floor physiotherapy can treat anal incontinence postpartum.

There is no evidence that pelvic floor physiotherapy can treat dyspareunia and prolaps postpartum

There is also little evidence that an individualized treatment approach with specific stabilizing exercises is effective for women with pelvic girdle pain

From clinical expertise we expect that if we intervene (Post Partum Consult) in the postpartum period, we give prevention for aggravation of pelvicfloor dysfunctions on later stage. We need studies to investigate if that's actually the case.

We also need more studies on pelvic floor physiotherapy and postpartum pelvicfloor dysfunctions as: anal incontinence, prolaps, pelvic girlepain and sexual dysfunctions

Round Table Pelvic Floor Physiotherapy

ICS 2017 FLORENCE

Welcome
Glad you're here!

Petra J. Voorham- van der Zalm
Associate professor
Leiden University Medical Center
Dep. Of Urology
Leiden, The Netherlands

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Affiliations to disclose†:

None

† All financial ties (over the last year) that you may have with any business organisation with respect to the subjects mentioned during your presentation

Funding for speaker to attend:

- [X] Self-funded
- [ ] Institution (non-industry) funded
- [ ] Sponsored by:

Programme

ICS 2017 FLORENCE

START	END	TOPIC	SPEAKER
07:30	08:00	Doors open/coffee with light breakfast	
08:00	08:05	Welcome	Petra Voorham- van der Zalm
08:05	08:25	Prolapse and pelvic floor muscle training – state of the science	Suzanne Hagen
08:25	08:45	Vulvodynia	Murina Filippo
08:45	09:05	Overactive Bladder (OAB)	Stefan de Wachter
09:05	09:25	Is Pelvic Floor Muscle Training a Physical Therapy or a Behavioural Therapy?	Helena Frawley
09:25	09:45	Forum Discussion: Is pelvic floor muscle training a physical therapy or a behavioural therapy?	Helena Frawley, Sarah Dean, Susan Slade and Jean Hay-Smith
09:45	10:30	Report of the ICS Physiotherapy Committee	Doreen McClurg
10:30	11:00	Coffee	

Workshops

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11:00-11:45
Workshop Choice 1

11:45-12:30
Workshop Choice 2

Handouts of the workshops are in the app or online

Housekeeping

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- Questions after each presentation in the first part of this session
- Please come to the microphone and introduce yourself with your name, institution and country

Workshop Choices: Spadolini E W1-4

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W1: Effective, clinically feasible and sustainable care interventions to promote pelvic floor rehabilitation- Antonella Biroli and Gianfranco Lamberti

W2: Male Incontinence- Heather Moky

W3: Male Pelvic Pain- Cristiane Carboni

W4: Sexual Dysfunction- Rhonda K Kotarinos

Workshop Choices: Spadolini F W5-10

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W5: OAB- Rebekah Das

W6: Anorectal dysfunction in adults- Danielle van Reijn

W7: Therapeutic neuroscience education: how to teach patients about pain- Beth Shelly

W8: Anorectal dysfunction in children- Bernadette Berendes

W9: How to Exam and Train Involuntary Pelvic Floor Muscle Function- Jacqueline de Jong

Workshop choices: Spadolini G W11-14

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W10: Which factors are impacting on her pelvic pain more – local, psychological or central factors- Margaret Sherburn

W11: Electrostimulation of the pelvic floor- Dorien Bennik

W14: Post partum consult- Nicole van Bergen

Suzanne Hagen

Affiliations to disclose:

None

Funding for speaker to attend:

- [ ] Self-funded
- [x] Institution (non-industry) funded
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Cochrane Library

Prolapse & pelvic floor muscle training State of the science

A Cochrane Review update

Suzanne Hagen[1], Diane Stark[2], Pauline Campbell[1]

[1]NMAHP Research Unit, Glasgow Caledonian University, UK; [22]Colorectal/Stoma Care Office, Leicester Royal Infirmary, Leicester, UK Leicester, UK

nmahp-ru

Improving health through research

International Continence Society, Florence, September 2017

Background

nmahp-ru

- Prolapse is common, seen in 50% of parous women
- Women experience a variety of pelvic floor symptoms
- Treatments include surgery, mechanical devices and conservative management
- Lifestyle advice and pelvic floor muscle training (PFMT) often used in mild to moderate prolapse

Cochrane Review: conservative treatment for prolapse

nmahp-ru

- 2006: 3 RCTs (n=761 women)
  - limited evidence, no recommendations for practice
- 2011: 6 RCTs (n=975 women)
  - 4 compared PFMT with control (n=857)
  - 2 trials compared PFMT+surgery vs surgery alone (n=118)
  - no trials aimed at prolapse prevention
- *Some evidence available indicating a positive effect of PFMT for prolapse symptoms and severity*

Objective

nmahp-ru

- To determine the effects of conservative management (physical and lifestyle interventions) for the prevention or treatment of pelvic organ prolapse in comparison with no treatment or other treatment options (such as mechanical devices or surgery)

Outcomes

nmahp-ru

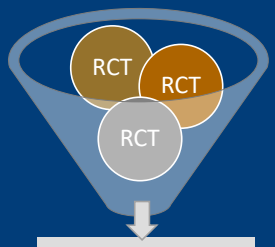
Women-reported:

- Improvement in prolapse
- Improvement in prolapse symptoms
  - Vaginal bulge
  - Something coming down
  - Pelvic heaviness
  - Global prolapse symptoms
- Prolapse symptom score
- Prolapse-specific QoL

Primary outcomes

- Prolapse severity (POP-Q)

Objective



- Define question research
- Comprehensive search
- Apply inclusion criteria
- Appraise quality
- Synthesise
- Analyse (meta-analysis)

Systematic review

THE COCHRANE COLLABORATION

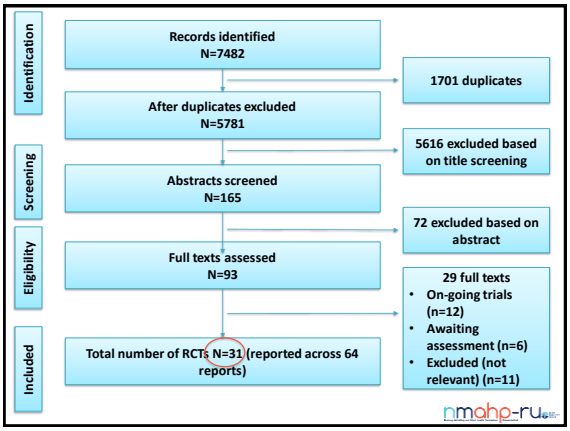
Systematic review methods

IDENTIFICATION OF TRIALS

- 10 electronic databases + major trial registers searched for ongoing trials
- Hand-searched the references of relevant articles
- Contacted academic institutions and other researchers
- No language or other restrictions imposed

DATA HANDLING

- 2 authors independently categorised trials, documented quality, extracted data
- Intervention description using TIDieR checklist
- Disagreements resolved by discussion
- Missing data sought from investigators



Broad types of trial

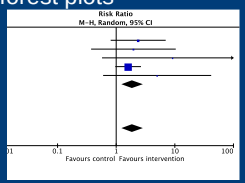
- Prevention trials (n=11)
  - Women during/post pregnancy (n=5) **Primary**
  - Women non-pregnancy (n=6) **Secondary**
- Treatment trials (n=20)
  - PFMT vs control (n=6)
  - PFMT vs another treatment (n=8)
  - PFMT as adjunct vs another treatment (n=6)

Challenges with combining

- Different PFMT interventions (content, intensity)
- Different outcome measures
- Different reporting time-points
- Different types of "controls"

Here come the results!

- Lots of forest plots



- Focus on immediate post intervention time-point

Prevention

PFMT vs control

nmahp-ru

Improving health through research

Improved prolapse symptoms

4 trials

Study or Subgroup	Intervention Events	Total	Control Events	Total	Weight	Risk Ratio M-H, Random, 95% CI
3.1.1 Bulging outside vagina						
Be 2013	82	87	82	88	27.9%	1.01 [0.94, 1.09]
Subtotal (95% CI)		**87**		**88**	**27.9%**	**1.01 [0.94, 1.09]**
Total events	82		82			
Heterogeneity: Not applicable						
Test for overall effect: Z = 0.29 (P = 0.77)						
3.1.2 Something coming down						
Hagen 2011	129	161	123	165	27.6%	1.07 [0.96, 1.21]
Subtotal (95% CI)		**161**		**165**	**27.6%**	**1.07 [0.96, 1.21]**
Total events	129		123			
Heterogeneity: Not applicable						
Test for overall effect: Z = 1.20 (P = 0.23)						
3.1.3 Pelvic heaviness						
Subtotal (95% CI)	**0**		**0**			**Not estimable**
Total events	0		0			
Heterogeneity: Not applicable						
Test for overall effect: Not applicable						
3.1.4 Global symptoms						
Liu 2013	113	166	82	163	26.7%	1.35 [1.12, 1.63]
Wiegersma 2014	70	115	10	124	17.8%	7.55 [4.09, 13.92]
Subtotal (95% CI)		**281**		**287**	**44.6%**	**3.13 [0.47, 20.87]**
Total events	183		92			
Heterogeneity: $Tau^2 = 1.82$; $Chi^2 = 35.22$, df = 1 (P < 0.00001); $I^2 = 97\%$						
Test for overall effect: Z = 1.18 (P = 0.24)						
Total (95% CI)		**529**		**540**	**100.0%**	**1.59 [1.04, 2.44]**
Total events	394		297			
Heterogeneity: $Tau^2 = 0.12$; $Chi^2 = 97.84$, df = 3 (P < 0.00001); $I^2 = 97\%$						
Test for overall effect: Z = 2.13 (P = 0.03)						
Test for subgroup differences: $Chi^2 = 2.04$, df = 2 (P = 0.36), $I^2 = 1.8\%$						

Risk Ratio M-H, Random, 95% CI

0.02 0.1 1 10 50

Favours control Favours intervention

Prolapse symptom score

3 trials

Study or Subgroup	Intervention Mean	SD	Total	Control Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI
3.2.1 Primary prevention								
Fritel 2007 (1)	0.7	1.2	112	0.7	1.4	112	28.3%	0.00 [-0.26, 0.26]
Subtotal (95% CI)			**112**			**112**	**28.3%**	**0.00 [-0.26, 0.26]**
Heterogeneity: Not applicable								
Test for overall effect: Z = 0.00 (P = 1.00)								
3.2.2 Secondary prevention								
Hagen 2011 (2)	3.2	3.5	159	3.9	3.7	164	40.6%	-0.19 [-0.41, 0.02]
Wiegersma 2014 (3)	10.5	12.3	118	11.4	11.3	129	31.1%	-0.08 [-0.33, 0.17]
Subtotal (95% CI)			**277**			**293**	**71.7%**	**-0.14 [-0.31, 0.02]**
Heterogeneity: $Tau^2 = 0.00$; $Chi^2 = 0.48$, df = 1 (P = 0.49); $I^2 = 0\%$								
Test for overall effect: Z = 1.70 (P = 0.09)								
Total (95% CI)			**389**			**405**	**100.0%**	**-0.10 [-0.24, 0.04]**
Heterogeneity: $Tau^2 = 0.00$; $Chi^2 = 1.30$, df = 2 (P = 0.52); $I^2 = 0\%$								
Test for overall effect: Z = 1.44 (P = 0.15)								
Test for subgroup differences: $Chi^2 = 0.82$, df = 1 (P = 0.37), $I^2 = 0\%$								

Pregnancy

Non Pregnancy

Std. Mean Difference IV, Random, 95% CI

−1 −0.5 0 0.5 1

Favours intervention Favours control

Footnotes

(1) PFIQ-7

(2) POP-SS (year 1)

(3) POPDI-6

Prolapse specific QoL

1 trial

Study or Subgroup	Intervention Mean	SD	Total	Control Mean	SD	Total	Weight	Std. Mean Difference IV, Fixed, 95% CI
3.3.1 Primary prevention								
Subtotal (95% CI)			**0**			**0**		**Not estimable**
Heterogeneity: Not applicable								
Test for overall effect: Not applicable								
3.3.2 Secondary prevention								
Wiegersma 2014 (1)	18	36.1	110	11.7	23.7	120	100.0%	0.21 [-0.05, 0.47]
Subtotal (95% CI)			**110**			**120**	**100.0%**	**0.21 [-0.05, 0.47]**
Heterogeneity: Not applicable								
Test for overall effect: Z = 1.57 (P = 0.12)								
Total (95% CI)			**110**			**120**	**100.0%**	**0.21 [-0.05, 0.47]**
Heterogeneity: Not applicable								
Test for overall effect: Z = 1.57 (P = 0.12)								
Test for subgroup differences: Not applicable								

Std. Mean Difference IV, Fixed, 95% CI

−10 −5 0 5 10

Favours control Favours intervention

Footnotes

(1) PFIQ-7

POP-Q stage 0/I (no prolapse)

3 trials

Study or Subgroup	Experimental Events	Total	Control Events	Total	Weight	Risk Ratio M-H, Random, 95% CI
3.5.1 Primary prevention: number of women with POP-Q improved						
Be 2013 (1)	77	87	75	88	40.3%	1.04 [0.93, 1.17]
Kou 2013 (2)	52	80	43	70	26.8%	1.06 [0.83, 1.35]
Liu 2013 (3)	113	166	82	163	32.9%	1.35 [1.12, 1.63]
Subtotal (95% CI)		**333**		**321**	**100.0%**	**1.14 [0.94, 1.38]**
Total events	242		200			
Heterogeneity: $Tau^2 = 0.02$; $Chi^2 = 7.18$, df = 2 (P = 0.03); $I^2 = 72\%$						
Test for overall effect: Z = 1.32 (P = 0.19)						
Total (95% CI)		**333**		**321**	**100.0%**	**1.14 [0.94, 1.38]**
Total events	242		200			
Heterogeneity: $Tau^2 = 0.02$; $Chi^2 = 7.18$, df = 2 (P = 0.03); $I^2 = 72\%$						
Test for overall effect: Z = 1.32 (P = 0.19)						
Test for subgroup differences: Not applicable						

Risk Ratio M-H, Random, 95% CI

0.01 0.1 1 10 100

Favours control Favours intervention

(1) Popq stage 0/1 (ie no pop) at 6 weeks

(2) No prolapse at 6 months

(3) No POP (stage 0) at 6 weeks post delivery

POP-Q stage improved

1 trial

Study or Subgroup	Intervention Events	Total	Control Events	Total	Weight	Risk Ratio M-H, Random, 95% CI
3.6.1 Secondary prevention: number of women with POP-Q improved (anterior)						
Wiegersma 2014	29	107	20	128	100.0%	1.73 [1.04, 2.88]
Subtotal (95% CI)		**107**		**128**	**100.0%**	**1.73 [1.04, 2.88]**
Total events	29		20			
Heterogeneity: Not applicable						
Test for overall effect: Z = 2.12 (P = 0.03)						
3.6.2 Secondary prevention: number of women with POP-Q improved (posterior)						
Wiegersma 2014	10	106	14	128	100.0%	0.86 [0.40, 1.86]
Subtotal (95% CI)		**106**		**128**	**100.0%**	**0.86 [0.40, 1.86]**
Total events	10		14			
Heterogeneity: Not applicable						
Test for overall effect: Z = 0.38 (P = 0.71)						
3.6.3 Secondary prevention: number of women with POP-Q improved (apical)						
Wiegersma 2014	15	107	20	127	100.0%	0.89 [0.48, 1.65]
Subtotal (95% CI)		**107**		**127**	**100.0%**	**0.89 [0.48, 1.65]**
Total events	15		20			
Heterogeneity: Not applicable						
Test for overall effect: Z = 0.37 (P = 0.71)						

Risk Ratio M-H, Random, 95% CI

0.01 0.1 1 10 100

Favours control Favours intervention

Test for subgroup differences: $Chi^2 = 3.62$, df = 2 (P = 0.16), $I^2 = 44.7\%$

Prevention

PFMT vs another treatment

Prolapse specific QoL

1 trial

Study or Subgroup	Intervention Mean	SD	Total	Control Mean	SD	Total	Weight	Std. Mean Difference IV, Fixed, 95% CI
4.3.1 Primary prevention								
Sun 2015 (1)	3.6	19.8	200	2.5	10.8	124	100.0%	0.06 [-0.16, 0.29]
Subtotal (95% CI)			**200**			**124**	**100.0%**	**0.06 [-0.16, 0.29]**
Heterogeneity: Not applicable								
Test for overall effect: Z = 0.57 (P = 0.57)								
Total (95% CI)			**200**			**124**	**100.0%**	**0.06 [-0.16, 0.29]**

Heterogeneity: Not applicable
Test for overall effect: Z = 0.57 (P = 0.57)
Test for subgroup differences: Not applicable
(1) PFIQ-7 score at 6 months postpartum*

Std. Mean Difference IV, Fixed, 95% CI

-10 -5 0 5 10
Favours control Favours intervention

Prevention

Pelvic floor education vs control
(Berzuk 2015)

Prolapse symptom scores

1 trial

Study or Subgroup	Intervention Mean	SD	Total	Control Mean	SD	Total	Mean Difference IV, Random, 95% CI
1.1.1 Enhanced educational intervention vs control							
Berzuk 2012 (ii) (1)	2.86	8.1753	48	13.1	5.85	49	-10.24 [-13.07, -7.41]
1.1.2 Standard educational intervention vs control							
Berzuk 2012 (iii) (2)	5.38	8.1753	48	13.1	8.19	49	-7.72 [-10.98, -4.46]

Mean Difference IV, Random, 95% CI

-50 -25 0 25 50
Favours intervention Favours control

Footnotes
(1) PODI
(2) PODI

Prolapse symptom scores

Study or Subgroup	Intervention Mean	SD	Total	Control Mean	SD	Total	Mean Difference IV, Random, 95% CI
2.1.1 Enhanced educational intervention vs standard educational intervention							
Berzuk 2012 (i)	2.86	8.1753	48	5.38	8.1753	48	-2.52 [-5.79, 0.75]

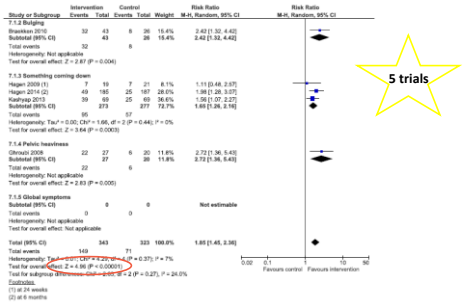
Mean Difference IV, Random, 95% CI

-50 -25 0 25 50
Favours intervention Favours control

Treatment

PFMT vs control

Improved prolapse symptoms



5 trials

Prolapse symptom scores

4 trials

Study or Subgroup	Intervention Mean	SD	Total	Control Mean	SD	Total	Weight	Std. Mean Difference IV, Fixed, 95% CI
Frawley 2012	4.5	3.3302	69	8	4.6811	72	20.4%	−0.85 [−1.20, −0.51]
Hagen 2009	−3.47	5.4	17	−0.1	2.9	20	5.4%	−0.78 [−1.45, −0.11]
Hagen 2014	−3.16	4.78	188	−0.12	3.86	189	56.2%	−0.70 [−0.91, −0.49]
Kashyap 2013	−2.99	3.0047	65	−1.25	3.0047	55	18.1%	−0.58 [−0.94, −0.21]
Total (95% CI)			**339**			**336**	**100.0%**	**−0.71 [−0.87, −0.56]**

Heterogeneity: $Chi^2 = 1.24$, df = 3 (P = 0.74); $I^2 = 0\%$
Test for overall effect: Z = 8.95 (P < 0.0001)

Std. Mean Difference IV, Fixed, 95% CI

−4 −2 0 2 4

Favours intervention Favours control

Prolapse specific QoL

2 trials

Study or Subgroup	Intervention Mean	SD	Total	Control Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI
Ghroubi 2008 (1)	2.07	0.57	27	2.57	0.43	20	49.0%	−0.95 [−1.57, −0.34]
Hagen 2014 (2)	1.25	0.5	188	3.25	0.83	189	51.0%	−2.91 [−3.20, −2.62]
Total (95% CI)			**215**			**209**	**100.0%**	**−1.95 [−3.87, −0.03]**

Heterogeneity: $Tau^2 = 1.86$; $Chi^2 = 32.06$, df = 1 (P < 0.00001); $I^2 = 97\%$
Test for overall effect: Z = 1.99 (P = 0.05)

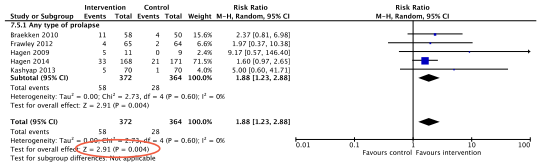
Std. Mean Difference IV, Random, 95% CI

−50 −25 0 25 50

Favours intervention Favours control

(1) Ditrovie validated as QoL measure for urinary symptoms but authors report it in terms of prolapse
(2) Mean and SD calculated from Median and IQR based on Hozo et al. 2005

Severity of prolapse



5 trials

Treatment

PFMT vs another treatment

Improving health through research

Prolapse symptom score

2 trials

Study or Subgroup	Intervention Mean	SD	Total	Control Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI
8.1.1 PFMT vs Pessary								
Panman 2016 (1)	15.6	13.6	70	13.2	12.5	45	100.0%	0.18 [−0.19, 0.56]
Subtotal (95% CI)			**70**			**45**	**100.0%**	**0.18 [−0.19, 0.56]**
Heterogeneity: Not applicable								
Test for overall effect: Z = 0.94 (P = 0.34)								
8.1.2 PFMT+fitness programme vs fitness programme								
Alves 2013 (2)	6.67	5.39	18	9.67	8.77	12	100.0%	−0.42 [−1.16, 0.32]
Subtotal (95% CI)			**18**			**12**	**100.0%**	**−0.42 [−1.16, 0.32]**
Heterogeneity: Not applicable								
Test for overall effect: Z = 1.12 (P = 0.26)								

Std. Mean Difference IV, Random, 95% CI

−1 −0.5 0 0.5 1

Favours intervention Favours control

Test for subgroup differences: $Chi^2 = 2.03$, df = 1 (P = 0.15), $I^2 = 50.7\%$
(1) POPDI-6 measured at 3 months
(2) ICIQ-VS (personal communication)

Prolapse severity

1 trial

Study or Subgroup	PFMT Events	Total	Control Events	Total	Weight	Risk Ratio M-H, Fixed, 95% CI
8.2.1 Any type of prolapse						
Panman 2016 (1)	9	62	9	43	100.0%	0.69 [0.30, 1.60]
Subtotal (95% CI)		**62**		**43**	**100.0%**	**0.69 [0.30, 1.60]**
Total events	9		9			
Heterogeneity: Not applicable						
Test for overall effect: Z = 0.86 (P = 0.39)						
8.2.2 Anterior vaginal wall prolapse						
Alves 2013 (2)	12	18	8	12	100.0%	1.00 [0.60, 1.68]
Subtotal (95% CI)		**18**		**12**	**100.0%**	**1.00 [0.60, 1.68]**
Total events	12		8			
Heterogeneity: Not applicable						
Test for overall effect: Z = 0.00 (P = 1.00)						
8.2.3 Posterior vaginal wall prolapse						
Alves 2013 (3)	9	18	10	12	100.0%	0.60 [0.35, 1.02]
Subtotal (95% CI)		**18**		**12**	**100.0%**	**0.60 [0.35, 1.02]**
Total events	9		10			
Heterogeneity: Not applicable						
Test for overall effect: Z = 1.90 (P = 0.06)						

Risk Ratio M-H, Fixed, 95% CI

0.5 0.7 1 1.5 2

Favours control Favours intervention

(1) PFMT vs Pessary
(2) Group PFMT + fitness vs fitness
(3) Group PFMT + fitness vs fitness

Treatment

PFMT as adjunct vs another treatment

Prolapse symptoms improved

2 trial

Study or Subgroup	Intervention Events	Total	Control Events	Total	Weight	Risk Ratio M-H, Random, 95% CI
10.1.1 Bulging						
Barber 2009 (i) (1)	147	168	149	171	100.0%	1.00 [0.93, 1.09]
Subtotal (95% CI)		**168**		**171**	**100.0%**	**1.00 [0.93, 1.09]**
Total events	147		149			
Heterogeneity: Not applicable						
Test for overall effect: Z = 0.10 (P = 0.92)						
10.1.2 Global symptoms						
Cheung 2016 (2)	80	132	36	128	100.0%	2.15 [1.58, 2.94]
Subtotal (95% CI)		**132**		**128**	**100.0%**	**2.15 [1.58, 2.94]**
Total events	80		36			
Heterogeneity: Not applicable						
Test for overall effect: Z = 4.87 (P < 0.00001)						

Risk Ratio M-H, Random, 95% CI

0.02 0.1 1 10 50

Favours control Favours intervention

Test for subgroup differences: $Chi^2 = 21.91$, df = 1 (P < 0.00001), $I^2 = 95.4\%$
(1) PFMT + surgery
(2) PFMT + pessary

Prolapse symptom scores

3 trials

Study or Subgroup	Intervention Mean	SD	Total	Control Mean	SD	Total	Weight	Std. Mean Difference IV, Random, 95% CI
10.2.1 Surgery								
McClurg 2010 (1)	3.9	4.54	23	3.72	3.89	25	50.4%	0.04 [-0.52, 0.61]
Pauls 2011 (2)	2.5	2.92	24	6.25	4.35	25	49.6%	-0.99 [-1.59, -0.40]
Subtotal (95% CI)			**47**			**50**	**100.0%**	**-0.47 [-1.48, 0.54]**
Heterogeneity: $Tau^2 = 0.45$; $Chi^2 = 6.07$, df = 1 (P = 0.01); $I^2 = 84\%$								
Test for overall effect: Z = 0.91 (P = 0.36)								
10.2.2 Pessary								
Cheung 2016 (3)	48.18	14.78	139	58.95	13.5	137	100.0%	-0.76 [-1.00, -0.51]
Subtotal (95% CI)			**139**			**137**	**100.0%**	**-0.76 [-1.00, -0.51]**
Heterogeneity: Not applicable								
Test for overall effect: Z = 6.08 (P < 0.00001)								

Std. Mean Difference IV, Random, 95% CI

-10 -5 0 5 10

Favours intervention Favours control

Test for subgroup differences: $Chi^2 = 0.29$, df = 1 (P = 0.59), $I^2 = 0\%$
(1) POPSS at 6 months
(2) POPDI- means and SD calculated from median and IQR data
(3) POPDI- means and SD calculated from median and IQR data (at 6 months)

Treatment

PFMT + lifestyle vs lifestyle
(Due 2015)

Improvement in prolapse symptoms

1 trial

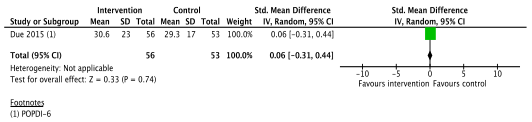
Study or Subgroup	Intervention Events	Total	Control Events	Total	Weight	Risk Ratio M-H, Random, 95% CI
6.1.1 Global symptoms						
Due 2015	29	56	11	53	100.0%	2.50 [1.39, 4.47]
Subtotal (95% CI)		**56**		**53**	**100.0%**	**2.50 [1.39, 4.47]**
Total events	29		11			
Heterogeneity: Not applicable						
Test for overall effect: Z = 3.07 (P = 0.002)						
Total (95% CI)		**56**		**53**	**100.0%**	**2.50 [1.39, 4.47]**
Total events	29		11			
Heterogeneity: Not applicable						
Test for overall effect: Z = 3.07 (P = 0.002)						
Test for subgroup differences: Not applicable						

Risk Ratio M-H, Random, 95% CI

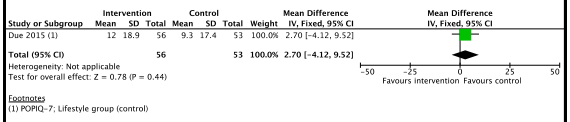
0.02 0.1 1 10 50

Favours control Favours intervention

Prolapse symptom scores



Prolapse specific QoL



Conclusions

- Prevention:
  - no evidence of effect post-natally or generally
  - more intensive interventions needed?
  - pelvic health education may be promising
- Treatment:
  - firm evidence of benefit of PFMT compared to control for both symptoms and severity
  - less data for PFMT vs other Rx. Pessary/PFMT similar symptom and severity outcomes
- Adjunct:
  - PFMT+pessary better than PFMT alone
  - PFMT+surgery no benefit for vault. Ant/posterior?

State of the science

- More evidence
- Better quality of trials
- Need better descriptions of interventions and controls
- Common outcome reporting

The last Forest plot!!

ICS 2017 FLORENCE

Vulvodynia

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Disclosures

I have no actual or potential conflict of interest in relation to this presentation.

2015 ISSVD, ISSWSH and IPPS Consensus Terminology and Classification of Persistent Vulvar Pain and Vulvodynia

Obstet Gynecol 2016

A. Vulvar pain caused by a specific disorder*
- Infectious (eg
- Inflammatory
immunobull
- Neoplastic (e
carcinoma)
- Neurologic (
compression
- Trauma (eg,
- Iatrogenic (eg
- Hormonal de
of menopaus
amenorrhea)

International Society for the Study of Vulvovaginal Disease (ISS

International Society for the Stu of Women's Sexual Health (ISSW

International Pelvic Pain Society (I

Vulvar pain by a specific disorder

2015 ISSVD, ISSWSH and IPPS Consensus Terminology and Classification of Persistent Vulvar Pain and Vulvodynia

Table 3. 2015 Consensus Terminology and Classification of Persistent Vulvar Pain Vulvodynia

A. Vulvar pain caused by a specific disorder*
- Infectious (eg, recurrent candidiasis, herpes)
- Inflammatory (eg, lichen sclerosus, lichen planus, immunobullous disorders)
- Neoplastic (eg, Paget disease, squamous cell carcinoma)
- Neurologic (eg, postherpetic neuralgia, nerve

B. Vulvodynia—vulvar pain of at least 3 months' duration, without clear identifiable cause, which may have potential associated factors.

The following are the descriptors:
- Localized (eg, vestibulodynia, clitorodynia) or generalized or mixed (localized and generalized)
- Provoked (eg, insertional, contact) or spontaneous or mixed (provoked and spontaneous)
- Onset (primary or secondary)
- Temporal pattern (intermittent, persistent, constant, immediate, delayed)

-Vulvar pain of at least 3 months' duration without a clear identifiable cause that may have potential associated factors

-Burning
-Pain
-Dyspareunia

2015 ISSVD, ISSWSH and IPPS Consensus Terminology and Classification of Persistent Vulvar Pain and Vulvodynia

Obstet Gynecol 2016

2015 ISSVD, ISSWSH and IPPS Consensus Terminology and Classification of Persistent Vulvar Pain and Vulvodynia

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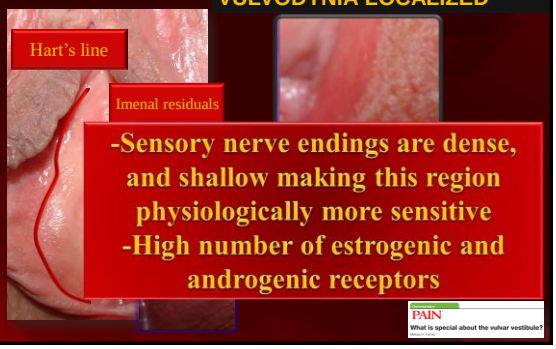
VULVODYNIA GENERALIZED

- Vulvar pain reaching perineum, spontaneus or provocated
- Usually referred as burning, needle prick or prickling

Vaginal Vestibulum

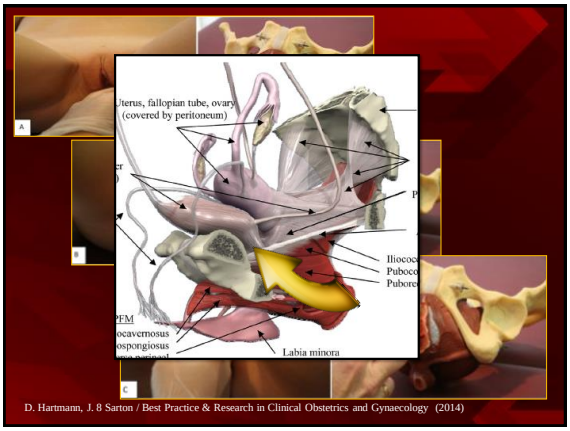
VULVODYNIA LOCALIZED



-Sensory nerve endings are dense, and shallow making this region physiologically more sensitive
-High number of estrogenic and androgenic receptors

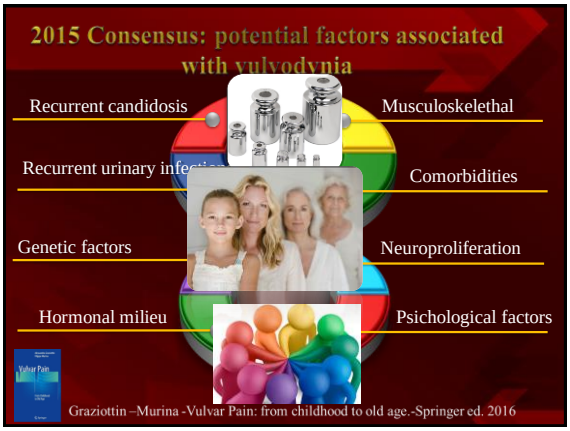
How to diagnose it?

Small cotton-tipped applicator is lightly rolled over the surfaces of the vestibule



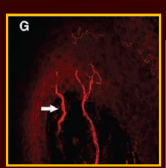
D. Hartmann, J. 8 Sarton / Best Practice & Research in Clinical Obstetrics and Gynaecology (2014)

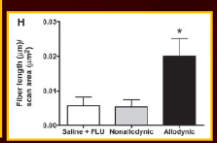
2015 Consensus: potential factors associated with vulvodynia



Graziottin –Murina -Vulvar Pain: from childhood to old age.-Springer ed. 2016

Recurrent candidosis



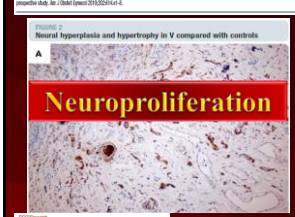


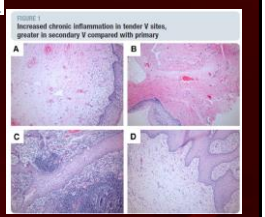
Acute Candidosis is a cause of pelvic pain
But recurrent candidosis is a trigger factor to vulvodynia

-Melissa A. Farmer, et Al. Sci Transl Med -2011
-P.Tympanidis, et Al. British Journal of Dermatology-2003

Vestibolodynia e Neuroproliferation

Primary PVD has nerve ends density > secondary
Primary PVD < lymphocythes





Ahinoam Lev-Sagie , Steven S. Witkin-2016

Vestibolodynia e Neuro-inflammation

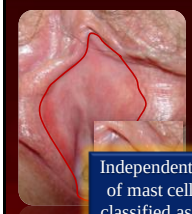
Table 2. Methods and Approaches Used in Studying the Connection Between Vulvodynia and Inflammation

IHC and histologic studies—inflammatory infiltrate and mast cells
Assessment of proinflammatory tissue milieu—cytokines, neurokines, chemokines
Hormonal studies connected to inflammation
Studies of systemic immune challenges and associated proinflammatory genetics
Studies of blood flow change (rubor) as a sign of inflammation
Animal model development
In vitro model development

IHC = immunohistochemical.

J Sex Med 2016;13:291e304

Vestibolodynia e Neuro-inflammation



Increased presence of mast cell in region of vestibular pain

Mast cell infiltrates in vulvodynia represent secondary and idiopathic mast cell hyperplasias

Independently of the subtype of vulvodynia, the majority of mast cell rich biopsies with >40 mast cells/mm were classified as a secondary mast cell disorder reflecting an activated immune system in 75% of vulvodynia patients. Patients with increased mast cells may benefit from medical therapy targeting mast cells

Original Research

Factors Associated With Vulvodynia Incidence

Barbara D. Reed, MD, MSPH, Laurie J. Legocki, PhD, Melissa A. Plegue, BA, Ananda Sen, PhD, Hope K. Haefner, MD, and Sioban D. Harlow, PhD

Table 2. Risk Factors for New Onset of Symptoms Consistent With Vulvodynia Among Those Who Did Not Have Current Vulvodynia at Study Onset (n = 1,786)

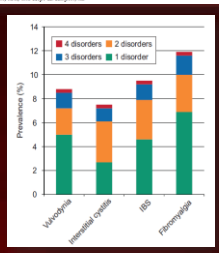
Factors at Enrollment (Before Screening Positive for Vulvodynia)	Sample Distribution	Incidence* (Cases/100 Person-Years) (95% CI)	Hazard Ratio (95% CI)†
Sleep function			
Very sound	106 (6.0)	2.6 (1.3–5.3)	Referent
Restful	340 (19.1)	3.0 (2.1–4.4)	1.16 (0.53–2.56)
Average	741 (41.7)	4.2 (3.4–5.2)	1.75 (0.84–3.62)
Restless	472 (26.6)	5.1 (4.0–6.5)	2.22 (1.06–4.63)
Very restless	117 (6.6)	6.9 (4.5–10.7)	2.84 (1.25–6.47)
Chronic pain (general)			
No pain	337 (19.0)	2.8 (1.9–4.1)	Referent
A little pain	825 (46.4)	4.7 (3.9–5.7)	1.86 (1.21–2.86)
Moderate amounts of pain	478 (26.9)	4.6 (3.5–5.9)	1.93 (1.23–3.08)
A lot of pain	138 (7.8)	4.1 (2.5–6.8)	1.88 (0.99–3.57)
Psychological distress‡			
Depression	199 (11.2)	6.7 (4.8–9.4)	1.76 (1.26–2.47)
PTSD	178 (10.0)	5.6 (3.8–8.4)	1.72 (1.18–2.49)
Other chronic comorbid pain conditions‡§			
Fibromyalgia	182 (11.2)	3.8 (2.3–6.0)	1.58 (1.07–2.33)
Interstitial cystitis	104 (6.3)	6.2 (3.8–10.2)	2.65 (1.72–4.08)
Irritable bowel disorder	156 (9.5)	5.1 (3.3–8.0)	2.50 (1.71–3.66)

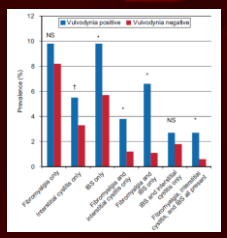
Obstet Gynecol 2014;123:225–31

Relationship Between Vulvodynia and Chronic Comorbid Pain Conditions

Barbara D. Reed, MD, MSPH, Sioban D. Harlow, PhD, Ananda Sen, PhD, Rayne M. Edwards, MPH, Di Chen, MPH, and Hope K. Haefner, MD

Obstet Gynecol 2012





Comorbid pain conditions: OR 2.3-3.3

Keep in mind her age and hormonal status

Vulvodynia Associated Findings

Adolescents
- Associated with sexual activity
- Tampon insertion
- OCP use > 2 years
- Decreased libido
- Recurrent candidal infection
- UTIs
- Primary dyspareunia

- History of a persistent vulvar pain
- Sharp pain for Vaginal tampons (4 time more related with dyspareunia)

J Pediatr Adolesc Gynecol 24 (2011)

Vulvodynia in Adolescence: Childhood Vulvar Pain Syndromes

Camille A. Clare MD[1], John Yeh MD[2,*]

The vulval vestibular mucosa—morphological effects of oral contraceptives and menstrual cycle

U. Johannesson, B. Blomgren,* M. Hilliges,† E. Rylander and N. Bohm-Starke

British Journal of Dermatology 2007

Low Estrogen

Low progestin androgenic Activity

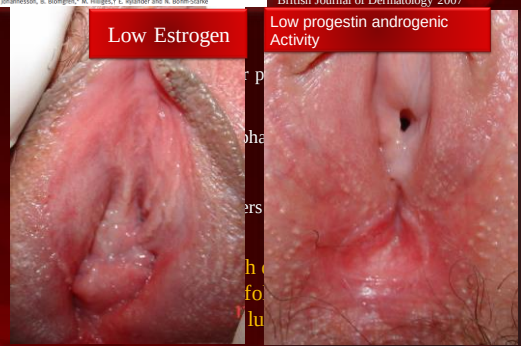


Table 4. 2015 Consensus Terminology and Classification of Persistent Vulvar Pain and Vulvodynia

• Musculoskeletal (eg, pelvic muscle overactivity,

Pelvic floor muscle

-Heightened tone
-Decreased strenght
-Speed of contraction

Table 3 PFM pressure measures

		p value between groups
VRP before the first MVC (cmH_2O		0.02
PFM strength (mean of 3× MVC) (	6)	0.57
PFM endurance (10 sH_2O)	0)	0.21

Lack of coordination

Pelvic floor muscle function in women with provoked vestibulodynia and asymptomatic controls

Int Urogynecol J-2015

Vulvodynia

-Desensitize painful area

Medullar amplification

Alteration of vestibular nervous fibers

Trigger Factors

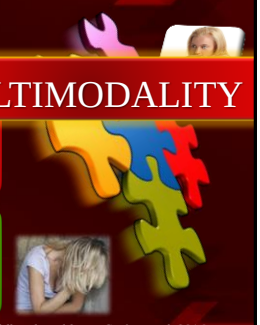
therapy….

"Trigger factors"

Desensitize the painful area

Intervention to normalize muscle tone

MULTIMODALITY



Graziottin—Murina -Vulvar Pain: from childhood to old age.-Springer ed. 2016

Oral drugs & Vulvodynia

TABLE 2
Dosing recommendations for representative agents that have been used in neuropathic pain

Class	Suggested dosing guidelines	Side-effects
Tricyclic antidepressants (nortriptyline, desipramine, amitriptyline, imipramine*)	every 4-7 d as tolerated to effect or maximum dosage of 150 mg; selected patients may tolerate higher doses	Dry mouth, somnolence, dizziness, blurry vision, constipation, arrhythmia (check pretreatment electrocardiogram in patients above age 40 y)
5% lidocaine patch	Apply patch (cut to appropriate size) to affected skin up to 12–(24-h period	Local skin irritation, rare systemic lidocaine toxicity (light-headedness, dizziness, drowsiness, tinnitus, blurred or double vision, bradycardia, hypotension)

* Amitriptyline and imipramine have higher side effects.

Class	Drugs
Tricyclic Antidepressants	Amitryptiline Nortryptiline Imipramine
SSRI	Venlafaxine Duloxetine
Antiepilettic	Gabapentin Pregabalin

Alpha Lipoic Acid Plus Omega-3 Fatty Acids for Vestibulodynia Associated With Painful Bladder Syndrome

J Obstet Gynaecol Can 2017;■(■):1-7

Figure 1. Relative change (%) in pain from baseline visit two measured using a VAS pain score and the McGill Pain Questionnaire ($P < 0.001$)

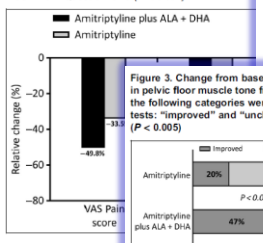


Figure 2. Change in pelvic dyspareunia from baseline to visit two; the following categories were considered for the two tests: "improved" and "unchanged/worsened" ($P < 0.03$)

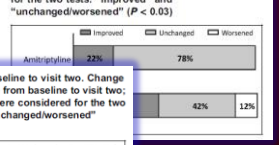
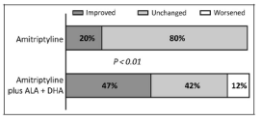


Figure 3. Change from baseline to visit two. Change in pelvic floor muscle tone from baseline to visit two; the following categories were considered for the two tests: "improved" and "unchanged/worsened" ($P < 0.005$)



Alpha Lipoic Acid Plus Omega-3 Fatty Acids for Vestibulodynia Associated With Painful Bladder Syndrome

J Obstet Gynaecol Can 2017;■(■):1-7

indication.[23] ALA has three main mechanisms of action: it acts as an antioxidant; as an anti-inflammatory (inhibition of interleukin-1, interluekin-6, and tumor necrosis factor-α biosynthesis; decreased nuclear factor-kB activation); and as a coenzyme of cellular energy metabolism (increased adenosine triphosphate biosynthesis).[24,25] It crosses the blood-brain barrier and exerts a positive effect on neuro-inflammation.[26] The n-3 PUFAs have a wide range of physiologic roles in the cardiovascular and nervous systems. Their anti-inflammatory action involves various mechanisms; in particular, they are precursors of anti-

muscle contraction can be perceived as painful.[30] In conclusion, a lower dosage of the oral amitriptyline may potentially be just as effective with fewer adverse effects when used in combination with ALA plus n-3 PUFAs.

ALA
-Inhibition interleu
-Reduction TH
-Reduction of kB activ

n-3 PUFAs
-Azione antinfiamm

A Prospective Study of Pelvic Floor Physical Therapy: Pain and Psychosexual Outcomes in Provoked Vestibulodynia

Corrie Goldfinger, MSc,* Caroline F. Pukall, PhD,* Evelyne Gentilcore-Saulnier, MSc,† Linda McLean, PhD,† and Susan Chamberlain, MD*

General gynaecology

J Sex Med 2009;6:1955–1968

Transcutaneous electrical nerve stimulation to

Sexuality measure	Pretreatment M	SD	r	Post-treatment M	SD	r
FSFI-total score*	20.15	7.25	0.05	24.60	7.33	−0.21
FSFI-desire	3.55	1.26	−0.41	3.60	1.34	0.09
FSFI-arousal	3.85	1.73	0.08	4.52	1.75	−0.17
FSFI-lubrication	3.97	1.96	0.28	4.57	1.50	−0.03
FSFI-orgasm	3.38	2.09	0.31	3.60	1.95	−0.26
FSFI-satisfaction*	4.00	1.62	0.04	4.83	0.97	−0.09
FSFI-pain*	1.38	1.09	−0.47	3.48	2.20	−0.48
SS-sexual esteem	17.54	11.90	−0.04	14.31	12.06	−0.19
No. of monthly intercourse attempts	4.46	3.80	−0.32	3.23	3.27	0.31

Setting An outpatient department for vulval disease.

Results

Table 5 Self-report degree of vulvar pain improveme

Response	Post-treatment, n (%)	Outcome, n (%)
Complete cure	1 (8)	
Great improvement	9 (69)	Successful outcome, 10 (77)
Some improvement	1 (8)	
Little improvement	2 (15)	Unsuccessful outcome, 3 (23)

Vestibulodynia: Synergy Between Palmitoylethanolamide + Transpolydatin and Transcutaneous Electrical Nerve Stimulation

LOWER GENITAL TRACT DISEASE 2013

Table 1. Characteristics of the Study Population.

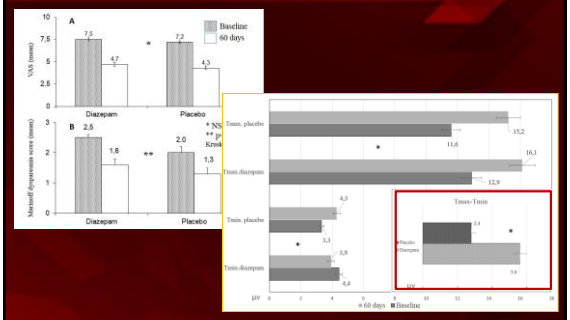
Age, mean (ran
Nulliparous, *n* (%
Duration of sym
mean (range),
Sexually active
VAS, mean (5
Marinoff dysp
mean (SD)

Mean CPT values are reported in Table 2. Women in the PEA + polydatin group showed mean CPT values at a 5-Hz stimulation (C fibers) 10-fold lower compared with placebo (reduction of 40% vs 4.59%), whereas the CPT values at 2,000-Hz (Aβ) showed a less significant reduction than values at 5-Hz stimulation (12.8%). The 250-Hz stimulation (Aδ fibers) values showed a similar reduction among the 2 groups (0.8% vs 1.7%) (see Table 3).

Subject group		2,000 Hz (Aβ fibers)	250 Hz (Aδ fibers)	5 Hz (C fibers)
PEA + polydatin	Basal	541.9	256.9	82.5
	After therapy	575	259.2	139.5
	Difference, %	*5.7*	*0.8*	*40.8*
Placebo	Basal	598.5	214	99.7
	After therapy	558.8	217.8	104.5
	Difference, %	*−6.6*	*1.7*	*4.5*

oup P
NS
NS

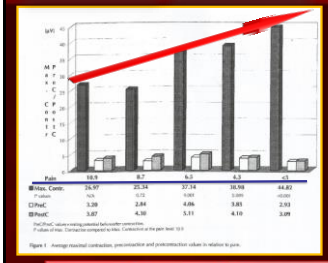
Title. Vaginal diazepam plus Transcutaneous Electrical Nerve Stimulation: a powerful synergy to treat vestibulodynia . A Randomized Controlled Trial

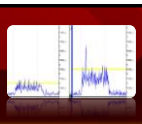


F. Murina – Am J. Obst. Gyn. 2016- In press

IRM The Journal of Reproductive Medicine

Treating Vulvar Vestibulitis with Electromyographic Biofeedback of Pelvic Floor Musculature





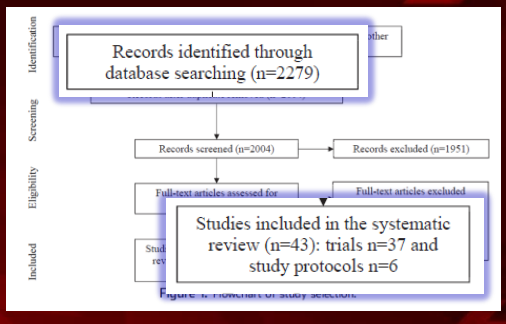
Variability of contraction is related to the decrease of dispareunia more than basal tone in pre and post-contraction

Normalizing muscle tone

SEXUAL MEDICINE REVIEWS

Systematic Review of the Effectiveness of Physical Therapy Modalities in Women With Provoked Vestibulodynia

Sex Med Rev 2017



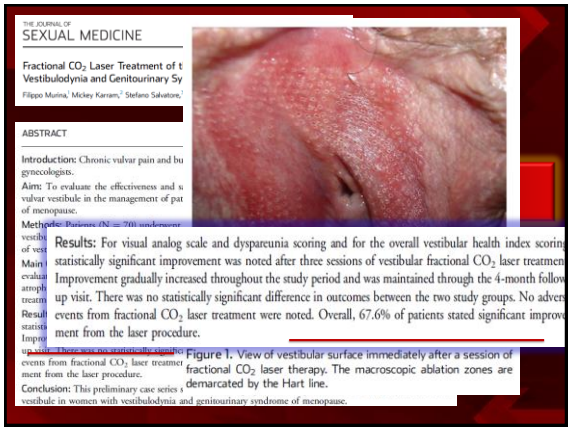
SEXUAL MEDICINE REVIEWS

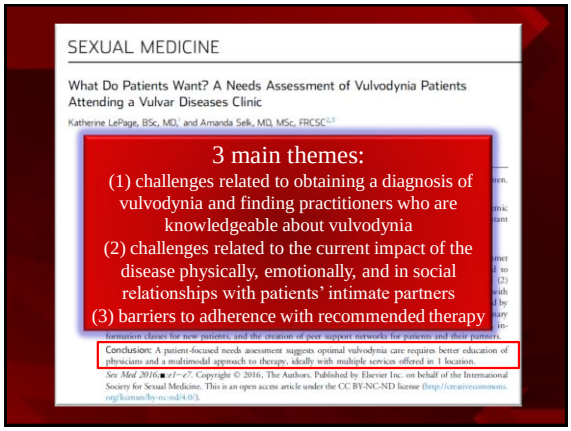
Systematic Review of the Effectiveness of Physical Therapy Modalities in Women With Provoked Vestibulodynia

Sex Med Rev 2017

"The vast majority of studies showed that physical therapy modalities such as biofeedback, dilators, electrical stimulation, education, manual physical therapy, were effective for decreasing pain during intercourse and improving sexual function"

PVD. Physical therapy was shown to be a good adjunct to ves-


THE JOURNAL OF
SEXUAL MEDICINE
Fractional CO_2 Laser Treatment of t
Vestibulodynia and Genitourinary Sy
Filippo Murina,[1] Mickey Karram,[2] Stefano Salvatore,[3]
ABSTRACT
Introduction: Chronic vulvar pain and bu
gynecologists.
Aim: To evaluate the effectiveness and s
vulvar vestibule in the management of pat
of menopause.
Results: For visual analog scale and dyspareunia scoring and for the overall vestibular health index scorin
statistically significant improvement was noted after three sessions of vestibular fractional CO_2 laser treatmen
Improvement gradually increased throughout the study period and was maintained through the 4-month follow
up visit. There was no statistically significant difference in outcomes between the two study groups. No adver
events from fractional CO_2 laser treatment were noted. Overall, 67.6% of patients stated significant improv
ment from the laser procedure.
Figure 1. View of vestibular surface immediately after a session of fractional CO_2 laser therapy. The macroscopic ablation zones are demarcated by the Hart line.
Conclusion: This preliminary case series s
vestibule in women with vestibulodynia and genitourinary syndrome of menopause.


SEXUAL MEDICINE
What Do Patients Want? A Needs Assessment of Vulvodynia Patients Attending a Vulvar Diseases Clinic
Katherine LePage, BSc, MD, and Amanda Selk, MD, MSc, FRCSC
3 main themes:
(1) challenges related to obtaining a diagnosis of vulvodynia and finding practitioners who are knowledgeable about vulvodynia
(2) challenges related to the current impact of the disease physically, emotionally, and in social relationships with patients' intimate partners
(3) barriers to adherence with recommended therapy
Conclusion: A patient-focused needs assessment suggests optimal vulvodynia care requires better education of physicians and a multimodal approach to therapy, ideally with multiple services offered in 1 location.
Sex Med 2016;■:e1–e7. Copyright © 2016, The Authors. Published by Elsevier Inc. on behalf of the International Society for Sexual Medicine. This is an open access article under the CC BY-NC-ND license (http://creativecommons.org/licenses/by-nc-nd/4.0/).


ICS 2017
FLORENCE
Thank You
for your attention!!!
S.Oneda-F.Murina
Department of Lower Genital Tract Disease,
V. Buzzi Hospital,University of Milan, Italy

Overactive bladder

Stefan De Wachter, MD, PhD
Professor of Urology

University Hospital Antwerpen, Edegem
Faculty of Medicine, University of Antwerpen

Kennis / Ervaring / Zorg

Disclosures…

- Consultant
  - Medtronic, Astellas, Pfizer, Lilly
- Research grant
  - Medtronic, Astellas

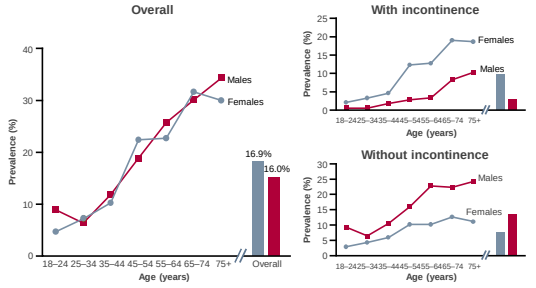
Definition - terminology

ICS definition (2002) **Overactive Bladder (OAB)**

Storage ***syndrome*** defined as urgency with or without urgency incontinence, usually with frequency and nocturia
(no signs of infection or other pathology)

Abrams P et al. Neurourol. Urodyn 2002;21:167-78

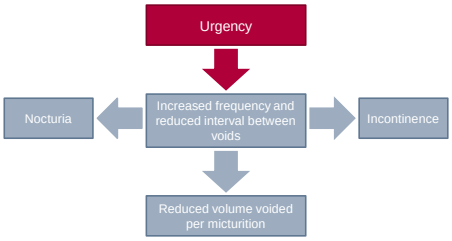
Prevalence of OAB symptoms: Age and sex



OAB, overactive bladder.

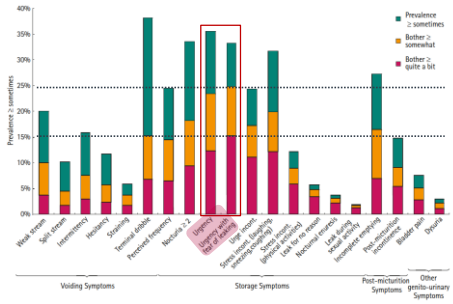
Stewart WF, et al. World J Urol 2003;20:327–36

Urgency drives the other symptoms of OAB

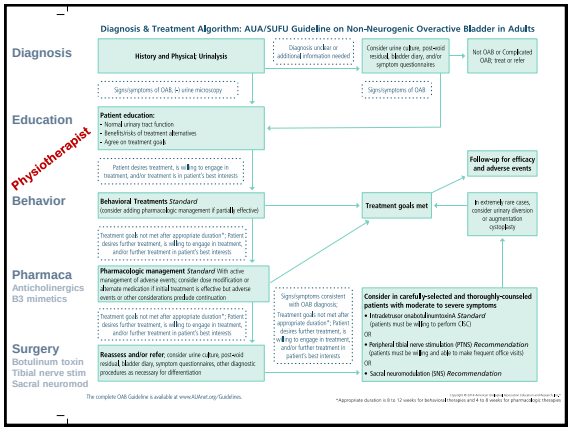


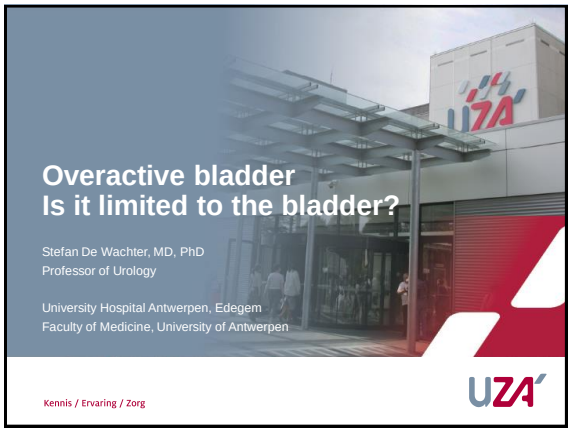
Abrams P et al. Neurourol. Urodyn 2002;21:167-78; Abrams P et al. World J Urol 2012;30:385-92

Urgency… bothersome symptom

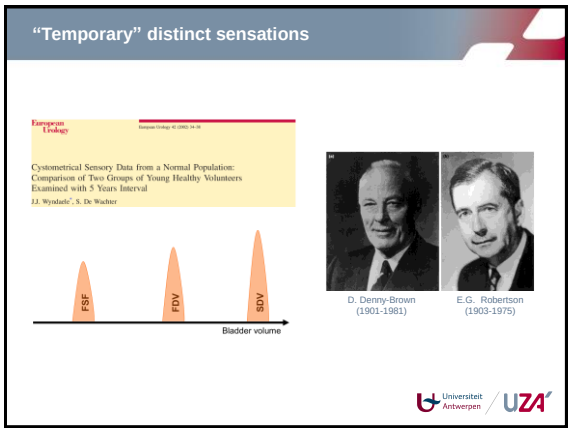


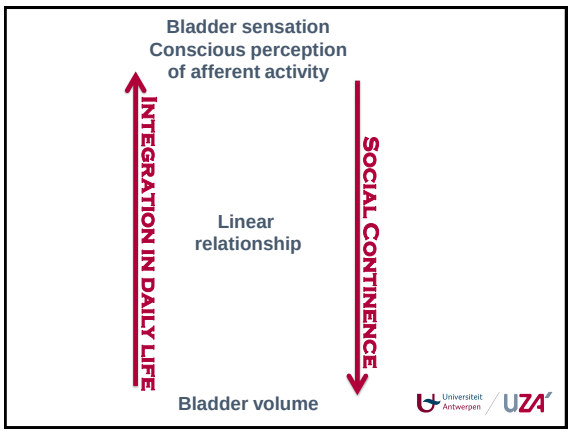
Coyne et al. BJU Int 2009


Diagnosis & Treatment Algorithm: AUA/SUFU Guideline on Non-Neurogenic Overactive Bladder in Adults
Diagnosis
Education
Physiotherapist
Behavior
Pharmaca
Anticholinergics
B3 mimetics
Surgery
Botulinum toxin
Tibial nerve stim
Sacral neuromod
History and Physical; Urinalysis
Diagnosis unclear or additional information needed
Consider urine culture, post-void residual, bladder diary, and/or symptom questionnaires
Not OAB or Complicated OAB; treat or refer
Signs/symptoms of OAB, ± urine microscopy
Signs/symptoms of OAB
Patient education:
• Normal urinary tract function
• Benefits/risks of treatment alternatives
• Agree on treatment goals
Patient desires treatment, is willing to engage in treatment, and/or treatment is in patient's best interests
Follow-up for efficacy and adverse events
Behavioral Treatments Standard (consider adding pharmacologic management if partially effective)
Treatment goals met
In extremely rare cases, consider urinary diversion or augmentation cystoplasty
Treatment goals not met after appropriate duration*; Patient desires further treatment, is willing to engage in treatment, and/or further treatment in patient's best interests
Pharmacologic management Standard With active management of adverse events; consider dose modification or alternate medication if initial treatment is effective but adverse events or other considerations preclude continuation
Signs/symptoms consistent with OAB diagnosis; Treatment goals not met after appropriate duration*; Patient desires further treatment, is willing to engage in treatment, and/or further treatment in patient's best interests
Consider in carefully-selected and thoroughly-counseled patients with moderate to severe symptoms
• Intradetrusor onabotulinumtoxinA Standard (patients must be willing to perform CIC)
OR
• Peripheral tibial nerve stimulation (PTNS) Recommendation (patients must be willing and able to make frequent office visits)
OR
• Sacral neuromodulation (SNS) Recommendation
Reassess and/or refer; consider urine culture, post-void residual, bladder diary, symptom questionnaires, other diagnostic procedures as necessary for differentiation
The complete OAB Guideline is available at www.AUAnet.org/Guidelines.
*Appropriate duration is 8 to 12 weeks for behavioral therapies and 4 to 8 weeks for pharmacologic therapies


Overactive bladder
Is it limited to the bladder?
Stefan De Wachter, MD, PhD
Professor of Urology
University Hospital Antwerpen, Edegem
Faculty of Medicine, University of Antwerpen
Kennis / Ervaring / Zorg
UZA


Normal bladder sensation
Kennis / Ervaring / Zorg
UZA


"Temporary" distinct sensations
European Urology
Cystometrical Sensory Data from a Normal Population: Comparison of Two Groups of Young Healthy Volunteers Examined with 5 Years Interval
J.J. Wyndaele*, S. De Wachter
FSF
FDV
SDV
Bladder volume
D. Denny-Brown (1901-1981)
E.G. Robertson (1903-1975)
Universiteit Antwerpen
UZA


Bladder sensation
Conscious perception of afferent activity
INTEGRATION IN DAILY LIFE
SOCIAL CONTINENCE
Linear relationship
Bladder volume
Universiteit Antwerpen
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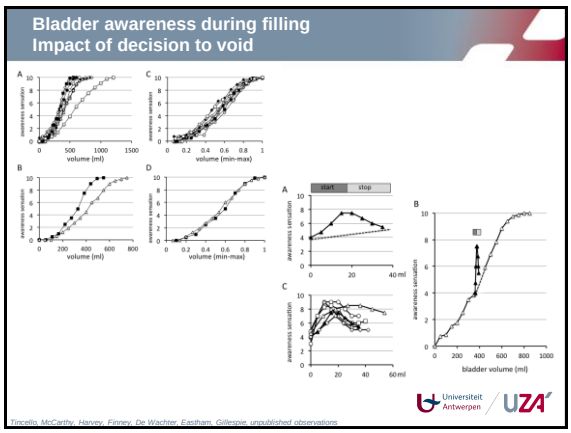
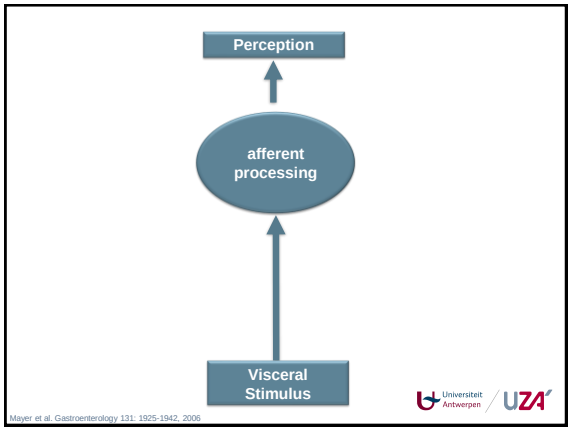
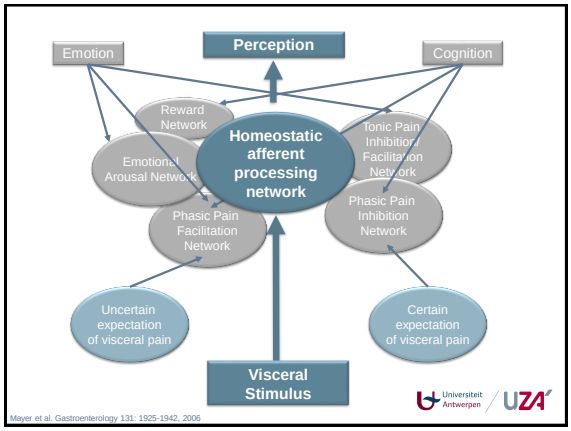

Bladder awareness during filling
Impact of decision to void
volume (ml)
volume (min-max)
start
stop
bladder volume (ml)
Tincello, McCarthy, Harvey, Finney, De Wachter, Eastham, Gillespie, unpublished observations
Universiteit Antwerpen
UZA



Mayer et al. Gastroenterology 131: 1925-1942, 2006



Mayer et al. Gastroenterology 131: 1925-1942, 2006

Do physicians "sense" urgency exactly as patients do?

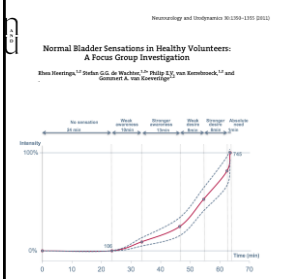
Urgency is….

"… the complaint of a sudden compelling desire to pass urine which is difficult to defer" **Physicians**

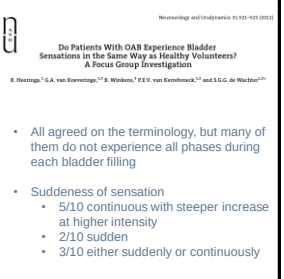
- "… incomplete bladder emptying, passing urine very quickly, burning sensation during voiding, full bladder pain" (32%)
- "… I dont' know" (22%)
- "… exactly your words doctor" (46%) **Patients**

Abrams et al. Neurourol Urodyn 2002; Digesu et al. Neurourol Urodyn 2008

Urgency… the same for everyone?



Normal Bladder Sensations in Healthy Volunteers: A Focus Group Investigation



Do Patients With OAB Experience Bladder Sensations in the Same Way as Healthy Volunteers? A Focus Group Investigation

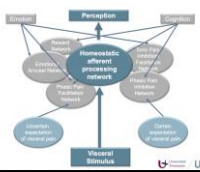
- All agreed on the terminology, but many of them do not experience all phases during each bladder filling
- Suddeness of sensation
  - 5/10 continuous with steeper increase at higher intensity
  - 2/10 sudden
  - 3/10 either suddenly or continuously

Urgency… the same for everyone?

"What words would you use to describe the sensation you feel when you want to go to the toilet to wee?"

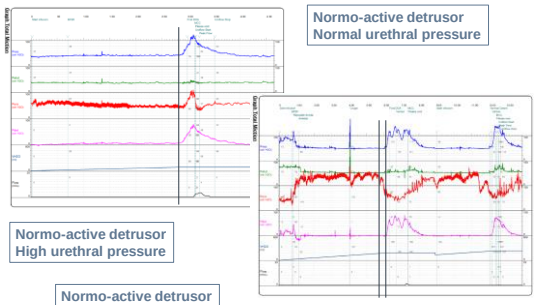
64 participants
55% OAB
45% asymptomatic

344 descriptors for sensation



Das et al. Neurourol Urodyn 2015

Urgency… the same for everyone? Underlying mechanisms….

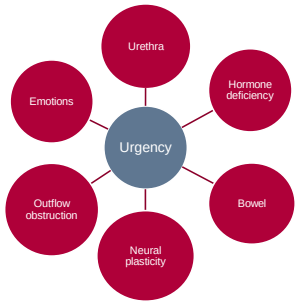


Normo-active detrusor
Normal urethral pressure

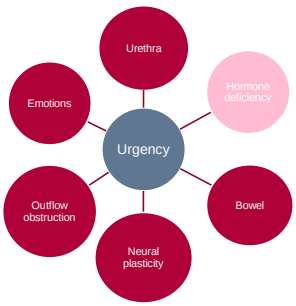
Normo-active detrusor
High urethral pressure

Normo-active detrusor
Urethral "instability"

OAB… not limited to the bladder



OAB… not limited to the bladder



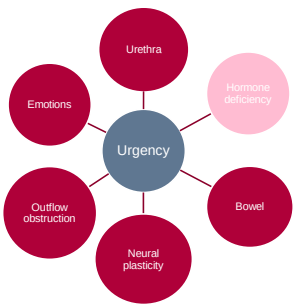
Shenfield et al. Neurourol Urodyn 1998

Hormonal influences

- Estrogen deficiency ➔ genital atrophy ➔ associated with OAB, incontinence and UTI [2]
- Estradiol has been shown to reduce OAB/DOA and increase sensory threshold of the bladder [3]
- Estrogen receptors in humans in squamous epithelia (trigone, proximal and distal urethra), absent in urothelium [1]
- Estrogen deficiency ➔ reduced mucosal thickness ➔ less resistence

1 Batra et al. J Urol 129:418-420, 1987
2 Iosif et al. Acta Obstet Gynaecol Scand 63: 257-260, 1984; 3 Shenfield et al. Neurourol Urodyn 17:408-409, 1998

OAB… not limited to the bladder



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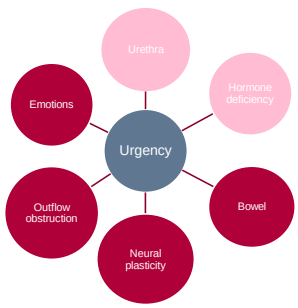
Shenfield et al. Neurourol Urodyn 1998

OAB… not limited to the bladder



Estradiol has been shown to reduce OAB/DOA and increase sensory threshold of the bladder

1Jung et al. J Urol 1999, 2Vereecken et al. J Urol 1985

SUI surgery…. De novo urgency

- Traditional slings / colposuspension …. 20 – 40% [1]
- TVT slings… 3 – 20% [2]
- TOT slings… 1 – 14% [3]

1 Alcalay et al. Br J Obstet Gynaecol 102:740-745, 1995; 2 Nilsson et al. Int Urogynecol J 12(suppl 2):S5-S8, 2001
3 Delorme et al. Eur Urol. 45:203-207, 2004

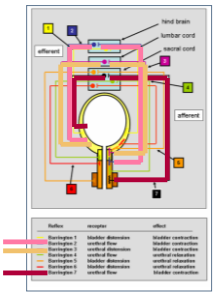
Resolution of OAB complaints after SUI surgery

- 10-15y post colposuspension: 52% resolution OAB [1]
- 3 mo post TVT: 24% resolution OAB [2]
- 2 mo post TVT/TOT 86-89% OAB [3]

1 Langer et al. Int Urogynecol J 12:323-326, 2001; 2 Choe et al. J Urol 179: 214-219, 2008
3 Pavia et al. Int Urogynecol J 22:1241-1247, 2011

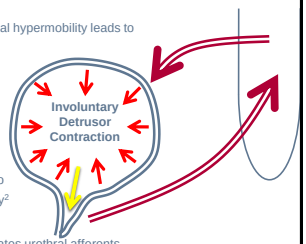
Barrington's reflexes

FJF Barrington (1884-1956)



"Theories" on pathophysiology

- Link between urethra (SUI) and bladder (DOA/OA)
  - Insufficient pelvic floor support / urethral hypermobility leads to stretching of the pelvic nerves[1]
  - Decreased inhibition from pelvic floor and uretha (pudendal nerve) leading to increased efferent pelvic nerve activity[2]
  - Urine entering proximal urethra stimulates urethral afferents leading to detrusor contraction[3]

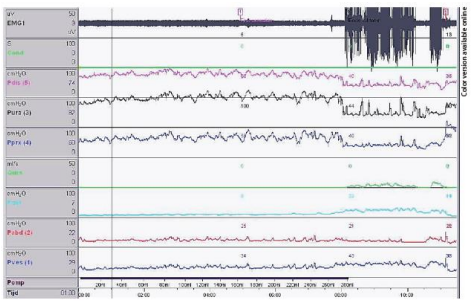


1 Serels etal. J Urol 163:884 2000 ; 2Arnbjarg. Urology 50(suppl 6A):25 1997; 3Jung etal. J Urol 162:204, 1999

Obscure entity "unstable urethra"

- **Poorly defined – ICS terminology reports**
  - *1981 "Condition in which there is an involuntary fall in urethral pressure, resulting in urethral leakage, in absence of DOA"*
  - *1988 No re-definition – "further investigations are necessary to formulate a proper definition"*
  - *2002 No re-definition*
- **Difficult nature to measure urethral pressure**

Female patient with OAB – no DOA



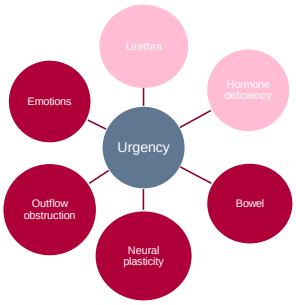
Groenendijk et al. Urol Int 83:125-133, 2009

Urethral instability (URI) – linked to OAB/DOA

- Urethral pressure variations >35 cm water provoked urgency [1]
- Close association between URI / DO
  - 27 - 64% of patients with DOA showed URI [2,3]
- Prevalence in patients with LUTS up to 84% [4]

1 Vereecken et al. J Urol 134:698-700, 1985; 2 Weil et al. Obstet Gynecol 68:106-110, 1986
3 Clarke Aust NZ J Obstet Gynaecol 32:270-275, 1994; 4 Groenendijk et al. Urol Int 83:125-133, 2009

OAB… not limited to the bladder



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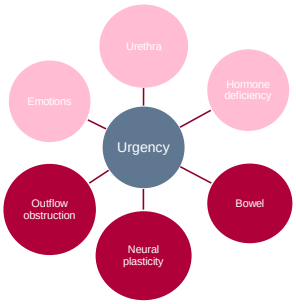

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Neurourology and Urodynamics 31:340–343 (2012)

The Psychology of LUTS: ICI-RS 2011

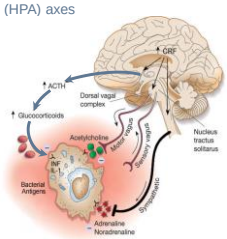
E. Cortes,[1] A. Sahai,[2] M. Pontari,[3] and C. Kelleher[2]*

*"It is important to recognize that amongst our younger and older patients with LUTS a **significant psychological component exists**. Failure to address this may lead to incomplete assessment and consequently inadequate treatment"*

*"Whilst psychological morbidity will result from any distressing chronic medical condition, the possibilty of **causation** and or **maintenance** of LUTS through psychological causes requires **further research**"*

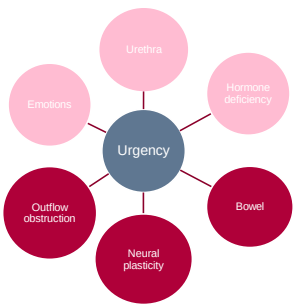
The activity of afferents nerves may be enhanced by emotional stress

- Recent reports show that stress enhances mechanical hyperalgesia
- May be mediated by increases in immune mediators activation of hypothalamic pituitary adrenal (HPA) axes and autonomic nervous system
- Visceral hypersensitivity
  - IBS
  - OAB / PBS
  - Role of immune system
- Central sensitization
  - Chronic Fatigue Syndrome
  - Fibromyalgie



Khasar. J Neuroscience 28:5721-5730, 2008

OAB… not limited to the bladder



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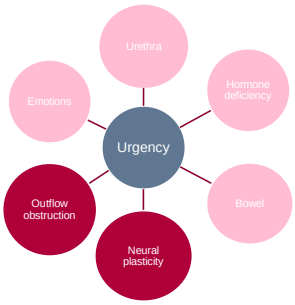

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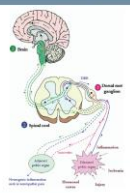
Bowel

- **Faecal incontinence** [1]
  - OAB wet associated with faecal incontinence *(OR= 17, 95% CI: 7.5-40)*
  - OAB associated with faecal urgency *(OR= 3.9)*
- **IBS** [2]
  - Prevalence of IBS in OAB patients was 33% vs 20% in non OAB (p<0.001)
  - Prevalence of OAB in IBS patients was15% vs 7.9% in non IBS (p<0.001)

Chemical "cross-talk" between pelvic viscera



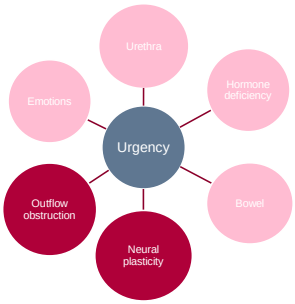
Pathways of interaction:

1. Antidromic axon reflex
2. Spinal interneurons
3. Higher centers of the brain

Central sensitization

1 Coyne et al. Int J Clin Pract 67(10):1015-1033, 2013
2 Matsumoto et al. BJU Int 111(4):647-652, 2013

OAB… not limited to the bladder



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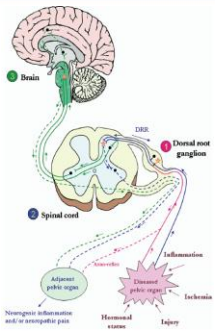

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Malykhina A. Neuroscience, 149(3):660-672, 2007 4

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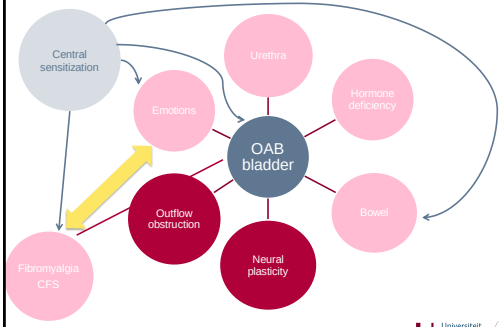

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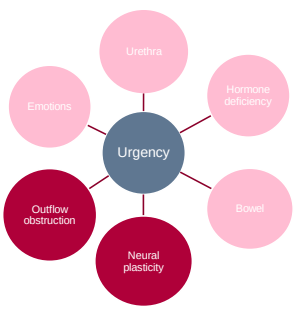

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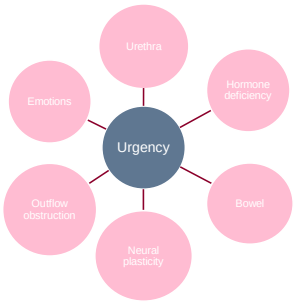

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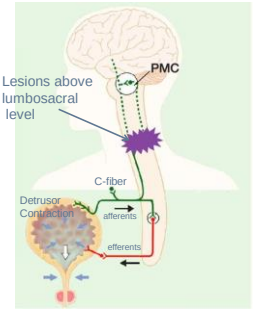
1 Van Meel et al., Urology 2007; 2 Hirayama et al. Urology 2003

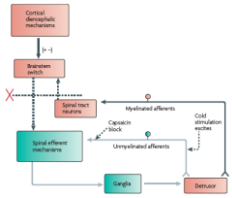
Neuroplasticity… most severe form



Emergence of spinal C fiber reflex

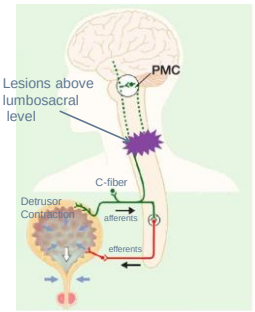
Present in childhood – normally suppressed at age 4-6 years

Ice Water Test (IWT) Reflex elicited by cold water infusion "Cold sensitive bladder"



Fowler etal. Nature Reviews Neuroscience 9: 453-466, 2008.

Neuroplasticity… most severe form



Emergence of spinal C fiber reflex

Present in childhood – normally suppressed at age 4-6 years

Ice Water Test (IWT) Reflex elicited by cold water infusion "Cold sensitive bladder"

Idiopathic Urgency
DOA+ → 24% positive[1] IWT

Bladder Outlet Obstruction
DOA+ → 48% positive[2] IWT

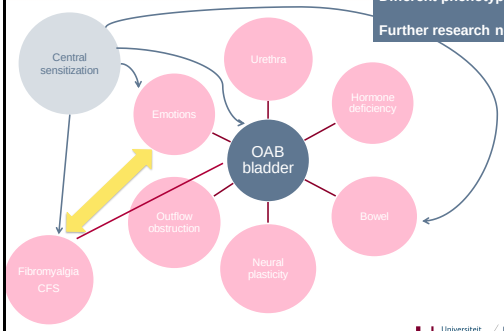
Fowler etal. Nature Reviews Neuroscience 9: 453-466, 2008.

OAB… not limited to the bladder

Consequence vs causative

Different phenotypes

Further research needed



Summary

MONASH University

ICS Physiotherapy Roundtable Seminar

Is Pelvic Floor Muscle Training a Physical Therapy or a Behavioural Therapy?

Helena Frawley, *PhD, FACP*

- Assoc Prof Physiotherapy, Monash University
- NHMRC Health Professional Research Fellow
- Head, Centre for Allied Health Research and Education, Cabrini Institute

GROUP OF EIGHT AUSTRALIA

Helena Frawley

Affiliations to disclose†:

Salaried employee of:

- Monash University, Melbourne
- Cabrini Health, Melbourne

† All financial ties (over the last year) that you may have with any business organisation with respect to the subjects mentioned during your presentation

Funding for speaker to attend:

- [X] Self-funded
- [X] Institution (non-industry) funded
- [ ] Sponsored by:

MONASH University

Overview

- Presentation based on:


Pelvic-Floor Dysfunction Special Issue

Is Pelvic-Floor Muscle Training a Physical Therapy or a Behavioral Therapy? A Call to Name and Report the Physical, Cognitive, and Behavioral Elements

Helena C. Frawley, Sarah G. Dean, Susan C. Slade, E. Jean C. Hay-Smith

April 2017 Volume 97 Number 4 Physical Therapy ■ 425

- All co-authors present today -> Panel discussion


Helena Susan Sarah Jean

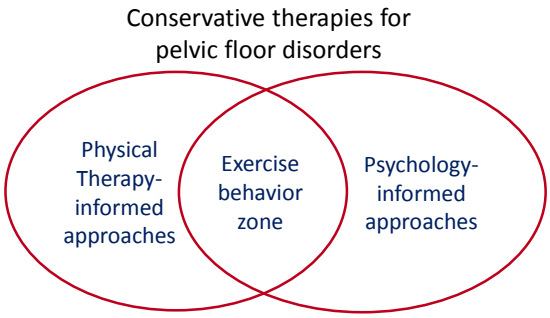
BACKGROUND

- Terminology: interchangeable names -> confusion
  - Standardisation of terminology documents: strengths & limitations
  - Clear description of terms and clinical application required
- no standardized approach for the reporting of PFMT exercise programs
  - systematic reviews: components of PFMT poorly described
- Physiotherapists (PTs):
  - Good conception of PFMT as a physical / exercise therapy
  - Inherent understanding but not explicit use of behavioural therapy elements
- Aims:
  - Demonstrate PFMT is a physical & behavioural therapy
  - Provide greater clarity in the terminology used in the reporting of PFMT interventions

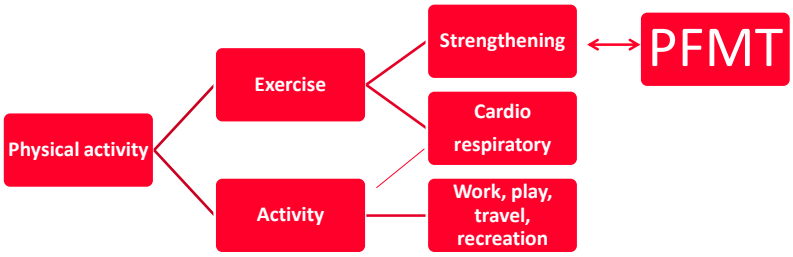
What does PFMT mean?

- PFMT for Urinary Incontinence (UI) or Pelvic Organ Prolapse (POP)
- Variations in PFMT terminology
  - PFMT as a conservative therapy
  - PFMT as a physical therapy
  - PFMT as an exercise therapy
  - PFMT as a cognitive / behavioural therapy (psychology-informed)

Overlap in the disciplines informing the conservative management of pelvic-floor dysfunction



Elements of physical activity and relationship with exercise therapy and PFMT



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Cognitive and behavioral strategies for psychology-informed elements of PFMT

- Cognitive therapy and cognitive behavioral therapy
- Behavioral therapy and behavior change
- Interaction of cognitive and behavioral elements in application
- Behavior change strategies and Behaviour Change Techniques (BCTs)

Application of psychology-informed elements to PFMT (1)

Terminology	Definition/Explanation	Example of Application to PFMT
Cognitions	Cognitions relate to conscious thought processes	The belief that nothing can be done to help UI; that it is "something to put up with"
Cognitive therapy	Focused on changing thought processes, especially negative ones. Cognitions cannot be observed, only reported by a person	PT can explain to the patient that strong research evidence supports the benefits of treatment for UI, thereby providing the patient with new information that may help change negative beliefs
Behaviors	Behaviors are what people do as a consequence of their inner state or because of external drivers (environmental cues). Behaviors are observable by others	An example of a behavior is exercise or PFMT
Behavioral therapy	Focused on changing problematic behaviors (such as addictions) or helping a person adopt a new behavior (such as a healthy lifestyle)	Analyzing barriers to and enablers of the adoption of PFMT and implementing strategies to help.

Application of psychology-informed elements to PFMT (2)

Terminology	Definition/Explanation	Example of Application to PFMT
Cognitive behavioral therapy (CBT)	Combines both forms of therapy to change cognitions and lead to the practice of new behaviors. The skilled CBT therapist ensures that both are done and that both feed back to each other	Treatment time needs to be spent on addressing negative cognitions (eg, "PFMT did not work for my mother, so how will it work for me?") and incorporating behavioral skills training (eg, action plans to help facilitate exercising at a regular time)
Behavior change stages	Orientation and insight: awareness or knowledge of the problem; understanding of how the problem or the change affects oneself	Understanding of UI; interest and involvement in managing it effectively
	Acceptance and agreement of the change: a positive attitude; motivation to change	Agreeing to adopt a conservative therapy that involves active exercise
	Change: actual adoption of a new behavior; confirmation of its benefit or value	Uptake of PFMT; adherence in the prescribed program
	Maintenance of the new behavior; integration into one's routine	Long-term adherence in PFMT

Cognitive and behavioral strategies for psychology-informed elements of PFMT

- Cognitive therapy and cognitive behavioral therapy
- Behavioral therapy and behavior change
- Interaction of cognitive and behavioral elements in application
- Behavior change strategies
  - a classification system / taxonomy, called behavior change techniques (BCTs), for naming and describing evidence-based strategies
  - many terms in the BCT taxonomy may be used to name and describe elements of PFMT
    - E.g. 'action planning': "prompt detailed planning of performance of the behavior (must include at least one of context, frequency, duration and intensity). Context may be environmental (physical or social) or internal (physical, emotional or cognitive)."

Behavior change and the link to adherence in PFMT

- Adherence

- Behaviour change

PFMT outcomes (especially in the longer term) may improve if sound cognitive, behavioral, and physiological principles are integrated – *this proposition requires testing*

Guidance for reporting of PFMT interventions

- Exercise therapy–informed elements
- Psychology-informed elements

Consensus on Exercise Reporting Template: CERT

Section/Topic	Item #	Checklist item	Location **	
			Primary paper (page, table, appendix)	† Other (pap or protocol, website (URL
WHAT: materials	1	Detailed description of the type of exercise equipment (e.g. weights, exercise equipment such as machines, treadmill, bicycle ergometer etc)		
WHO: provider	2	Detailed description of the qualifications, teaching/supervising expertise, and/or training undertaken by the exercise instructor		
HOW: delivery	3	Describe whether exercises are performed individually or in a group		
	4	Describe whether exercises are supervised or unsupervised and how they are delivered		
	5	Detailed description of how adherence to exercise is measured and reported		
	6	Detailed description of motivation strategies		
	7a	Detailed description of the decision rule(s) for determining exercise progression		
	7b	Detailed description of how the exercise program was progressed		
	8	Detailed description of each exercise to enable replication (e.g. photographs, illustrations , video etc)		
	9	Detailed description of any home program component (e.g. other exercises, stretching etc)		
	10	Describe whether there are any non-exercise components (e.g. education, cognitive behavioural therapy, massage etc)		
	11	Describe the type and number of adverse events that occurred during exercise		
WHERE: location	12	Describe the setting in which the exercises are performed		
WHEN, HOW MUCH: dosage	13	Detailed description of the exercise intervention including, but not limited to, number of exercise repetitions/sets/sessions, session duration, intervention/program duration etc		
TAILORING: what, how	14a	Describe whether the exercises are generic (one size fits all) or tailored whether tailored to the individual		
	14b	Detailed description of how exercises are tailored to the individual		
	15	Describe the decision rule for determining the starting level at which people commence an exercise program (such as beginner, intermediate, advanced etc)		
HOW WELL: planned, actual	16a	Describe how adherence or fidelity to the exercise intervention is assessed/measured		
	16b	Describe the extent to which the intervention was delivered as planned		

Guidance for reporting of PFMT interventions

- Exercise therapy–informed elements
- Psychology-informed elements
  - Behavior change interventions: the Workgroup for Intervention Development and Evaluation Research (WIDER)
  - group-based behavior change interventions (Borek)
  - CONSORT-SPI: A CONSORT Extension for Social and Psychological Interventions

Items for reporting of behavior change interventions (WIDER)

Domain	Item Description
Detailed description of all interventions	Characteristics of person delivering the intervention (facilitator)
	Characteristics of recipient (participant)
	Setting
	Mode of delivery
	Dosage
	Detailed description of the intervention content provided for each study group
	Change mechanisms or theories of change
	Facilitator training
	Adherence in/fidelity to delivery protocols
Clarification of assumed change process and design principles	Intervention development
	Change techniques used in the intervention
	Causal processes targeted by these change techniques
Access to intervention manuals and protocols	Published intervention protocols or manuals

Example of naming and reporting of elements of PFMT in clinical practice

Reporting of exercise therapy–informed elements (CERT Items)	Case Example of PFMT intervention (with recommended Pelvic-Floor Dysfunction Terminology, and Behavior Change Taxonomy)	Reporting of behavior change interventions (WIDER Items)
	Early treatment (e.g. weeks 0 – 3)	
Item	scenario	Item
	Mid-treatment (e.g. weeks 4 – 12)	
	Late treatment (e.g. weeks 13–20)	

Example

- I reexamine her PFM contraction and find that her strength has increased; I give her this feedback verbally and progress her program to 3 sets of 7 contractions. She agrees to extend her use of the Knack to lifting.
- She takes home a bladder diary to record leakage and a training diary to monitor exercise. I explain that I will use her bladder diary to calculate symptom improvement and her exercise diary to evaluate adherence.

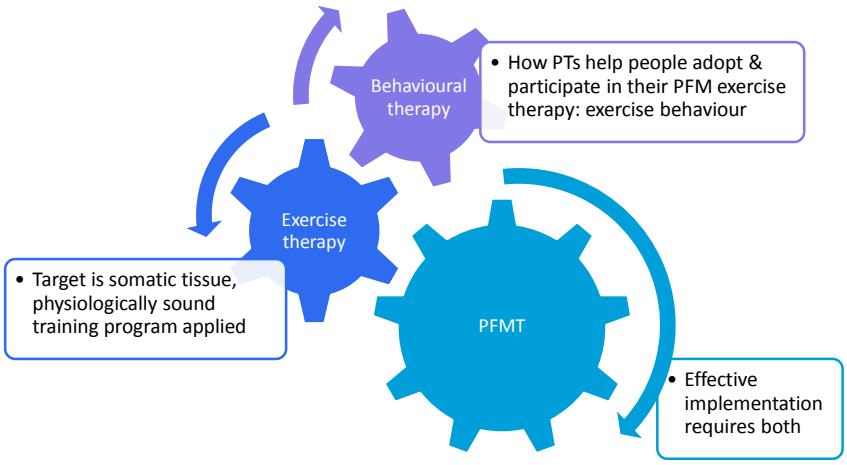
Example

- Item 5: adherence
- Items 7a and 7b: progression
- Item 11: adverse events
- Item 16: fidelity to program

- I reexamine her **PFM contraction** and find that her strength has increased; I give her this *feedback* verbally and *progress* her program to 3 sets of 7 contractions. She agrees to *extend her use* of the Knack to lifting.
- She takes home a **bladder diary** to *record leakage* and a training diary to *monitor* exercise. I explain that I will use her **bladder diary** to calculate symptom improvement and her exercise diary to evaluate **adherence**.

- Item 9: adherence in/fidelity to delivery protocols
- Item 10: program development
- Item 11: change techniques

Summary



Recommendations for Practice

- PT's who provide PFMT base their interventions on sound exercise physiology and describe their interventions with the guidance of internationally endorsed terminology documents
- Along with more familiar exercise therapy approaches, we recommend that PTs clearly specify psychology-informed approaches, for example, documenting BCTs

Recommendations for Research

- future studies: explore the long-term effectiveness of PFMT (exercise therapy approaches and psychology-informed BCTs), including long-term adherence and clinical outcomes*
- future research: reports the exercise components of PFMT against the CERT items and health behavior interventions applicable to PFMT against the WIDER or CONSORT-SPI checklist

- *Research due to report: OPAL ~ 2019; APPEAL ~ 2021

Forum discussion:

Is PFMT a Physical Therapy or a Behavioural Therapy?

Panel:

- Susan Slade: PT, PhD, School of Allied Health, College of Science, Health and Engineering, La Trobe University; and Department of Physiotherapy, Monash University, Melbourne, Australia
- Sarah Dean: PT, PhD, CPsychol, Psychology Applied to Rehabilitation and Health, University of Exeter Medical School, Exeter, United Kingdom
- Jean Hay-Smith: PT, PhD, Rehabilitation Teaching and Research Unit, Department of Medicine, University of Otago, Wellington, New Zealand
- Helena Frawley

Susan Slade

Affiliations to disclose†:

Salaried employee of La Trobe University, Melbourne, Australia

† All financial ties (over the last year) that you may have with any business organisation with respect to the subjects mentioned during your presentation

Funding for speaker to attend:

- [x] Self-funded
- [x] Institution (non-industry) funded
- [ ] Sponsored by:

Susan Slade

CERT & Explanation & Elaboration Statement – resource for:

- **Clinicians** – enable replication in practice
- **Researchers** – checklist for exercise programs & manuscript construction
- **Cochrane Systematic Reviews** – data extraction
- **Journal editors/reviewers** – manuscript submission guidelines, peer-review
- **Online supplementary data** – tables & appendices
- **Teaching & learning** – students/novice researchers
- **EQUATOR Network (reporting guidelines repository)** – www.equator.org

MONASH University

25

LA TROBE UNIVERSITY

Sarah Dean

Affiliations to disclose†:

† All financial ties (over the last year) that you may have with any business organisation with respect to the subjects mentioned during your presentation

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Sarah Dean

- Psychologically informed approaches, behavioural change strategies and techniques

- Can you be more confident in making explicit use of these?
- Can you name them?
- Can you explain them?
- Can you document them?

Jean Hay-Smith

Affiliations to disclose†:

Rehabilitation Teaching and Research Unit, University of Otago, Wellington, New Zealand

† All financial ties (over the last year) that you may have with any business organisation with respect to the subjects mentioned during your presentation

Funding for speaker to attend:

- [X] Self-funded
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- [ ] Sponsored by:

Thank you!

ICS Physiotherapy Committee Chair's Report

September 2017

Florence

Doreen McClurg
Doreen.mcclurg@gcu.ac.uk

Doreen McClurg

- Affiliations to disclose:

None

Funding for speaker to attend:

Enter X in appropriate box

	Self-Funded
X	Institution (non-industry) funded
	Sponsored by: Enter Company Name

Members of the committee:-

Petra Voorham-van der Zalm
Heather Moky
Rhonda Kotarinos
Cristiane Carboni
Cristina Naranjo Ortiz
Rebekah Das
Nelly Faghani
Peter Meyers
Melanie Morin
Paula Igualada-Martinez
Gill Brook
Adelia Lucio

Roundtable

Petra, Heather

Numbers attending

Feedback

WORKSHOP NUMBER	TOPIC	SPEAKER
1	Effective, clinically feasible and sustainable care interventions to promote pelvic floor rehabilitation	Antonella Biroli and Gianfranco Lamberti
2	Male Incontinence	Heather Moky
3	Male Pelvic Pain	Cristiane Carboni
4	Sexual Dysfunction	Rhonda K Kotarinos
5	OAB	Rebekah Das
6	Anorectal dysfunction in adults	Danielle van Reijn
7	Therapeutic neuroscience education: how to teach patients about pain	Beth Shelly
8	Anorectal dysfunction in children	Bernadette Berendes
9	How to Exam and Train Involuntary Pelvic Floor/Muscle Function	Jacqueline de Jong
10	Which factors are impacting on her pelvic pain more – local, psychological or central factors	Margaret Sherburn
11	Electrostimulation of the pelvic floor	Dorien Benrik
12	The use of radiofrequency in the pelvic floor dysfunctions	Marta Jerez Sahis
13	The pelvic floor: a neglected contributor of vulvar pain in the lifespan - medical considerations	Alessandra Gramellini
14	Post partum consult	Nicole van Bergen

Publications/progress in progress

International Continence Society supported pelvic physiotherapy education guideline
Neurourology and Urodynamics Accepted for publication

Rebekah Das – **ICS Physiotherapy Committee Project: Vaginal assessment of pelvic floor muscle function in women with a primary complaint of urinary incontinence.**
Project aim: to collate information on the content and process of teaching vaginal pelvic floor muscle function assessment to physiotherapists at tertiary education institutions

Gill Brook - **PHYSIOTHERAPY AND REHABILITATION IN OBSTETRIC FISTULA MANAGEMENT**

Education Proposal

Physiotherapy Assessment of Urinary Incontinence – female
Accepted by the ICS Education Committee

Involve
- Publication
- Videos

Activities within the ICS

Education Committee – Paula Igualada-Martinez replacing Marijke Slieker ten-Hove

Scientific Committee – Melanie Moran

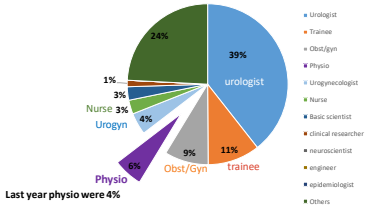
Board of Trustees & Ethics Committee - Cristina Naranjo Ortiz

Standardization Steering committee and Wiki – Beth Shelley

Continence Promotion committee – Peter Meyers

Children and Young Adults committee – Nelly Faghani

Physio Representation



Last year physio were 4%

Awards


S28 session

#504 A MULTI-SITE PROSPECTIVE RANDOMIZED CONTROLLED TRIAL OF GROUP-ADMINISTERED BEHAVIORAL TREATMENT IN REDUCING URINARY INCONTINENCE IN OLDER ADULT WOMEN

PRIZE AWARD: Conservative Management Award

Sponsored by SCA

#505 CONTINENCE ACROSS CONTINENTS TO UPEND STIGMA AND DEPENDENCY (CACTUS-D): PRELIMINARY RESULTS OF AN INTERNATIONAL RANDOMIZED CONTROLLED TRIAL OF A CONTINENCE PROMOTION INTERVENTION

PRIZE AWARD: Best Clinical Abstract

Best in Category Prize – Anorectal / Bowel Dysfunction

299

ABDOMINAL MASSAGE FOR NEUROGENIC BOWEL DYSFUNCTION IN PEOPLE WITH MULTIPLE SCLEROSIS (AMBER ABDOMINAL MASSAGE FOR BOWEL DYSFUNCTION EFFECTIVENESS RESEARCH)- PRELIMINARY RESULTS OF A RANDOMISED CONTROLLED TRIAL

Standardisation Committee PTs actively involved

Helena Frawley & Beth Shelley leading on Original proposal: International Continence Society (ICS) report on the terminology for pelvic floor muscle function & dysfunction (Revision of Messelink et al, 2005, 24:374-380

- Report of the terminology for pelvic floor muscle function and dysfunction assessment.
- Report of the clinical utility of pelvic floor muscle function and dysfunction assessment methods

Heather Moky and Adelia Lucio - Working Group on new Male lower urinary tract and pelvic floor dysfunction

There are two workshops on Friday related to SSC

ICS Institutes

House all ICS Educational material
Links with the ICS Strategic plan

Interim Directors of the School of Physiotherapy:-

- Rhonda and Cristiane
- May 2018

School	Interim Directors	Url
School of Male LUTS and Urethra	Carlos D'Ancona	https://www.ics.org/institute/male
School of Female Pelvic Medicine and Reconstructive Surgery	Mauro Cervigni	https://www.ics.org/institute/female
School of Urodynamics	Urodynamics Committee to appoint	https://www.ics.org/institute/urodynamics
School of Neurourology	Rizwan Hamid	https://www.ics.org/institute/neurourology
School of Physiotherapy	Physio Committee to appoint	https://www.ics.org/institute/physiotherapy
School of Nursing	Nursing Committee to appoint	https://www.ics.org/institute/nursing
School of Anorectal Dysfunction	Board of Trustees/Steering Group to appoint	https://www.ics.org/institute/anorectaldysfunction
School of Paediatric Voiding Dysfunction and Transitional Urology	Children's committee to appoint	https://www.ics.org/institute/paediatric
School of Translational Research in Pelvic Health	Board of Trustees/Steering Group to appoint	https://www.ics.org/institute/translationalresearch
School of Pelvic Pain	Board of Trustees/Steering Group to appoint	https://www.ics.org/institute/pelvicpain

ICS Regional Course

New kind of ICS education course
Held in the continence opposite to the annual meeting
First course 8-9th Dec Phoenix, 2 day programme being developed by the course director Chris Payne
100-150 delegates
Targetted this time on urologists and gynaecologists
Offers little content for physios and nurses (maybe one for physios)

Thanks,

All members of the committee

Staff at the ICS office

Yourselves

Workshop Choices: Spadolini E W1-4

ICS 2017 FLORENCE

W1: Effective, clinically feasible and sustainable care interventions to promote pelvic floor rehabilitation- Antonella Biroli and Gianfranco Lamberti

W2: Male Incontinence- Heather Moky

W3: Male Pelvic Pain- Cristiane Carboni

W4: Sexual Dysfunction- Rhonda K Kotarinos

Workshop Choices: Spadolini F W5-10

ICS 2017 FLORENCE

W5: OAB- Rebekah Das

W6: Anorectal dysfunction in adults- Danielle van Reijn

W7: Therapeutic neuroscience education: how to teach patients about pain- Beth Shelly

W8: Anorectal dysfunction in children- Bernadette Berendes

W9: How to Exam and Train Involuntary Pelvic Floor Muscle Function- Jacqueline de Jong

Workshop choices: Spadolini G W11-14

ICS 2017 FLORENCE

W10: Which factors are impacting on her pelvic pain more – local, psychological or central factors- Margaret Sherburn

W11: Electrostimulation of the pelvic floor- Dorien Bennik

W14: Post partum consult- Nicole van Bergen