

Role of Physiotherapy in the Management of Persistent Pelvic Pain

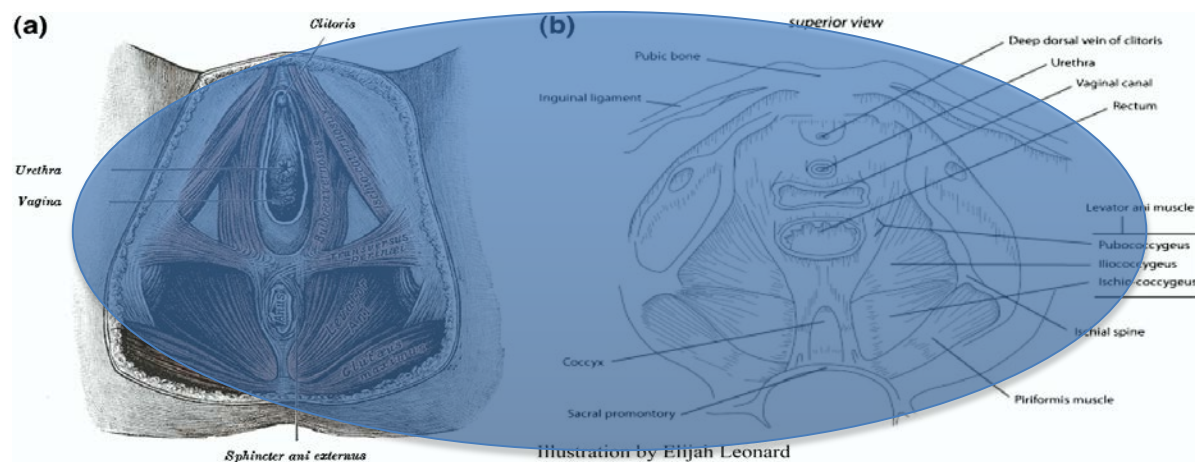
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What is PPP?

- Chronic Pelvic Pain
- Pelvic Pain
- Pelvic Floor/ Pelvic Pain Syndrome



Pelvic

- Within the anatomical pelvis/ + structures that may refer to the pelvis (T10 below)
- Perineal/ vulval?
- Visceral/ somatic?
- Urogenital/ neuro-musculo-skeletal?

Definitions

- **Pelvic pain syndrome** (CPPS) is the occurrence of persistent or recurrent episodic pelvic pain associated with symptoms suggestive of lower urinary tract, sexual, bowel or gynecological dysfunction. There is no proven infection or other obvious pathology

developed definitions for pelvic/urogenital pain,
based on Axial system of International
Association for the Study of Pain

Guidelines on Chronic Pelvic Pain

D. Engeler (chair), A.P. Baranowski, J.
Borovicka,
P. Dinis-Oliveira, S. Elneil, J. Hughes, E.J.
Messelink,
A. van Ophoven, Y. Reisman, A.C. de C.
Williams

EAU classification of chronic pelvic pain syndromes

(Engeler et al 2012)

Table 1: Classification of chronic pelvic pain syndromes

Axis I Region		Axis II System	Axis III End organ as pain syndrome as identified from Hx, Ex and Ix
Chronic pelvic pain	Specific disease associated pelvic pain	Urological	Prostate
	OR Pelvic pain syndrome		Bladder
Musculo-skeletal			Scrotal Testicular Epididymal
	Penile Urethral		
	Post-vasectomy		
	Gynaecological		Vulvar Vestibular Clitoral
	Endometriosis associated		
	CPPS with cyclical exacerbations		
	Dysmenorrhoea		
	Gastrointestinal	Irritable bowel	
	Chronic anal		
	Intermittent chronic anal		
Peripheral nerves	Pudendal pain syndrome		
Sexological	Dyspareunia		
	Pelvic pain with sexual dysfunction		
Psychological	Any pelvic organ		
	Pelvic floor muscle		
	Abdominal muscle		
	Spinal		
	Coccyx		

Prevalence of Chronic Pelvic Pain

- Women ages 15-75 : 3.8-24% (Pratther at al 2009)

Common Pelvic Pain Conditions

Urological:

- Painful Bladder Syndrome Interstitial cystitis

Gynecological:

- vulvodynia

Muscular pain syndromes:

- PFM pain syndrome

Painful Bladder Syndrome

- Suprapubic pain is related to bladder filling accompanied by other symptoms such as increased daytime and nighttime frequency. No proven urinary infection or other obvious pathology.

(European Urology 2010)

Painful Bladder Syndrome

- Associated with irritable bowel syndrome, chronic fatigue syndrome, and fibromyalgia
- Must rule out any abnormal gynaecological findings

Treatment: Painful Bladder Syndrome

Table 7 – Intravesical, interventional, alternative, and surgical treatment of bladder pain syndrome/interstitial cystitis

Treatment	Level of evidence	Grade of recommendation	Comment
Intravesical PPS	1b	A	–
Intravesical hyaluronic acid	2b	B	–
Intravesical chondroitin sulphate	2b	B	–
Intravesical DMSO	1b	A	–
Bladder distension	3	C	–
Electromotive drug administration	3	B	–
Transurethral resection (coagulation and laser)	NA	NA	Hunner lesions only. See full text [1]
Nerve blockade/epidural pain pumps	3	C	For crisis intervention; affects pain only
Bladder training	3	B	Patients with little pain
Manual and physical therapy	3	B	–
Psychological therapy	3	B	–
Surgical treatment	NA	NA	Very variable data, ultima ratio, experienced surgeons only. See full text [1]

PPS = pentosan polysulfate sodium; DMSO = dimethyl sulfoxide; NA = type of evidence not applicable.

Assessment

- Frequency/ volume chart
- Physical examination
- urinary cytology , urodynamic etc

Treatment- Bladder Pain Syndrome

- Patient education
- Dietary manipulation
- stress reduction
- PFM relaxation techniques:
- If detrusor overactivity then trial of drug therapy

Treatment: Bladder Pain Syndrome

- Manual Therapy: manoeuvres that resolve pelvic, abdominal and/or hip muscular trigger points and connective tissue restrictions
- Avoid pelvic floor strengthening exercises

Vulvodynia

Aetiology

- Skin?
- Muscles?
- Nerves?

Vulvodynia

- Generalized / localized

Friedrich's Criteria:

- Severe pain on vestibular touch or attempted vaginal entry
- Tenderness localized to pressure within the vulvar vestibule
- Varying degrees of erythema

Vulval Pain Presentation

Primary: dyspareunia from the 1st attempt at sexual intercourse

Secondary: dyspareunia appears after a period of pain-free coitus

Inability/ discomfort:

- Inserting finger, tampon, PV exam, coitus
- Wearing tight jeans
- Riding bicycle

High prevalence of other pelvic pain

Treatment of Vulvodynia

- Skin?
- Muscles?
- Nerves?



TENS, EMG, Dilators, manual stretches

Treatment of Vulvodynia

- “There is insufficient direct evidence for efficacy of any interventions”

Vulvodynia Interventions – Systematic review and evidence grading . Andrews J O&G Survey 66(5) 299-315 2011

Pelvic Floor Pain Syndrome

Pelvic floor *muscle* pain syndrome

- the occurrence of persistent or recurrent episodic pelvic floor pain.
- no proven well-defined local pathology.
- often associated with negative cognitive, behavioral, sexual or emotional consequences, as well as with symptoms suggestive of lower urinary tract, sexual, bowel or gynecological dysfunction.
- may be associated with overactivity of or trigger points within the pelvic floor muscles.

(IASP 2013; Engeler et al 2012)

Pelvic Floor Pain Syndrome

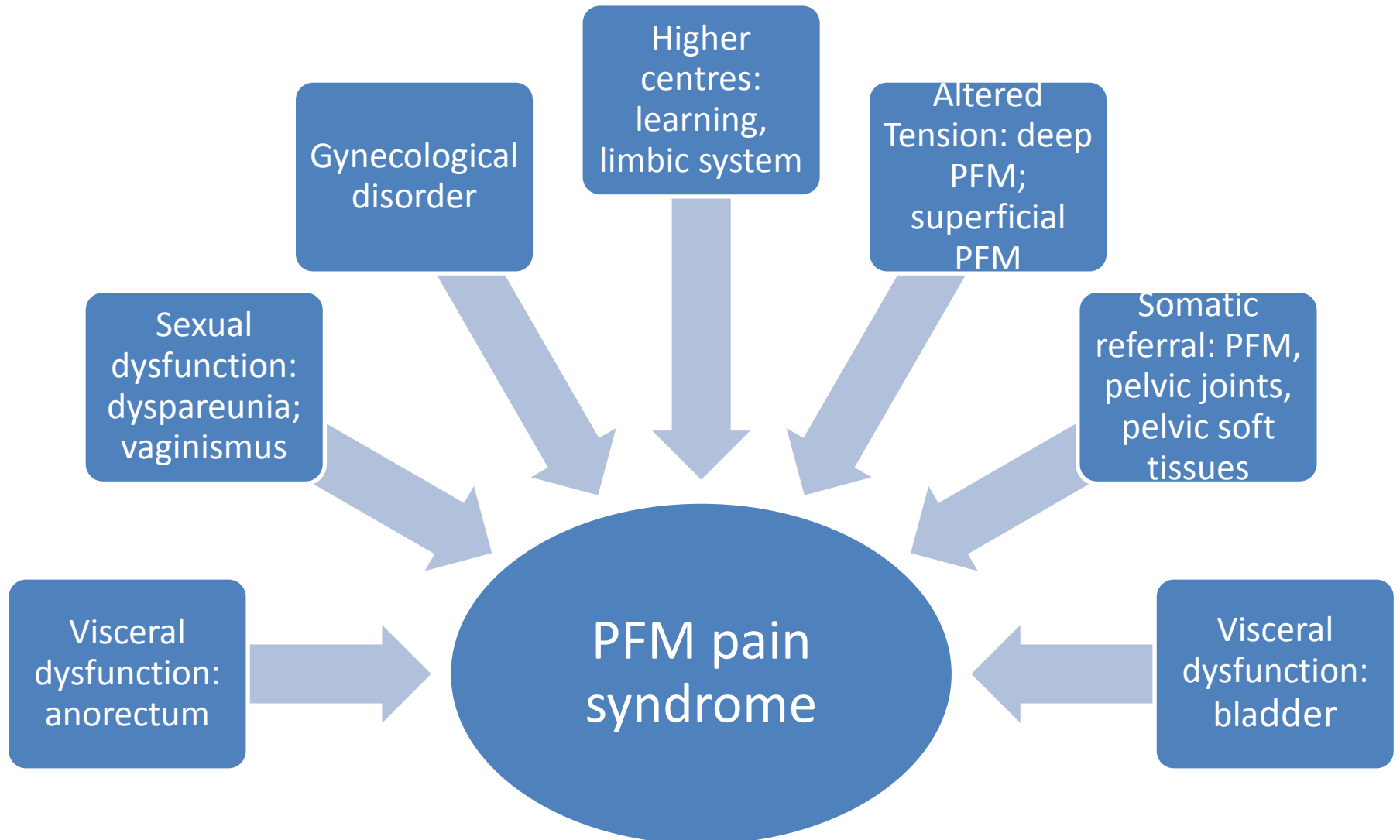
Sexual Pain Disorders

- Dyspareunia: the recurrent or persistent genital pain assoc with intercourse

- Vaginismus: recurrent or persistent involuntary spasm of the musculature of the outer 1/3 of the vagina that interferes with vaginal penetration, which causes personal distress

(Basson et al 2000)

Possible Factors contributing to Pelvic Floor Muscle Pain Etiology



Why Physiotherapist can help?

Physiotherapists have:

- Unique training & experience in managing functional & neurological bladder and bowel dysfunction
- Experience in managing musculoskeletal disorders & recognizing when symptoms may be a result of a regional dysfunction related to a painful structure
- can offer intervention outside the realm of surgery

Pelvic Floor Muscle Pain Syndromes

- trigger points or overactivity within PFM

What constitutes PFM Pain Syndrome?

- Sign: 'tone'?
- Overactive? Spasm? Altered tension
- Trigger point? 'tender spot'? Symptom: pain: myalgia
- at rest? on palpation? on contraction? What is the relationship between these?
- PFM Pain Syndrome
= levator ani "tension myalgia" (Sinaki et al 1977, Segura et al 1979)

How to evaluate PFM pain?

- Presence/ absence; ordinal scale(VAS)
- McGill Pain Questionnaire
- PFD questionnaire eg: UDI and IIQ
- Pain checklists
- Pain Charts

Measurement of PFM pain: Digital methods

	What was measured	How it was measured	Score	Reliability
Kavvadias et al (2012): pelvic muscle tenderness	levator ani, obturator internus, piriformis	“pressure was steadily applied”	0-10 VAS with cut-off at 3	ICC=0.28 – 0.87 for levator ani
Montenegro et al (2010): pelvic muscle tenderness	levator ani, obturator internus, piriformis	“as comfortable and delicate a manner as possible”	no pain; painful discomfort; intense pain; maximum total score of 12	$\kappa = 0.91$ for tenderness (levator ani not assessed independently)
Slieker-ten Hove et al (2009): pain scale	Vaginal walls: anterior, posterior, left and right	Amount of pressure not stated	Dichotomous pain scale: present vs absent	Intra-reliability: $\kappa_w = 0.79$; inter-reliability as $\kappa_w = 0.85$
Tu et al (2008): muscle hyperalgesia scale	iliococcygeus, pubococcygeus, coccygeus, Obt Int	“small rotating movements of the index finger”	4-pt scale, 8 sites = composite score 0 – 24	$\kappa = 0.02-0.35$. Collapsed to 2-pt pain scale, $\kappa = 0.04 – 0.63$

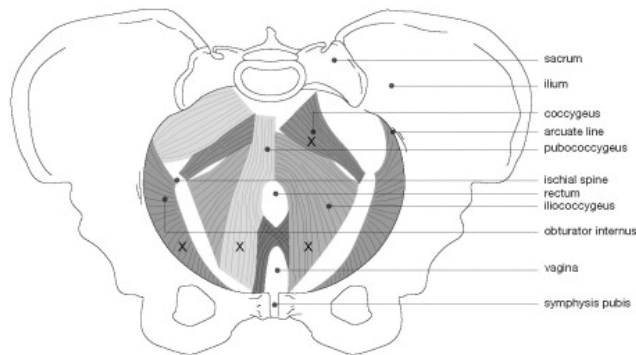
Assessment

“sign”

“Tone”

Trigger Point

Trigger Point Distribution



Trigger points may also be found in several muscles, such as the abdominal, thigh and paraspinal muscles and even those not directly related to the pelvis.

FIGURE Muscles of the female pelvic floor (superior cutaway view) The X s depict the areas that were palpated by the physical therapist and physician on transvaginal examination for determination of pelvic floor total tenderness score (corresponding bila...

Frank F. Tu , Jane Holt , Josephine Gonzales , Colleen M. Fitzgerald

Physical therapy evaluation of patients with chronic pelvic pain: a controlled study

American Journal of Obstetrics and Gynecology Volume 198, Issue 3 2008 272.e1 - 272.e7

<http://dx.doi.org/10.1016/j.ajog.2007.09.002>

A. Mark box in table with an "4" if affirmative if the event occurred:

PT App't																																
Use of TENS / BFB																																
Use of other PT Tx																																
Menstruation																																
Emotional change																																
Exercise																																
Bowel action																																
Sexual arousal																																
Orgasm																																
Sexual intercourse																																
Other																																
Day of the month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	

I

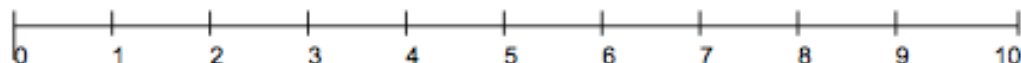
B. Pain Score Table:

Pain																																	
Duration																																	
Medication use																																	
Daily routine																																	
TOTAL																																	
Day of the month	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31		

C. Use the following codes to fill in the pain score table above:

* Pain (V.A.S.)	Duration	Medication Use	Daily Routine
Absent 0	Absent 0	Improved without medication 0	No interference 0
Mild 1-3	Up to 15 min. 1	Disappeared with common medication 1	Limited some activities 1
Moderate 4-6	15 min - 3 hours 2	Disappeared with strong medication 2	Limited all activities 2
Strong 7-8	3 - 6 hours 3	Some improvement after medication 3	
Severe 9-10	> 6 hours 4	Did not improve with medication 4	

* Visual Analogue Scale (V.A.S.) of Pain: Rate your pain on a scale of 0 - 10, according to the scale below:



Treatment of PFM Pain

- Lifestyle interventions (Bergeron et al 2000)
- Cognitive behavioural intervention (Seo et al 2005).

Limited RCT

Treatment of PFM Pain

- Exercise: esp with deconditioned patient
- PFMex:
 - de-training focus (Shelly et al 2002)
 - avoid strengthening exercise
 - relaxation ex+ CBT: contract / relax

PFExno strengthening

PFM “Down-Training” (from Shelly et al 2002)

1. Relaxation
2. Diaphragmatic breathing
3. Visualisation
4. Perineal bulging
5. Environment, ambience
6. Pelvic Floor Muscle image
7. Total body relaxation
8. Body scanning
9. Advanced training
10. Dilator practice

Treatment of PFM Pain

- Manual therapy:

trigger point release

check for external pelvic (buttock, abdominal)trigger points as well

Thiele protocol: massaging along muscle fibres

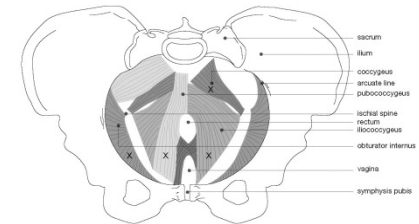


FIGURE Muscles of the female pelvic floor (superior outway view) The X s depict the areas that were palpated by the physical therapist and physician on transvaginal examination for determination of pelvic floor total tenderness score (corresponding bla...

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Treatment of PFM Pain

- Voiding & Defecation Training:

Minimise constipation and normalised bladder capacity

Voiding at regular intervals with a supported posture

Regular defaecation pattern

Achieve consistent relaxation of the PF throughout defaecation and voiding

Adjunctive Therapies

- Biofeedback



Adjunctive Therapies

- TENS (Cochrane review 2002)
- Electrical stimulation for muscle re-education: per-rectum
- Magnetic field therapy



Adjunctive Therapy

- Vaginal Dilators
- Heat / Cold

Evidence

- Lack of large number of RCT
- Most studies 1 arm, so can't evaluate effect of manual therapy alone

(Thiele '37, King '91, Weiss '01, Bergeron '02, Fitzgerald '03, Oyama '04)

- Study quality

Recommendation

SOGC: Canadian Society Obs Gyn 2005

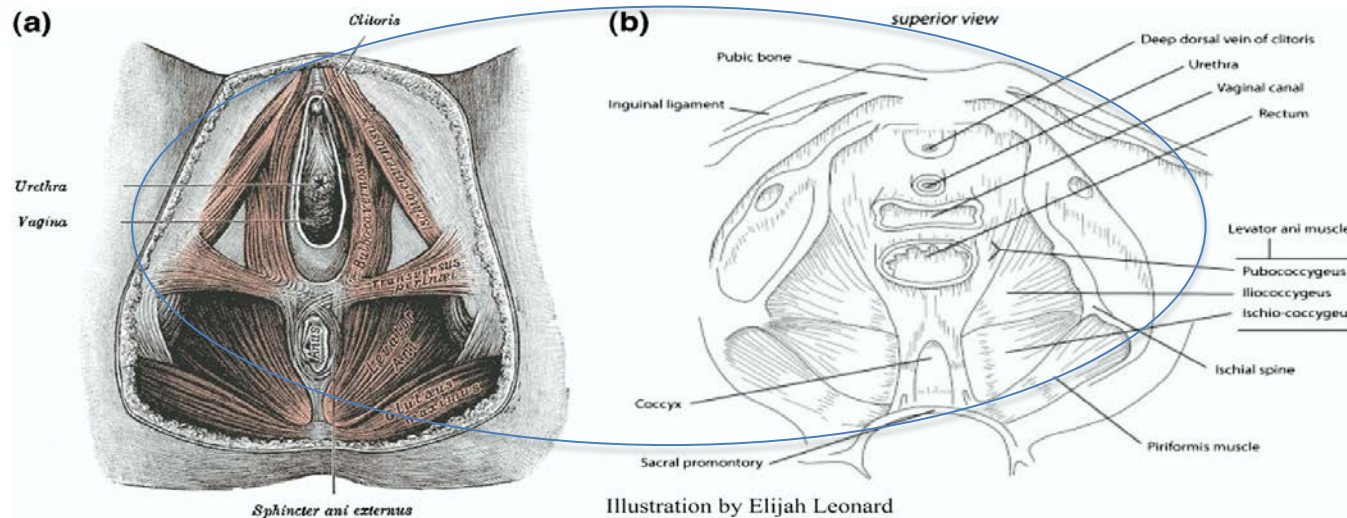
- “PTs: important part of the health team in relation to CPP due to myofascial dysfunction (I)”
- Recommendation: “Patients should participate in the management of CPP due to myofascial dysfunction by actively using a home stretching and exercise program (II- B)”

A systematic review (Loving et al 2012)

- 6 randomised clinical trials, 1 cohort study and 3 case series.

- PT varied between studies; provided in combination with other Rx
- Therefore the 'stand-alone' value of PT could not be determined
- Narrative synthesis of the results, based on effect estimates and clinically relevant pain improvement, disclosed some evidence to support multidisciplinary intervention on chronic pelvic pain
- Based on the findings of this review, recommendations for PT in CPP clinical guidelines, textbooks and narrative reviews should be interpreted with caution due to the lack of a sufficient evidence base

Looking forward



PFM critically involved in the area, therefore PT can contribute greatly in the role of managing PPP;
More collaborated well controlled studies are required in the future

Reference and Acknowledgement

- Dr.Helena Frawley, senior Lecturer of Melbourne University
- Engeler, D., A. Baranowski, et al. (2012). "EAU Guidelines on chronic pelvic pain." from <http://www.uroweb.org/guidelines/online-guidelines/>