

Start	End	Topic	Speakers
0:00	0:05	Introduction to ICS terminology for PFM assessment	Helena Frawley
0:05	0:15	Symptoms suggestive of PFM dysfunction	Helena Frawley
0:15	0:30	Clinical signs of PFM dysfunction: a clinical proforma to guide documentation	Elizabeth Shelly
0:30	0:35	A focus on PFM tone terminology	Helena Frawley
0:35	0:55	Investigations for assessment of PFM morphology and dysfunction	Melanie Morin
0:55	0:60	Diagnoses of PFM dysfunction	Helena Frawley
0:60	0:75	Tailored clinical PFM assessment for physicians	Sanchia Goonewardene
0:75	0:90	Discussion: benefits and limitations of this PFM assessment terminology document; future directions	Helena Frawley Elizabeth Shelly Melanie Morin Sanchia Goonewardene

### **Aims of Workshop**

In this workshop, we define pelvic floor muscle (PFM) terms used in the assessment of PFM function and dysfunction, describe the application of the test and interpretation of the test finding within a framework of diagnostic decision-making. The workshop covers the assessment of both structure and function of the PFM undertaken externally (per perineum), and internally (per vaginam or per rectum). Both essential and advanced assessment will be discussed. The assessment of PFM function will be placed into context of the assessment of the common presentations of pelvic floor dysfunction. Terms that in the past have been non-standardised will be clarified.

### **Learning Objectives**

Participants will be able to list essential PFM clinical assessment techniques.

### **Target Audience**

Urology, Urogynaecology and Female & Functional Urology, Bowel Dysfunction, Conservative Management

### **Advanced/Basic**

Basic

### **Suggested Learning before Workshop Attendance**

Frawley H, Shelly B, Morin M, Bernard S, Bø K, Digesu GA, Dickinson T, Goonewardene S, McClurg D, Rahnama'i MS, Schizas A, Slieker-Ten Hove M, Takahashi S, Voelkl Guevara J. An International Continence Society (ICS) report on the terminology for pelvic floor muscle assessment. *Neurourol Urodyn*. 2021 Jun;40(5):1217-1260. doi: 10.1002/nau.24658. Epub 2021 Apr 12. PMID: 33844342.

Speakers and topic descriptions:

1. Helena Frawley, Physiotherapist, Australia
  - Topic: Introduction to ICS terminology for pelvic floor muscle (PFM) assessment
    - Description: As the breadth and depth of terminology in the assessment of female and male PFM function and dysfunction has expanded considerably, this document updates the previous 2005 PFM terminology document (Messelink). The framework in this document follows a diagnostic decision-making process (Cochrane) to assist the clinician to identify patient-reported symptoms, clinician-identified signs and the findings from investigations in order to arrive at a diagnosis. To use this document in optimal context, firstly clinicians need to keep in mind that this document would rarely be used in isolation, as patients more often present with a pelvic floor disorder of which PFM dysfunction may be only one part. Therefore this document should be used in conjunction with the other terminology documents that address pelvic floor disorders of bladder, bowel and sexual function, pelvic organ prolapse and pelvic pain. Secondly, the process of moving through symptoms, signs and investigations to arrive at a diagnosis requires clinical reasoning (Beer) within an evidence-based practice (EBP) framework (Haynes). Detailing the steps of clinical reasoning and EBP related to PFM dysfunction was beyond the scope of this document, however it is important to keep these principles in mind when applying this document into clinical practice. This document goes beyond term names and definitions of those terms; we felt optimal clinical utility would be gained by adding a

description of how to undertake the test/assessment method in terms related to signs and investigations, how to rate the finding, and how to interpret that finding. We feel this detail will aid standardisation of reporting and communication.

- Topic: Symptoms suggestive of PFM dysfunction
  - Description: In this document, we divided PFM symptoms into sensory and motor categories. We recommend the clinician records the symptom term used by the patient, not a medical term nor a clinician-interpreted term (Johnston 2021, FDA 2019). We recommend rating the PFM symptom as present or absent; if present, document the perceived location, frequency of occurrence, severity, distress, bother or impact of that symptom, in order to aid reassessment in response to an intervention.
  
- 2. Elizabeth Shelly, Physical Therapist, USA
  - Topic: Clinical signs of PFM dysfunction: a clinical proforma to guide documentation
    - Description: Signs are elicited from the clinical examination which includes visual observation, physical inspection and simple tests (pin, cotton swab). Palpation allows the assessor to feel the texture, size, consistency, and location of pelvic floor muscle function (PFM) and structure. However, palpation and observation yield subjective results many with fair inter-observer reliability. (Sliker-ten Hove 2009). Whenever possible results of signs testing should be considering in light of the results of investigations for the most accurate assessment. Signs are described in four groups: external observation, external palpation, internal palpation at rest, internal palpation on contraction.
    - See attached Proforma
  
- 3. Helena Frawley, Physiotherapist, Australia
  - Topic: A focus on PFM tone terminology
    - Description: Due to the varied and sometimes confused use of terms related to PFM tone in the existing literature, we provided more detailed explanation in this section than some other properties of PFM function assessed via digital palpation, with the goal of better clarity of terminology. We distinguished muscle tone from muscle tenderness/pain, as these are different properties, are assessed using different techniques and rating scales, and should be recorded separately. To reduce confusion related to terms used to represent altered tone due to neurological disorders, we recommend using hypertonicity and hypotonicity only in the presence of a neurological disorder. In a patient without a neurological disorder, increased and decreased tone are preferable terms, and recognise the limitations of test accuracy of digital palpation of muscle tone.
  
- 4. Melanie Morin, Physiotherapist, Canada
  - Topic: Investigations for assessment of PFM morphology and dysfunction
    - Description: Clinicians and researchers can use different assessment tools to investigate PFM morphology and function, such as manometry, electromyography and ultrasound imaging. We will discuss the parameters, measurement processes and related terminology when using common and more advanced methods for assessing the PFM. Since all devices are different and may not give the same information for a specific PFM physiological parameter or function, we will further discuss the interpretation of findings when assessing the PFM at rest, during contraction and exertion (i.e. bearing down and coughing) from different tools.
  
- 5. Sanchia Goonewardene, Urologist, UK
  - Topic: Tailored clinical PFM assessment for physicians
    - Description: Pelvic floor muscle assessment is something that needs to be known and done by clinicians on a routine and systematic basis. To start the assessment, note the position of the patient: supine, lithotomy or on the side. Start by making a visual assessment. Skin assessment should include assessment of perineal skin for scars, lesions, atrophic changes, colour, erythema, swelling. Make a note of introital gaping, perineal body length, perineal body deficiency and position at rest. Also note whether the perineum is descended or elevated at rest and whether there are any keyhole deformities at the anus. It is also important to test for relaxation of the PFM or to see whether it is non relaxing post contraction, and to assess perineal movement with a sustained increase in intraabdominal pressure. Tests of digital palpation are also important per rectum or per vagina, including tone, tenderness, testing for levator injury/ avulsion, strength, and direction of PFM movement. As part of a complete examination, it is also important to do a sustained contraction endurance test, where the patient can hold a maximal or near maximal contraction and the number of seconds this is held for. Relaxation post contraction is important to note, as is the direction of pelvic floor muscle movement, elevation, descent or no change. When noting strength. it is important to note whether this is absent, weak or normal. Co-

ordination is the ability of the pelvic floor to respond normally. It may demonstrate complete relaxation or dyssynergia. It is also important to note co-contraction: synergistic or counterproductive. Urethral lift must also be noted including whether it is palpable or not. Levator closure must also be noted: movement will be either palpable as present, partial or absent.

6. Helena Frawley, Physiotherapist, Australia

- Topic: Diagnoses of PFM dysfunction
  - Description: While it is uncommon for a patient to present with PFM dysfunction without accompanying symptoms and signs of other pelvic floor disorders, we have proposed 5 diagnoses that may be used if the clinician decides the PFM disorder is the primary diagnosis. These include: disorders of increased PFM tone (PFM tension myalgia, diagnosed when increased PFM tone is present); disorders of PFM pain (pelvic floor myalgia, diagnosed when no alteration in tone is present); disorders of decreased tone; disorders of PFM co-ordination (vaginismus, anismus); and pudendal neuralgia.

**References:**

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Slieker-ten Hove MC, Pool-Goudzwaard AL, Eijkemans MJ, et al. Face validity and reliability of the first digital assessment scheme of pelvic floor muscle function conform the new standardized terminology of the International Continence Society. NeuroUrol Urodyn. 2009;28(4):295-300.

## PFM Assessment: a clinical proforma

Compiled from: Frawley H, Shelly B, Morin M, et al. An International Continence Society (ICS) report on the terminology for pelvic floor muscle assessment. *Neurourol and Urodynam* 2021; 40:1217-1260.

### *External perineal visual observation*

Test	Rating		
Perineal Skin assessment	Normal skin	Altered	
Perineal body length (f)	< 3 cm	> 3 cm	
Perineal body position at rest	Normal	Descended perineum Elevated	
Introital gaping	Absent	Present	
Keyhole deformity	Absent	Present	location
Anal gaping	Absent	Present	location

### *External perineal movement, visual observation*

Test	Rating	
Voluntary contraction of the PFM	Present	Uncertain Absent
Direction of movement with PFM contract	Perineal elevation	Perineal descent No change
Sex – specific movement on PFM contraction	Clitoral nod (f) Urethral meatus wink (f) Closure of anus (m) Testicular lift (m) Penile retraction (m)	
Relaxation of the PFM	Yes	Partial relaxation Delayed relaxation Non relaxing PFM
Perineal movement with sustained IAP / bearing	No change Perineal descent	Perineal elevation Excessive perineal descent
Perineal movement with rapid IAP / cough (note if precontraction or naive)	Perineal elevation Involuntary contraction No change	Perineal descent

### *External digital palpation*

Test	Rating		
Sensation	Normal sensation	Altered	allodynic, hyperalgesic, hyperesthetic, anesthetic, hypoalgesic, hypoesthetic, dysesthetic, paresthetic, neuralgic
Perineal scarring	Absent	Present	Location, degree of healing, adhesion extent and location, pain
Tone	Normal	Decreased Increased	
Tenderness	Absent	Present	Location, referral
Tender point	Absent	Present	Location, referral
Pudendal neurodynamics	Negative	Positive	/ 10 R L
Cotton swab test (f)	Negative	Positive	/ 10 location
Bulbocavernosus reflex (f)	Present	Absent	
Bulbospongiosus reflex (m)	Present	Absent	
Anal reflex	Present	Absent	
Voluntary contraction of PFM	Present	Uncertain Absent	

### *Internal digital palpation at rest*

Test	Rating		
Sensation	Normal sensation	Altered	allodynic, hyperalgesic, hyperesthetic,

			anesthetic, hypoalgesic, hypoesthetic, dysesthetic, paresthetic, neuralgic
Presence of scaring	Absent	Present	Location, degree of healing, adhesion extent and location, pain
Resting tone in a patient without a neurological condition	Normal	Increased tone - Transient increase tone - Muscle spasm Decreased tone	
Resting tone in a patient with a neurological disorder	Normal	Hypertonicity Hypotonicity Dystonia	
Fasciculation	Absent	Present	
Tenderness	Absent	Present	Location, referral
Pudendal nerve provocation test	Negative	Positive R / L	
Palpable anal sphincter gap	Absent	Present	Location
Flexibility of the vaginal opening (f)			# finger width
Levator injury/ avulsion (f)	Absent	Present	# finger width

*Internal digital palpation on PFM contraction*

Test	Rating	
Voluntary contraction of PFM	Present	Uncertain Absent
DMT	Moderate Strong	Absent Weak
Direction of pelvic floor movement	Pelvic floor elevation	Pelvic floor descent No change
Sustained contraction endurance	# seconds	
Repeatability of contraction	# repetitions Length of each contraction	
Number of rapid contraction	# of contractions within a specific time	
	# of seconds to perform a pre-specified number of contractions	
Relaxation post-contraction	Yes	Partial relaxation Delayed relaxation Non relaxing PFM
Co-ordination: describe specifics	Present	Absent
Co-contraction: describe specifics	Present	Absent
Urethral lift (f)	Yes	No
Levator closure (f)	Yes	No Partial Uncertain
Levator hiatus size (f)	LH transverse # fingers LH sagittal # fingers	