

Start	End	Topic	Speakers
12:30	12:50	James Ashton-Miller: Functional anatomy and biomechanics in understanding of pelvic floor muscle training	James Ashton-Miller
12:50	13:10	Chantale Dumoulin: Evidence for PFMT for stress- and mixed urinary incontinence and pelvic organ prolapse	Chantale Dumoulin
13:10	13:30	Janis Miller: Mechanisms and evidence for using the "Knack" in pelvic floor rehabilitation	Janis Miller
13:30	13:50	Kari Bø: Mechanisms and evidence for strength training and whether there is an additional effect of contraction of other muscle groups in pelvic floor rehabilitation	Kari Bø
13:50	14:00	Q&A/Debate	All

### Description

Background information:

Today there is Level 1/recommendation A for pelvic floor muscle training (PFMT) to be effective in treatment of female stress- and mixed urinary incontinence and pelvic organ prolapse. However, there are systematic reviews concluding that there is insufficient evidence to recommend which exercise programme is the most effective and there is a debate on how and why different PFMT programmes are working or not working. Often this discussion is focusing on methodological quality of the trials and seldom on quality and content of the intervention in a dose-response relationship (mode of exercise conducted, frequency, duration and intensity of the training and adherence to the training programme). At the same time there seem to be a growing interest in doing other exercises instead of or in addition to PFMT. The authors and presenters advocating such clinical practices hypothesize that this "new" way of training of the PFM creates a co-contraction that will give the same or better effect than PFMT alone.

### Key learning points

In this workshop the participants will:

- learn about evidence based knowledge from basic anatomy and biomechanical studies to understand the rationale behind PFMT
- learn about the evidence or non-evidence for PFMT and "alternative training concepts" based on high quality randomised controlled trials
- learn about how to critical appraise the basic rationale for different exercise concepts based on functional anatomy
- learn how to separate between statements/hypotheses/postulates from clinical experience and evidence from high quality basic science and randomised controlled trials

### Take home messages

The take home messages will be that clinical decision making should build on an understanding of functional anatomy, biomechanical knowledge and exercise science focusing on how exercise training can or cannot change the morphology of the pelvic floor and the risk factors and causes of pelvic floor dysfunction. In addition, clinical practice needs to be based on protocols from high quality randomised controlled trials showing clinically relevant effect sizes. Furthermore, the rationale for exercise programmes and the actual exercise programmes needs to be better described in the future scientific literature, making clinicians and researchers more able to follow the protocols. Bringing this knowledge into clinical decision making and future clinical trials is important for future evidence based practice helping patients to prevent and treat their pelvic floor dysfunction.

### Additional references

Ashton-Miller J, DeLancey JOL. Functional anatomy of the female pelvic floor. IN Bø K, Berghmans B, Van Kampen M, Mørkved S: Evidence based physical therapy for the pelvic floor. Bridging science and clinical practice. Elsevier, Edinburgh, 2015. Chapter 3: 19-34.

Bø K, Angeles-Acedo S, Batra A, Brækken IH, Chan Y, Jorge CH, Kruger J, Yadav M, Dumoulin C: International urogynecology consultation on pelvic organ prolapse, chapter 3, committee 2; Conservative treatment of pelvic organ prolapse: Pelvic floor muscle training. Online International Urogynecology Journal [https://doi.org/ 10.1007/s00192-022-05324-0](https://doi.org/10.1007/s00192-022-05324-0) 2022.

Dumoulin C, Cacciari LP, Hay-Smith EJC. Pelvic floor muscle training versus no treatment, or inactive control treatments, for urinary incontinence in women. Cochrane Database of Systematic Reviews 2018, Issue 10. Art. No.: CD005654. DOI: 10.1002/14651858.CD005654.pub4

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### **Aims of Workshop**

Pelvic floor muscle training (PFMT) has level 1 evidence and recommendation A to be first line treatment for female stress and mixed urinary incontinence and pelvic organ prolapse. However, there are many concepts of PFMT that has shown to be effective. In addition, there are some suggestions that the PFM can be activated via other muscles groups or breathing instead of or in addition to direct activation of the targeted muscle group. In this workshop we will present the mechanisms of action for PFMT in light of basic knowledge from functional anatomy, biomechanics, exercise science and randomised controlled trials to enhance the understanding of how and why PFMT is working and highlight exercise protocols that have shown to be effective.

### **Educational Objectives**

The content of effective pelvic floor muscle training programs and dose-response issues (mode of exercise, frequency, duration, intensity and adherence) are highly debated and there is significant activity on social media promising "new" exercise programmes with no references to basic science or high quality clinical trials. Also in the scientific literature there are studies suggesting other ways of training the pelvic floor than direct contraction of the pelvic floor muscles. To bring this debate to the audience of the ICS is important to secure a future evidence based practice of pelvic floor muscle training. We will open for questions and discussion after each presentation and a panel debate at the end of the programme. The faculty reflects different disciplines from basic science to clinical trials and represent physiotherapy, anatomy/biomechanics and nursing. Decision making of which pelvic floor muscle training protocol to be used should be based both on a basic anatomical and biomechanical understanding on how exercises may work for a specific condition in addition to evidence from randomized controlled trials.

In this workshop we bridge basic science of functional anatomy and knowledge from high quality randomised controlled trials. This knowledge can be directly translated into clinical practice giving the health personnel thorough rationale for evidence based choice of exercise programmes for female stress- and mixed urinary incontinence and pelvic organ prolapse.

### **Learning Objectives**

1. understand the anatomical, biomechanical and exercise science rationale for effective pelvic floor muscle training in treatment of stress-and mixed urinary incontinence and pelvic organ prolapse
2. Be updated on the latest systematic reviews and meta-analyses of randomised controlled trials of pelvic floor muscle training for stress-and mixed urinary incontinence and pelvic organ prolapse
3. Understand the difference between hypotheses/postulates/statements and evidence from randomised controlled trials

### **Target Audience**

Conservative Management

### **Advanced/Basic**

Intermediate

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

Ashton-Miller J, DeLancey JOL. Functional anatomy of the female pelvic floor. IN Bø K, Berghmans B, Van Kampen M, Mørkved S: Evidence based physical therapy for the pelvic floor. Bridging science and clinical practice. Elsevier, Edinburgh, 2015. Chapter 3: 19-34.

Braekken IH, Majida M, Engh ME, Bø K. Morphological changes after pelvic floor muscle training measured by 3-dimensional ultrasonography: a randomized controlled trial. *Obstet Gynecol.* 2010;115:317–24.

Bø K. Pelvic floor muscle training is effective in treatment of stress urinary incontinence, but how does it work? *Int Urogynecol J Pelvic Floor Dysfunct.* 2004; 15, 76–84.

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Garber CE, Blissmer B, Deschenes MR, Franklin BA, Lamonte MJ, Lee I-Min et al. Quantity and Quality of Exercise for Developing and Maintaining Cardiorespiratory, Musculoskeletal, and Neuromotor Fitness in Apparently Healthy Adults: Guidance for Prescribing Exercise. American College of Sports Medicine (ACSM) Position Stand. Med Sci Sports Exerc 2011 by the American College of Sports Medicine DOI: 10.1249/MSS.0b013e318213fefb

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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; 97:255-60.

Miller JM, Hawthorne KM, Park L, Tolbert M, Bies K, Garcia C, Misiunas R, Newhouse W, Smith AR. Self-Perceived Improvement in Bladder Health After Viewing a Novel Tutorial on Knack Use: A Randomized Controlled Trial Pilot Study. J Womens Health (Larchmt). 2018 Dec 3.