

## Presenter Biography

Dr. Kari Smith is an associate professor in the Des Moines University Department of Physical Therapy and manager of the DMU Physical Therapy Clinic. Her clinical emphasis is in orthopedics and the treatment of bladder and bowel incontinence, constipation, pelvic pain and sexual dysfunctions with the use of exercise and manual therapy, including visceral mobilization and biofeedback. She has a certificate of achievement in pelvic physical therapy from the Section on Women's Health of the American Physical Therapy Association and is board-certified in biofeedback for pelvic muscle dysfunction through the Biofeedback Certification International Alliance. She is also an instructor for the American Physical Therapy Association, Academy of Pelvic Health. Her current research involves measuring pelvic pain in pregnancy and how it correlates to functional mobility tasks. Dr. Smith graduated from DMU with a Master of Science degree in physical therapy in 1998 and a Doctor of Physical Therapy degree in 2004.

## Learning objectives:

1. Review pelvic floor anatomy and typical action during respiration, continence and lumbopelvic movements.
2. Identify signs and symptoms of pelvic floor muscle impairment and impact on function.
3. Understand the components of a PT eval and management of pelvic floor dysfunctions
4. Describe the relationship between pelvic floor muscles and ligamentous support of pelvic organs, increased intra-abdominal pressure and incontinence.
5. Understand the benefits of including PT on the patient care team

Incontinence and Physical Therapy Treatment: It is MORE than Kegals and Dilators!  
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1. Anatomy Review

- A. Pelvic floor muscles: skeletal muscle sling from pubic bone to coccyx, surrounding the urethra, vagina and rectum
- Made up of levator ani (puborectalis, pubococcygeus, iliococcygeus), coccygeus, obturator internus

**Purpose**

- Supports internal pelvic organs
- Closes off the urethra for continence
- Closes off the anus for continence
- Participate in sexual arousal and orgasm
- Posture and support

- B. Pelvic fascia and ligamentous support

- Made up of pubocervical, transverse cervical and uterosacral ligaments

**Function**

- Supports and holds pelvic viscera, vasculature and nerves
- Preserves functional integrity
- Framework for pelvic and perineal muscle function
- Helps maintain continence

- C. Respiration

- Inhalation and pelvic floor muscles drops
- Exhalation and co-contraction with transverse abdominus and pelvic floor muscles

2. Pelvic Floor Dysfunction Classification- based on International Continence Society Standardization of Terminology

- A. Lower urinary track symptoms (UI, urgency, frequency)
- B. Bowel symptoms (obstructed defecation, functional constipation, fecal incontinence, rectal prolapse)
- C. Vaginal symptoms (pelvic organ prolapse)
- D. Sexual function (orgasmic dysfunction, dyspareunia, erectile and ejaculatory dysfunction)
- E. Chronic pelvic pain syndromes

3. Underactive Pelvic Floor Muscles (PFM)

- Decreased strength and endurance
- Poor coordination of PFM with changes in intra-abdominal pressure
- Urinary or fecal incontinence, prolapse

#### 4. Overactive Pelvic Floor Muscles (PFM)

- Increase in PFM tension, active spasm
- Incoordination of PFM causing dysfunction of urogenital or colorectal systems
- Musculoskeletal pain from hypertonicity

#### 5. PT Evaluation Components

##### A. Subjective:

- Male or female pelvic questionnaires
- Screening for medical red flags along with Urogynecology and GI systems
- Urinary screening
- Frequency, urgency, pain, leakage
- Diet and hydration for bladder irritants
- Psychosocial and lifestyle factors (Exercise, sleep, stress)

##### B. Examination

- Postural and movement assessment
- Lumbopelvic, SI, coccyx, and hip dysfunction
- General strength and core stabilization
- Breathing patterns
- Abdomen
  1. Scars
  2. Fascial restrictions
  3. Diastasis Recti Abdominis
  4. Strength

##### C. Pelvic floor examination

- Observation
- Perineal mobility, scars, prolapse, hemorrhoids
- Skin irritation, lesions, quality of skin
- Sensation and reflex testing
- Pelvic floor muscle tone of external and internal muscles
- Motor coordination of contract/relax, straining
- Trigger points

#### 6. Treatment of Underactive Pelvic Floor (Stress Urinary Incontinence)

##### A. Behavioral training

##### B. Address posture, gait and movement impairments

##### C. Coordination of breath and pelvic floor muscle function

##### D. Strengthening PFM (Power and Endurance), abdominals and back

##### E. Graded progression of intensity and function to address positions of leakage

##### F. Case study

7. Treatment of Overactive Pelvic Floor (Urge Urinary Incontinence)
  - A. Bladder retraining -continence is learned behavior!
  - B. Scheduling interval is critical
  - C. Short mandatory voiding interval for moderate to severe urgency
  - D. No sooner than \_\_ hours for mild symptoms
  - E. Urgency Control
  - F. Avoid "just in case" voiding
  - G. Case Study 2
  
8. Male Incontinence Considerations- Impact after Cancer
  - A. Wide range of UI reported in the literature due to surgical technique and definition of incontinence (6-87% incidence)
  - B. Post prostatectomy incontinence-Incidence is equal to females; it just happens later in life!
  - C. Complications of medical treatment
    - Infection, incontinence, and sexual dysfunction
    - Erectile dysfunction in 70% with retropubic prostatectomy
  - D. Hormone manipulation treatment-screening for osteoporosis
  - E. Non-mechanical back pain in thoracic, lumbar, and sacral area may be metastatic spread to axial skeleton.
  
9. Male Incontinence PT Intervention
  - A. Education
  - B. Mechanisms of incontinence and surgical effects
  - C. Pelvic Floor Muscle Training
    - Train strength, endurance, coordination, timing, function, co-contraction with abdominals
  - D. Biofeedback training (sEMG or Real Time Ultrasound Imaging RTUS)
    - Focus upon urethral mechanism with most effective cues of "retract penis"
  - E. Breath retraining with PFM and integration into function
  - F. Train pre-activation of PFM with exhale before exertion
  - G. Facilitation of PFM: abdominals, glutes, adductors
  - H. Bladder training to increase volume and time between emptying
  - I. Case study 3

10. Screening Questions for Pelvic Floor Impairment

- A. Should be utilized with ALL patients in ALL practice settings!
- B. Do you ever leak urine or stool?
- C. Do you ever wear a pad because of leakage?
- D. Do you have difficulty emptying your bladder completely?
- E. Do you have genital or pelvic pain?
- F. Do you have constipation?
- G. Do you have pain associated with sexual activity or penetration?

11. Other common pelvic pain conditions treated by Pelvic PT

- A. Overactive pelvic floor
  - Coccydynia
  - Dyspareunia
  - Vaginismus
  - Vulvodynia
  - Prostatitis
- B. Endometriosis
- C. Interstitial Cystitis
- D. GI Disorders
  - Constipation
  - Rectal Prolapse
  - IBS
  - Fecal Incontinence

12. Clinical Indicators for Pelvic PT Referral

- A. History of gynecological dysfunction
- B. History of incontinence that doesn't respond to initial pelvic floor training
- C. Pelvic pain (within pelvis)
- D. Tailbone pain
- E. Abdominal surgical history
- F. Perineal lacerations during delivery
- G. Pelvic heaviness/pressure or prolapse
- H. Pain during penetration

