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Women's Health
Urinary Incontinence

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Objectives

- Understand options of care to treat incontinence
- Understand types of incontinence
- Physical therapy strategies to treat incontinence

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Urinary incontinence

- Statistics
- Anatomy
- Causes
- Types
- Interventions
- Physical therapy strategies

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Pelvic Muscle Anatomy

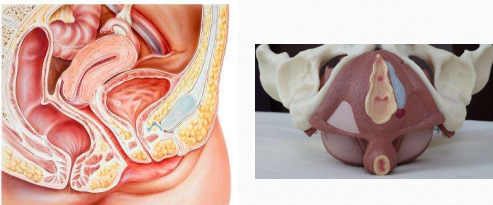
- The pelvis is made up of the 2 pelvic bones and the sacrum, the triangular bone at the base of the spine



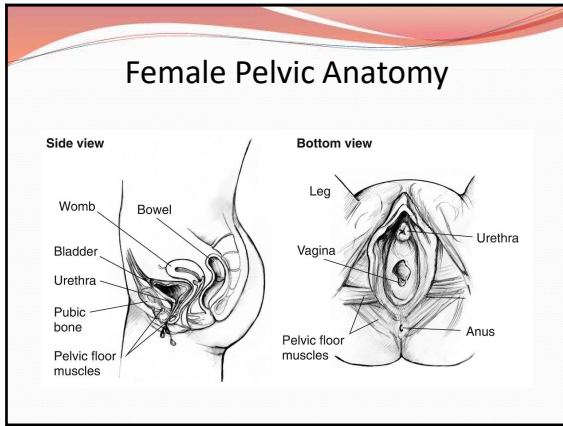
- There are several layers of muscle, fascia, and nerves within the pelvis

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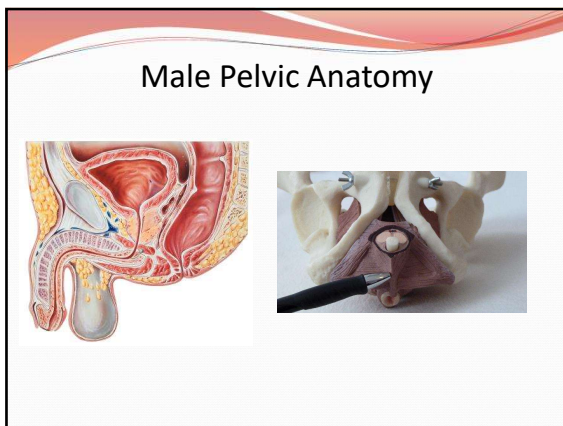
Female Pelvic Anatomy



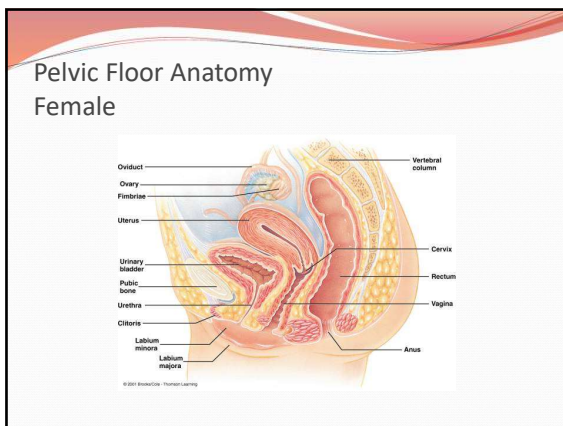
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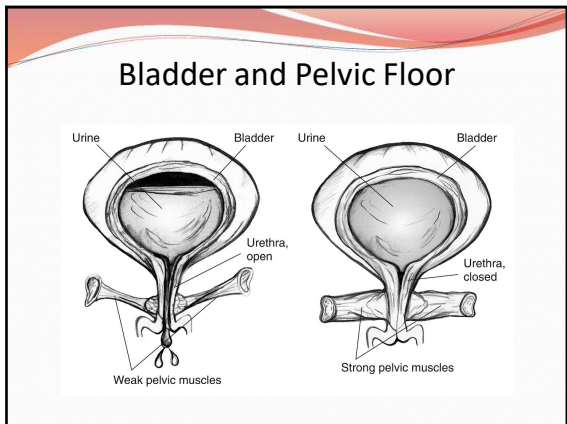
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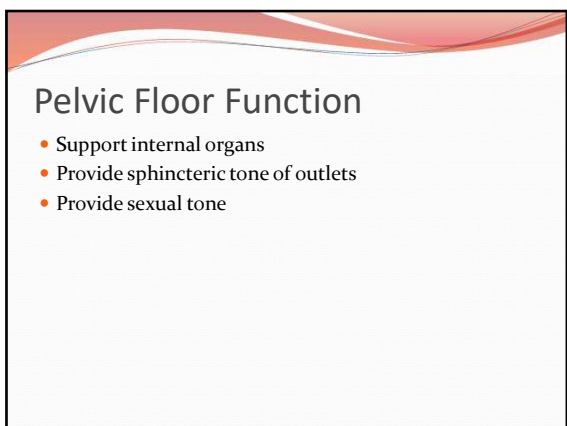
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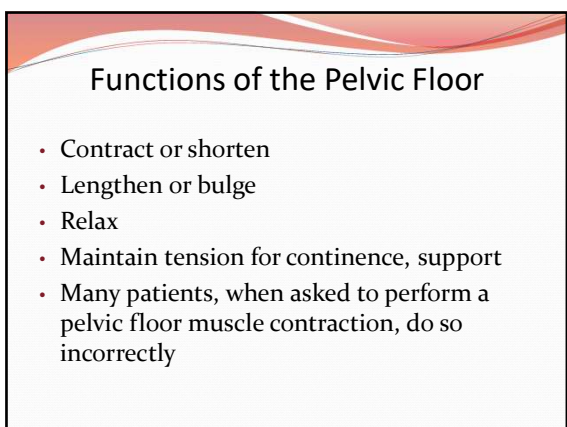
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Supportive Dysfunction

- Pelvic floor weakness
- Lacks support
- Prolapse
- Urinary Incontinence
- Decreased levator ani muscle tone
- Soft
- Fecal incontinence
- Decreased sexual tone

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Supportive Dysfunction

- Loss of nerve, muscle, ligament, or fascial integrity of the pelvic floor causing weakness and laxity, decreased tone
 - Hormonal imbalance
 - Trauma to nerve, muscle, fascia
 - Repetitive stretch and strain
 - Surgery

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Symptoms

- Dribbling after urination
- Falling out feeling
- Perineal pressure
- Incomplete voiding
- Low back pain
- Pelvic pain
- Fecal staining

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Causes

- Childbirth injury(use of instruments)
- Estrogen imbalances
- Obesity
- Chronic cough
- Chronic constipation
- Surgical History(hysterectomy)

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Prolapse

- Cystocele: bladder
- Urethrocele: Urethra
- Rectocele: rectum
- Uterine Prolapse: Uterus
 - Vaginal pressure, falling out feeling

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Incontinence


- Urinary incontinence(UI) is a condition in which involuntary loss of urine is a social or hygiene problem



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Incontinence

- 15-25 million Americans
- 80% of women will have some form of incontinence in their life
- 80% of incontinence is treatable
- Women 30-59 y/o 26% problems with UI



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Events of Continence

- Storage
- Transition
- Emptying

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Events of Incontinence

Storage

- Bladder fills with urine
- 400-600 ml or 2 cups
- Bladder signals brain that it is full

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Transition

- Recognize signal of fullness
- Contract pelvic floor and sphincter
- Transport self to bathroom
- Give the signal to void

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Emptying

- Bladder or detrusor muscle contracts
- Sphincter and pelvic floor relax
- Post Void Residual (PVR) 0-50 ml

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Normal Bladder Function

- Bladder is storage area, control is learned
- No pushing or straining is necessary to void
- First urge 150 ml or 5 oz.



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Bladder Function

- If normal intake and no infection, you should be able to wait 3-4 hours
- With age the bladder capacity can get smaller, frequency should still be every 2 hours

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Bladder Function

- 6-8 times a day
- 200-300 ml or 8-10 oz.
- First morning void, 12-20 oz.
- No nighttime voiding

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**Common Conditions Treated:
Bladder**

- Urinary incontinence
- Urinary urgency and frequency
- Painful bladder syndrome/Interstitial cystitis
- Urinary hesitancy or delay
- Incomplete emptying or retention
- Urethral pain
- Detrusor instability (Overactive bladder)

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Causes of Incontinence

- Weak pelvic floor muscles
- Pregnancy
- Childbirth
- Chronic cough
- Constipation
- Obesity
- Previous surgery
- Hormonal changes
- Multiple Sclerosis
- Parkinson's
- Stroke
- Spinal cord injury

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Types of Incontinence

- Urge
- Stress
- Mixed



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Urge Incontinence

- Urine loss occurs with a strong desire to urinate (urgency) with a few seconds or minutes warning
- Bladder contracts involuntarily

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Urge Incontinence


- Overactive Bladder
- Detrusor Instability



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Can Have Triggers

- Key in the door
- Running water
- Cold air



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Questions to ask yourself

- Do you leak on the way to the bathroom?
- Do you have to rush to the toilet?
- Does your bladder empty without warning?

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Stress Incontinence

- Involuntary loss of urine during physical exertion
- Increased intrabdominal pressure/no detrusor contraction

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Questions to ask yourself

- Do you leak urine with coughing, sneezing, lifting, or laughing?
- Do you leak urine with exercise or exertion?
- Does the leaking occur during the provoking situation or is it delayed by several seconds?

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Mixed Incontinence

- Combination of both
- Symptoms of urge and stress incontinence



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Incontinence...Interventions


- Pharmacological
- Medical
- Surgical



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Incontinence...Physical Therapy

- Evaluation
- Treatment
- Maintenance



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Overactive Bladder

- American Urological Association (AUA) Guidelines 2014
- Recommended first line of treatment: behavioral therapy
 - Bladder training, bladder control strategies, pelvic floor muscle training, fluid management

Gormley, 2014

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Female Pelvic Pain and Urinary Incontinence (AHRQ, 2012)

- 889 articles were reviewed, who has UI?
 - 25% of young women
 - 44-57% middle-aged and menopausal women
 - 75% of women in nursing homes
- “PFM training alone is as effective for stress or mixed UI as when adding ES, biofeedback, or bladder retraining”
- Evidence is lacking to support surgery for pelvic pain, referral to therapy is suggested

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Pelvic Rehab for IC/PBS (Interstitial Cystitis/Painful Bladder Syndrome)

- American Urological Association (AUA) updated guidelines list PT as “second line” treatment following education, behavioral modifications, and stress management
- PT components can include manual therapy and avoiding pelvic muscle strengthening

Hanno, 2011

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Nocturia

- Increases fall risk
- Increases fracture and mortality risk
- Behavioral treatment plus bladder-relaxant therapy is better than drug therapy alone in reducing nocturia in men

Vaughan et al., 2010
Nakagawa et al., 2010
Johnson et al., 2013

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What Takes Place in a Pelvic Rehab Appointment?

- Attending a pelvic rehabilitation appointment is very much like any rehab appointment
- You may attend with or without a friend or loved one
- You will have an opportunity to share your concerns and goals
- You will be offered options regarding assessment and treatment

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Physical Therapy

- Evaluation



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Physical therapy

- History
- Gait
- Pelvic symmetry
- Trunk ROM
- Lower Extremity ROM/Flexibility
- Lower Extremity Strength
- Abdominal scars
- Tenderness
- Palpation

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Who Presents to PT?

- Of 2452 patients in 108 clinics
- Urinary: 67%
- Bowel: 27%
- Pelvic pain: 39%

Wang et al., 2012

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Who presents to PT?

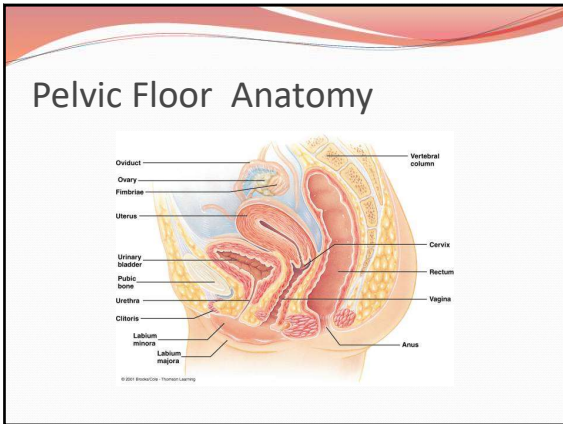
Urinary issues	%
Leakage	32.1
Frequency	10.9
Retention	2.7
Leakage, frequency	30.2
Leakage, retention	5.1
Frequency, retention	4.7
Leakage, frequency, retention	14.3

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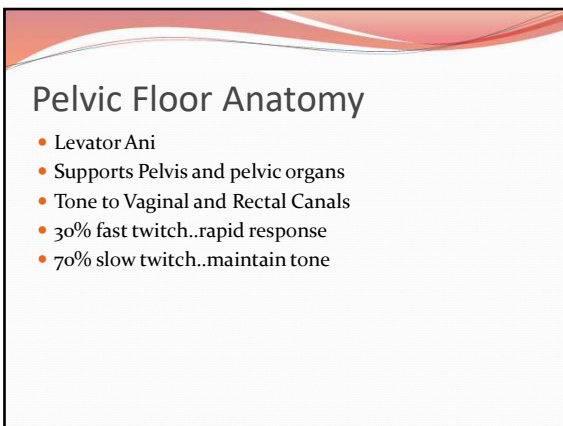
Incontinence...Physical Therapy

- Pelvic Floor
- Muscle strength
- Muscle endurance
- Tenderness
- Appropriate contraction
- Reflexes

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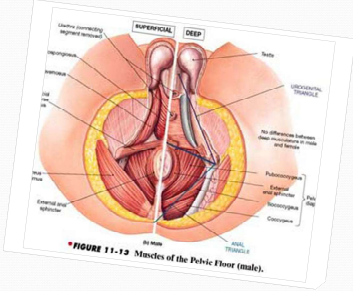
Instructing in Correct Muscle Activation and Relaxation

- Following standardized instruction for pelvic muscle contraction:
 - 40% of women have demonstrated ineffective effort, with 25% of them displaying incontinence-promoting technique (Bump et al., 1991)
 - A significant number of healthy young men were found to be unable to perform a contraction in standing or sidelying (Scott et al., 2013)

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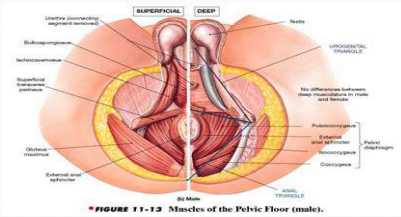
Pelvic Floor Strengthening

Progressive resistive exercises
Vaginal Weights



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Pelvic Floor Strengthening



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Behavioral Modifications

- Bladder Diary
- Time of Day
- Voids/Amount
- Leaks
- Diet
- Fluids
- urge



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Behavioral Modifications

- Avoid constipation with high Fiber diet
- Don't strain or push
- Sit on toilet
- No "just in case"
- Go for 8 Mississippi
- Go before and after sex

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Fluid Intake

- Enough fluids to avoid odor or dark color urine
- 64 oz water per day
- 1/2 body weight in ounces of water
- 2/3 of daily fluid intake should be water

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Diet...Bladder Irritants

- Alcoholic beverages
- Tomato based products
- Vinegar
- Coffee and tea(regular or decaf)
- Curry
- Milk
- Spicy foods
- Caffeinated beverages
- Cola
- Citrus fruits and juices
- Artificial sweeteners
- Chocolate
- Cigarette Smoking

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Urge Techniques

- Distractions
- Relaxed breathing
- Kegels or pelvic floor muscle contractions


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Biofeedback

- Surface EMG
- External electrodes
- Internal vaginal or rectal sensors
- Audio and visual feedback
- Isolate muscle

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Biofeedback

A photograph of a biofeedback device, which is a small white rectangular unit with a digital display and a blue button. It is connected to a blue sensor and a blue electrode pad. The device is resting on a white surface.

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Electrical Stimulation

- Re-education of muscles
- Builds muscle awareness, strength, and endurance(Stress)
- Decrease bladder contractions(Urge)
- Vaginal or rectal sensor

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Accessory Muscles

- Abdominals
- Gluteals or Buttocks
- Hip Adductors or Inner Thigh Muscles

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Other treatments

- Stretching
- Scar Mobilization
- Correct pelvic asymmetry
- Diaphragmatic breathing
- Pelvic stabilization




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Skin Care, Absorbent Products, and Odor Control

- Protection in form of moisture barrier ointment(Urine on skin can cause skin irritation, lead to infection, and skin breakdown)
- Use pads specific to absorb urine
- Don't wear pads at night if not leaking
- Dry skin well

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Questions?



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