Pelvic Floor Therapy for the Neurologic Client

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Disclosures

• I have nothing to disclose
Objectives

• Describe the role of a pelvic floor therapist in the interdisciplinary treatment of bowel and bladder dysfunction

• Identify some common behavioral techniques to improve bowel and bladder functioning
Introduction
Neuro-Rehab Clients

- Patients are being seen by a variety of specialists both therapy and physicians
- Often bowel and bladder concerns are low on the priority list
- Bowel and bladder concerns can have the biggest impact on quality of life
Neurorehabilitation Clinic

- Multidisciplinary neurologic rehabilitation clinic
- PT, OT, Speech
  - NDT
  - Vestibular
  - Driving
  - Pelvic Floor
Typical Diagnoses

- CVA
- SCI
- ALS
- Parkinson’s
- Multiple Sclerosis
- Concussion
Neuro-anatomy
Neuroanatomy

Control of micturition

1. Cortical micturition centre
2. Pontine micturition centre
3. Spinal micturition centre
4. Peripheral nerves

Sympathetic (T11 - L2)
Parasympathetic (S2,3,4)
(S2,3,4)
Normal Micturition

- Intact neural control
- Adequate detrusor function
- Absence of obstruction
- Pelvic floor muscle relaxation
Normal Values

• Micturition Dysfunction
  – Non relaxing pelvic floor muscles
  – Poor or absent detrusor contraction
  – Mechanical Obstruction
Normal Values

- Renal input into the bladder is 1-14 ml/min
- Bladder capacity is 400-600 ml
- Normal frequency of voiding is 4-8 times/day
- First sensation to void is at about 40% capacity
- First desire to void is about 60% capacity
- Strong desire to void at >90% capacity
Dysfunctional Bladder Habits

• Delaying toileting too long
• Hovering over the toilet
• Bearing down to initiate or complete urination
• Not allowing time for full bladder emptying
• Voiding “just in case”
• Failing to wipe front to back after bowel movements
Bladder Issues in the Neurologic Patient
Bladder Complications of Neurologic Conditions

- CVA
  - Disruption of the neuromicturition pathways
  - Stroke related cognitive and language deficits with normal bladder function
  - Concurrent neuropathy or medication use
  - NDO is common
  - Urinary retention is commonly reported early on
CVA

- Between 32-79% of patients with CVA experience incontinence
- Very few therapists screen for post stroke incontinence
Research

- TENS combined with traditional PFMT
- Both groups had improvements in incontinence
- Suprapubic TENS plus exercise had the greatest impact on incontinence
Research

- General rehab training vs 50 minutes of PFMT
- Increased overall pelvic floor muscle strength in experimental group
- Overall LUT symptoms decreased in patients that completed PFMT
Bladder Complications with Neurologic Conditions

• Multiple Sclerosis
  – NDO
  – DSD
  – Weakness of PFM contraction
  – Spasticity of the PFRM
  – More likely to report bother from overactive bladder conditions
Bladder Complications in MS

- Most prevalent types of incontinence in MS population
  - LUTS
  - OAB
- People with MS wait an average of 6.5 years before reporting bladder symptoms
- OAB is associated with depression and low self esteem as well as reduced QoL
Treatments for bladder issues in MS

- CIC
- Permanent indwelling catheters
- Anticholinergic agents
- Demopressin
- Cannabinoids
- Doral penile/clitoral nerve stimulation
- PTS
- Sacronurommodulation
- Botox
- Augmented cystoplasty
PFMT

- Disadvantages
  - Increase in voiding disorders if over trained
  - Increase bladder dysfunction and decrease overall PFM relaxation
  - Can result in hesitancy, intermittence of stream, and high post void residuals
Research

• Lucio et al found that PFMT improved QoL in women who had MS
• Khan et al performed a RCT and found that patients had increased activity levels after PFMT
• Vahtera et al showed significant improvements in urinary urgency, frequency and incontinence
Research

• Patients with relapsing remitting MS who were treated with Tysabri experience significant improvement in incontinence related QoL measures
• Treatment effect remains over time
• Not sure the mechanism of incontinence improvement
Research

- Experimental group received 48 sessions at 2 times per week with exercise and estim, control group received home instruction
- Both groups improved
- Individualized treatment with estim had better results on incontinence and quality of life
Research

- RCT
- Group 1 had PFMT using EMG and sham NMES, group 2 had EMG and intravaginal NMES
- Both groups improved
- PFMT and intravaginal NMES had the largest improvement
Typical PFMT Treatment in MS

- Suprapubic vibration
- Neuromodulation
- Behavioral techniques
- Fluid/fiber management
- PFM exercise
Fecal Incontinence

- Anorectal dysfunction is a common complication, affecting up to 68% of patients with MS
- Baclofen can have the potential to alter the response to rectal distension
- Behavioral training and biofeedback are the most common treatments
Spinal Cord Injury

• Much emphasis is placed on bowel and bladder training in the inpatient setting
• Outcomes of neurogenic bladder can be changed with simple training
• Assessment of proprioception of the pelvic floor is also important
Spinal Cord Injury

- Pelvic floor physical therapy can help to improve sexual functioning in the patient with SCI
General Physical Therapy Interventions
Five questions

• 1.) Do you ever leak urine or feces?
• 2.) When you get the urge to urinate or defecate, can you delay it? If so, for how long?
• 3.) When you do sit down to go to the bathroom, do you have trouble initiating urination or defecation?
• 4.) Do you feel like you fully empty your bladder and bowels?
• 5.) Do you have pain associated with urination or defecation?
Five questions

• Answering yes to any of those questions should trigger a referral to a pelvic floor physical therapist

• Even if the issue pre-dated the neurologic insult, patients should still be referred to physical therapy
Physical Therapy Intervention

- Urinary Symptoms
  - Position on the toilet
  - Increased bladder sensation leading to urgency and frequency
  - Reduced bladder sensation
  - Absent bladder sensation
  - Sensation of incomplete bladder emptying
  - Strength of flow
  - Nocturia
  - Urge or stress incontinence
  - Initiation of voiding
Physical Therapy Interventions

UNHEALTHY
BATHROOM POSTURE

Vs.

HEALTHY
BATHROOM POSTURE
Physical Therapy Intervention

• Self Catheterization
• Specific sensations related to bladder fullness
• Bladder diary
• Neuro exam
  – Anal wink
  – Bulbocavernosus reflex
  – Knee and ankle reflex
Treatment of Neurogenic LUT Dysfunction

• Treatment regimes are generally chosen based on whether there is a failure to store or failure to empty

• Goals of treatment
  – Keep bladder pressure low to avoid reflux and upper urinary tract damage
  – Avoid post residual
Treatment of Neurogenic LUT Dysfunction

- Therapies to facilitate urine storage related to the sphincters
  - Estim and biofeedback
  - PFRM training without biofeedback
  - Vaginal, perineal, urethral occlusive or supportive devices
  - Collagen injections
  - Surgeries
Treatment
Neurorehabilitation Clinic at OhioHealth

- Pelvic Floor Education
  - 2 hour pelvic floor in-service
  - Pelvic floor anatomy
  - Typical bowel and bladder physiology
  - Bowel and bladder issues associated with:
    - MS
    - Parkinson’s
    - Spinal cord injury
    - Stroke
Case #1: CR
Cauda Equina

The Cauda Equina
Initial Concerns

- Bowel and bladder issues were interfering with neuro physical therapy
- Bowel and bladder were some of the first signs of initial nerve compression injury
- Patient was already on a bowel and bladder program when presenting to pelvic floor physical therapy
Current Bowel and Bladder Program

• Bladder
  – Medication
  – Restriction of fluids
  – Occasional catheterization

• Bowel
  – Metamucil
Initial Consultation

- Due to limited number of visits for physical therapy and extensive neurologic PT needs, pelvic floor PT would be operating on a consultation basis only.
- Initial consultation was made with interview only.
Primary Impairments

- Constipation
- Abdominal pain
- Straining
- Long bathroom breaks
Consultation

• Bowel habits
  – Patient spending long periods of time on the toilet
  – Also causing urinary incontinence

• Fiber management
  – Less than 10 grams of fiber per day were being consumed

• Pelvic floor relaxation
  – External palpation to confirm relaxation
Consultation

Bristol Stool Chart

- **Type 1**: Separate hard lumps, like nuts (hard to pass)
- **Type 2**: Sausage-shaped but lumpy
- **Type 3**: Like a sausage but with cracks on its surface
- **Type 4**: Like a sausage or snake, smooth and soft
- **Type 5**: Soft blobs with clear-cut edges (passed easily)
- **Type 6**: Fluffy pieces with ragged edges, a mushy stool
- **Type 7**: Watery, no solid pieces. Entirely Liquid

Sitting versus Tip-Toeing

- Sitting: Rear to your butt
  - To maintain continence, the puborectalis muscle "choke" the rectum
- Tip-Toeing: Squatting relaxes the puborectalis muscle and straightens the rectum
Collaboration

- Patient resistant to change, especially with fiber management
- With encouragement patient did start to change bathroom habits
Outcomes

• More frequent bowel movements
• Spending less time on the toilet
• Decreased urinary incontinence
Case #2: CS
Multiple Sclerosis

• Patient presented with overactive bladder
• Going to the bathroom at least 1x per hour
• Waking up at night at least 3x to go to the bathroom
• Mild constipation
Multiple Sclerosis

- Bowel and bladder diary
- Adjusted fluid and fiber intake
- No pelvic floor muscle spasticity
Multiple Sclerosis

• Two visits
• Decreased overall waking urgency and frequency
• Only getting up 1x per night
• Decreased sexual dysfunction
Conclusions
Insurance

- Difficult to complete pelvic floor therapy when patients have multidisciplinary needs
- Often will work on a consultation model within other visits
- Constant communication with neuro therapists in regards to discharge planning and how many visits will be utilized
Take Home Messages

• There is a need for pelvic floor education for the neuro therapist to recognize the need for pelvic floor therapy within this patient population

• Pelvic PTs need to be aware of visit use with these patients to help them to navigate through their functional AND pelvic floor recovery
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