Pelvic Floor Physical Therapy for Gastrointestinal Conditions

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Objectives: Upon completion, participants will be able to:

1. Review the role of the musculoskeletal system in the process of defecation/elimination.

2. Provide a clear understanding regarding the pelvic physical therapist’s role in the evaluation and treatment of colorectal and pelvic floor related conditions, including patient education of utilized procedures.

3. Identify the various types of colorectal/pelvic floor syndromes that are amenable to physical therapy intervention.

4. Understand the role of biofeedback as an adjunct to pelvic physical therapy intervention.
Physical Therapists

- Experts in the musculoskeletal system
- Perform evaluation and treatment of pelvic floor syndromes including pelvic pain, incontinence, and constipation
- Most do not realize that physical therapists evaluate and treat the pelvic floor
  - Unaware that we are able to perform internal techniques

Photo available: Pelvic Physical Therapy, Level1,2010, Section on Women’s Health APTA. With permission.³
Fecal continence is maintained by:
- Anatomic factors
- Anorectal sensation
- Rectal compliance

Thus, problems can arise from:
- Extrinsic disorder of CNS/PNS
- Intrinsic disorder of the colon, rectum, anal sphincters, PFM, or combination
Musculoskeletal Component of GI System Review

- Puborectalis maintains anorectal angle to support continence
- During a defecatory urge, the pelvic floor muscles (including IAS and puborectalis) should either:
  - Relax – when over toilet to allow normal, complete evacuation
  - Contract – to store feces if defecation is inappropriate (via Accommodation Reflex)

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Puborectalis and Ano-rectal Angle

Illustration 9-4
Physiology of the Vesical Ostia

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http://www.fotosearch.com/bth_
umb/LIF/LIF137/GA304005.jpg

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Pelvic Floor Musculature

Photo available: http://www.netterimages.com/images/vpv/000/000/007/7235-0550x0475.jpg

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Pelvic Floor Disorders that Affect Defecation That are Amenable to PT

PT can address these problems:\textsuperscript{4,5}

- **Functional Disorders:**
  - Pelvic floor dyssynergia (dyssynergic defecation, obstructed defecation, constipation, dyschezia, tenesmus)
  - Underactive pelvic floor muscles (inadequate defecatory propulsion, incontinence)

- **Structural Disorders:**
  - Rectocele
  - Rectal prolapse
  - Neoplasm
  - Hirschsprung’s disease
Physical Therapy Intervention

- Full evaluation including: history, elimination habits, and exam of pelvis and PFM to determine the cause(s) of the dysfunction after MD referral
  - Rectal and/or vaginal exam

- Treatment Options
  - Manual Techniques
  - Bowel/Bladder Retraining
  - Neuromuscular Re-education/Biofeedback
  - Therapeutic Exercise
  - (Modalities PRN, including electrical stimulation)
Underlying Goals

1. Identify any behavioral, physical or biomechanical dysfunction contributing to the condition
2. Correct underlying habits
3. Re-establish coordination
PT Treatment Options Per Diagnosis

- Dyssynergic Defecation\(^4\)
  - Constipation, tenesmus
  - **Treatment**: PT, including biofeedback, to promote increased sensory perception in the rectum and correct the underlying dyssynergia

- Underactive Pelvic Floor Muscles (PFM)
  - Anal incontinence, prolapse\(^6\)
  - **Treatment**: improve PFM strength/coordination; correct defecation mechanics
  - Up to 50% of people with FI exhibit abnormal defecation dynamics\(^7\)

- All Patients
  - Education of physiology, pathophysiology, proper bowel/bladder habits, toilet positioning
Biofeedback

- Typically unknown information about a physiological process is converted into simple visual or auditory cues\(^9\)

- Biofeedback has been shown in the literature to be the MOST effective treatment option in ADULT patients with dyssynergic defecation\(^8\)


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Biofeedback/Neuromuscular Re-education

Purpose: Retraining the PFM to correct dyssynergia, improve coordination and strength/support\textsuperscript{3,4,5}

Types:
- Manual cues
- Mirror
- sEMG (internal or external)
- Pressure EMG
- Balloon catheter
- Rehabilitative Ultrasonic Imaging

**No single technique appears more effective than others, based on therapist’s training and experience**
Specialized Pelvic Floor Biofeedback Equipment

Biofeedback
Biofeedback Examples

Overactive PFM

Coordinated Pelvic Floor
Physical Therapy and Patient Education

- Dependent on the type of presenting dysfunction
- Educate and demonstrate proper techniques/behaviors
  - Physiology of elimination process and the voluntary control we have
  - Role of the PFM in elimination and/or continence
    - Contraction versus relaxation
  - Eating & water consumption for stool consistency
  - Proper defecation position/elimination techniques

NO ADVERSE SIDE EFFECTS

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Biofeedback + Pelvic floor muscle exercise (PFME) was superior to PFME alone in treatment of FI at 3 months and 12 months follow-up (Heymen 2009)\(^{10}\)

PFME + biofeedback and weekly in-clinic visits was successful in significantly improving FI and quality of life reports with results maintained 2 years later (Bartlett 2011)\(^{11}\)

Biofeedback is effective in patients with chronic anal pain (Enck 2009)\(^{8}\)

Level B evidence, based on good, consistent scientific evidence, to support the use of PT in the treatment of chronic pelvic pain (Abraham 2008) \(^{12}\)
Biofeedback for dyssynergic defecation shown to be superior to laxatives, sham feedback, standard therapy, placebo, and diazepam (Rao 2009)\textsuperscript{4}

Biofeedback therapy provided sustained improvement (1 year later) of bowel symptoms and anorectal function in constipated patients with dyssynergic defecation

Whereas standard therapy was largely ineffective (Rao 2010)\textsuperscript{13}

Standard therapy: advice regarding bowel habits, exercise, laxatives, dietary fiber and fluid intake, and timed toilet training

Emerging evidence that shows biofeedback is effective for patients with IBS and dyssynergic defecation (Rao 2011)\textsuperscript{14}
Selecting Patients for Physical Therapy

Positive Prognostic Indicators:¹⁵
1. Patients with good sphincter function before treatment
2. Patients with mild to moderate FI

Dyssynergic defecation

Motivated patient
- Active participant

Cognitive processing skills and attention⁵
Referring to Pelvic Physical Therapy

- Physician referral after formal GI workup to rule out non-musculoskeletal causes of symptoms
- Prescription for PT “Physical Therapy Evaluate and Treat for ___________(diagnosis)”
- Patient calls to schedule appointment
- Covered by insurance
- Find a Pelvic Floor PT in your area:
  - www.womenshealthapta.org
  - Locate a PT

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Case Studies

S.K. (constipation/dyschezia/chronic enema & laxative use)

- 5 year history of enema 3x/day and/or glycerin suppository secondary to “inability to have a BM without them” use with worsening symptoms in time
- Daily abdominal pain/cramping, thinks she “has to go 3 times a day” to be “normal”
- No change with Zelnorm, Colace, or Miralax
- Goals: BM without enema use and no belly pain/cramps
- Incomplete relaxation of PFM with attempts at defecation, PFM overactivity, tenderness to palpation of puborectalis and EAS
- In 7 visits, no more enema use, 1-2 suppositories a month, no further belly pain/bloating, restored PFM coordination
- In 12 visits, no more enema or suppository use, (3 months later) with 1 independent BM daily, no tenderness to palpation
- “This has changed my life” 100% improvement
Case Studies

M.R. (anal incontinence)

- 2 year history of fecal and gas incontinence, particularly of looser stool, unchanging symptoms in time. Feels like “I am never done defecating and I could wipe forever”
- Anal manometry revealed decrease in anorectal resting and squeeze pressure, mild decrease in sensation to balloon distension, incomplete relaxation of anal sphincters with balloon distension
- No previous treatments to date
- Goals: To eliminate/reduce leakage
- Inconsistent ability to voluntary relax/elongate PFM for defecation, 2+/5 PFM MMT, involuntary contraction absent, abdominal muscle substitution with attempts at PFM contraction
- In 3 visits, 60% improvement in completeness/ease of defecation and reduced leakage
- In 6 visits, 100% improvement in completeness/ease of defecation and no further episodes of anal leakage secondary to gains in PFM strength, coordination, awareness, proper defecation habits

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Many GI conditions can have musculoskeletal components that are amenable to pelvic floor PT

PT, including biofeedback, is a non-invasive option with evidence based results with no side-effects

Neuromuscular re-education is key- biofeedback is a part of this

Questions?

Thank you!
Contact Information

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References


References


