Surgical Evaluation and Treatment of Fecal Incontinence

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Disclosures

- none
Outline

- Definition
- Etiologies
- Exam findings
- Additional testing
- Medical management
- Surgical options
What is fecal incontinence?

- Recurrent inability to voluntarily control the passage of bowel contents through the anal canal

- Partial Incontinence
  - smearing, soiling, uncontrolled flatus

- Complete Incontinence
  - passage of feces without the patient's knowledge, or without voluntary contraction, or both
Etiology

- **Trauma**
  - Surgical (e.g., fistulectomy, fistulotomy, hemorrhoidectomy, sphincterotomy, sphincter stretch, pull-through operations, low anastomoses)
  - Obstetric
  - Accidental (e.g., penetrating or avulsion injury, social injury)

- **Colorectal disease**
  - Hemorrhoids, rectal prolapse, inflammatory bowel disease, malignant tumors, radiation

- **Congenital anomaly**
  - Spina bifida, myelomeningocele, imperforate anus, Hirschsprung's disease

- **Neurologic disease**
  - Cerebral (e.g., tumor, vascular accident, dementia, trauma)
  - Spinal
  - Peripheral (e.g., diabetes mellitus, multiple sclerosis, pudendal nerve injury)

- **Miscellaneous conditions**
  - Laxative abuse, Diarrheal conditions, Fecal impaction, Encopresis
Scoring Systems

- **Cleveland Clinic Incontinence Score**
  - Incontinence to flatus, liquid or solid stool, wearing a pad, lifestyle alterations
  - 0 (perfect continence)- 20 (complete incontinence)

- **Fecal Incontinence Quality of Life (FIQL)**
  - 29 items considers lifestyle alterations, coping behavior, depression/self-perception, and embarrassment
Cleveland Clinic Incontinence Score

Please tick one box in each row to indicate on average how often you experience the following:

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<th></th>
<th>Never</th>
<th>Rarely Less than once a month</th>
<th>Sometimes Less than once a week</th>
<th>Usually Less than once a day</th>
<th>Always Everyday</th>
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<tr>
<td>a. Solid stool leakage</td>
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<td>b. Liquid stool leakage</td>
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<td>c. Gas leakage</td>
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<td>d. Pad use (for stool)</td>
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<td>e. Lifestyle restriction</td>
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Epidemiology

- prevalence of 0.4–18%
- 3:1 female/male

Nelson et al, JAMA 1995
Evaluation

- Trauma, obstetric hx, anorectal surgery
- Stool frequency, consistency
- Colon cancer screening
- Perianal exam
- Digital exam
- Anoscopy
- Proctoscopy
Additional Testing

- Endoanal ultrasound
- Anal manometry
- Electromyography
- Pudendal nerve terminal motor latency
- Defecography
Medical Management

- Bowel management program
  - maintaining optimal fecal consistency, stimulating peristalsis, and controlling the time of evacuation

- Fiber (25-30 grams/day)

- Stool softeners, constipating medications, laxative, or even stimulant cathartics

- Pelvic floor physical therapy-biofeedback
Surgical Options

- Sphincteroplasty
- Solesta
- SECCA
- Sacral Nerve Modulation
Sphincteroplasty

Fang et al, DCR 1984
Results after Sphincteroplasty

- 70-80% success
- 60% acceptable to excellent 5 year outcomes
- 50% at 10 years

Gutierrez et al, DCR 2004
Oom et al, DCR 2009
Solesta (NASHA/Dx)

- FDA approved in 2011
- Biocompatible bulking agent in an injectable gel
  - Dextranomer microspheres in stabilized hyaluronic acid
- 4 injections in the submucosal layer of the anal canal
Solesta Results

- Randomized sham controlled trial
- 206 pts (2:1)
- 52% noted improvement in symptoms (>50% improvement) at 6 and 12 months
  - Compared to 31% in sham group

Graff et al, Lancet 2011
SECCA Procedure

- FDA approved in 2002.
- Uses radiofrequency to remodel the anal canal under conscious sedation and local perianal block

Patient receives sedation and local anesthesia. Physician positions the device.

Controlled levels of radiofrequency energy are delivered to the anal sphincter, creating precise submucosal thermal lesions.

Over time, these lesions are resorbed and the tissue contracts.
Sacral Nerve Modulation

- Implantable system sends electrical pulses near the 3rd sacral nerve to modulate the neural activity.
- Influences the behavior of the pelvic floor, lower urinary track, urinary and anal sphincters, and colon.
- FDA approve in 2011.
Interstim

- 3-7 days test phase
- Partial implant
- Full implant
Sacral Nerve Stimulation Results

- Systematic review 41-75% complete fecal continence, 75-100% improvement of episodes of incontinence.
- 5 year follow up of 67 patients, > 50% improvement in 89%, and 36% complete continence, 35% required revision, replacement, or explant.

Jarrett et al, Br J Surg 2004
Tull et al, DCR 2013
Algorithm

- Treat associated conditions
- Severe sphincter Injury- sphincteroplasty
- Conservative management
  - Bowel regimen, pelvic floor PT
- Mildly patulous anus- Solesta
- Sacral Nerve Modulation
Conclusion

- Awareness of the prevalence of fecal incontinence
- Screening is important
- Fecal incontinence is treatable
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