FGID Table F (Updated 31/01/2016)

PUBMED 2014 - Search criteria e.g.: (TITLE-ABS-KEY(“functional decal incontinence”)) AND (psychological intervention or hypnosis or relaxation or "behavior therapy" or "behaviour therapy" or "cognitive therapy" or "stress management" or “interpersonal therapy” or psychoanalysis or psychodynamic or CBT or mindful* or mind or hypnosis, or “psychological intervention” or biofeedback). References also attained through screening of source references.

Levels of evidence (I-IV) assessed in accordance with National Health and Medical Research Council (1999) guidelines [1]

FGID condition and diagnostic criteria		**Demographics aspects of the condition**		**Medical treatment**	**Psychological aspects of the FGID**			
FGID Condition:	Diagnostic criteria:	Prevalence:	Demographic characteristics:	Common medical treatment method:	Incidence of psychological conditions	Psychological predictors	Psychological intervention type	Efficacy of psychological and biofeedback interventions
F. Functional Anorectal Disorders	Review: [2-5] Early review [6] Biofeedback review: [7]	• 22.6% (95% CI: 20.2-25.0) in Canada [8] • 26.8% diagnosed after excluding self-report; US national average was 26.3% [9]				• Absenteeism (III-2) [9]		
F1. Functional fecal incontinence	*Diagnostic criteria** 1. Recurrent uncontrolled passage of fecal material in an individual with a developmental age of at least 4 years and *one or more* of the following: a. Abnormal functioning of normally innervated and structurally intact muscles b. Minor abnormalities of sphincter structure and/or innervation c. Normal or disordered bowel habits, (i.e., fecal retention or diarrhea) d. Psychological causes AND 2. Exclusion of *all* of the following: a. a. Abnormal innervation caused by lesion(s) within the brain (e.g., dementia), spinal cord, or sacral nerve roots, or mixed lesions (e.g., multiple sclerosis), or as part of a generalized peripheral or autonomic neuropathy (e.g., due to diabetes) b. b. Anal sphincter abnormalities associated with a multisystem disease (e.g. scleroderma) c. c. Structural or neurogenic abnormalities believed to be the major or primary cause of fecal incontinence. • Criteria fulfilled for the last 3 months [10] Review: [2, 5, 7, 11-13] Major review: [13]	• 2.0% in AU [14, 15] • 4.6% (95% CI: 2.9-6.8) in Mexico [16] • 6.9% (95% CI: 5.4-8.4) in Canada [8] • 7.6% (95% CI: 5.7-9.5) in AU (RII criteria; 2.0% [95% CI:1.5-2.5] RI criteria) [17] • 7.8% diagnosed after excluding self-report; US national average was 7.4% [9] • 18% in US [18]		• Inert bulking agent injection (II) [19] • Sacral nerve stimulation (IV) [20, 21]	• 52.2% CES-D depression (IV) [16] • 16.7% CES-D depression (III-1) [22] • 43.23% comorbidity (III-2) [15]	• Absenteeism (III-2) [9]	• Biofeedback (II) [23-29], (III-1) [22, 30, 31], (IV) [32-50]	• Biofeedback o Superior to control (II) [23] o Improvement (II) [24], (III-1) [22, 31], (IV) [32-50] o No difference (II) [25, 26], (III-1) [30] o Biofeedback and electrostim no difference, but subjective improvement (II) [27] o Biofeedback and electrostim superior to low-frequency stimulation (II) [28] o Digital examination biofeedback mechanism improvement (II) [29]
F2. Functional anorectal pain	Review: [2, 6, 51-54]	• 11.6% diagnosed after excluding self-report; US national average was 11.3% [9] • 16.8% (95% CI: 14.6-19.0) in Canada [8]			• 31% any lifetime psychiatric diagnosis (13% anxiety, 18% depression (IV) [55]	• Absenteeism (III-2) [9]	• Biofeedback (II) [56], (IV) [51, 55]	• Biofeedback o Superior to electrogalvanic stimulation and massage (II) [56] o Improvement (IV) [51, 55]

FGID condition and diagnostic criteria		Demographics aspects of the condition		Medical treatment	Psychological aspects of the FGID			
FGID Condition:	Diagnostic criteria:	Prevalence:	Demographic characteristics:	Common medical treatment method:	Incidence of psychological conditions	Psychological predictors	Psychological intervention type	Efficacy of psychological and biofeedback interventions
F2a. Chronic proctalgia	*Diagnostic criteria** *Must include **all** of the following:* 1. Chronic or recurrent rectal pain or aching 2. Episodes last 20 minutes or longer 3. Exclusion of other causes of rectal pain such as ischemia, inflammatory bowel disease, cryptitis, intramuscular abscess, anal fissure, hemorrhoids, prostatitis, and coccygodynia * Criteria fulfilled for the last 3 months with symptom onset at least 6 months prior to diagnosis Chronic proctalgia may be further characterized into levator ani syndrome or unspecified anorectal pain based on digital rectal examination.[10]	• 8.0% diagnosed after excluding self-report; US national average was 7.9% [9]			• 31% any lifetime psychiatric diagnosis (13% anxiety, 18% depression (IV) [55]		• Biofeedback (IV) [55]	• Biofeedback o Improvement (IV) [55]
F2a1. Levator ani syndrome	*Diagnostic criterion* Symptom criteria for chronic proctalgia and tenderness during posterior traction on the puborectalis [10] Review [5, 51, 57]	• 1.0% in AU [14] • 1.2% (95% CI: 0.4-1.9) in AU (RII criteria; 1.0% [95% CI:0.7-1.4] RI criteria) [17] • 1.4% (95% CI: 0.6-2.9) in Mexico [16] • 2.4% (95% CI: 1.5-3.3) in Canada [8] • 6.6% diagnosed after excluding self-report; US national average was 6.0% [9]			• 31% any lifetime psychiatric diagnosis (13% anxiety, 18% depression (IV) [55] • 71.4% CES-D depression (IV) [16]	• Absenteeism (III-2) [9]	• Biofeedback (II) [56]	• Biofeedback o Superior to electrogalvanic stimulation and massage (II) [56]
F2a2. Unspecified functional anorectal pain	*Diagnostic criterion* Symptom criteria for chronic proctalgia but no tenderness during posterior traction on the puborectalis [10]							
F2b. Proctalgia fugax	*Diagnostic criteria* *Must include **all** of the following:* 1. Recurrent episodes of pain localized to the anus or lower rectum 2. Episodes last from seconds to minutes 3. There is no anorectal pain between episodes For research purposes criteria must be fulfilled for 3 months; however, clinical diagnosis and evaluation may be made prior to 3 months. [10] Review [5]	• 2.0% in AU [14, 15] • 4.6% (95% CI: 3.4-5.8) in Canada [8] • 6.2% (95% CI: 4.3-8.7) in Mexico [16] • 6.6% (95% CI: 4.8-8.3) in AU (RII criteria; 2.0% [95% CI:1.5-2.5] RI criteria) [17] • 7.9% [7]			• 61.3% CES-D depression (IV) [16] • 40.57% comorbidity, significantly higher than controls (III-2) [15] • 31% any lifetime psychiatric diagnosis (13% anxiety, 18% depression (IV) [55]	• Absenteeism (III-2) [9]		• Biofeedback o Improvement (IV) [55]

FGID condition and diagnostic criteria		Demographics aspects of the condition		Medical treatment	Psychological aspects of the FGID			
FGID Condition:	Diagnostic criteria:	Prevalence:	Demographic characteristics:	Common medical treatment method:	Incidence of psychological conditions	Psychological predictors	Psychological intervention type	Efficacy of psychological and biofeedback interventions
F3. Functional defecation disorders	*Diagnostic criteria** 1. The patient must satisfy diagnostic criteria for functional constipation** 2. During repeated attempts to defecate must have *at least two* of the following: a. Evidence of impaired evacuation, based on balloon expulsion test or imaging b. Inappropriate contraction of the pelvic floor muscles (i.e., anal sphincter or puborectalis) or less than 20% relaxation of basal resting sphincter pressure by manometry, imaging, or EMG c. Inadequate propulsive forces assessed by manometry or imaging * Criteria fulfilled for the last 3 months with symptom onset at least 6 months prior to diagnosis **** Diagnostic criteria for functional constipation:** **(1) Must include *two or more* of the following:** (a) Straining during at least 25% of defecations, (b) Lumpy or hard stools in at least 25% of defecations, (c) Sensation of incomplete evacuation for at least 25% of defecations, (d) Sensation of anorectal obstruction/blockage for at least 25% of defecations, (e) Manual maneuvers to facilitate at least 25% of defecations (e.g., digital evacuation, support of the pelvic floor), (f) Fewer than three defecations per week. **(2) Loose stools are rarely present without the use of laxatives.** **(3) There are insufficient criteria for irritable bowel syndrome.**[10] Review: [58-63]	• 9.2% functional constipation in Korea [63] • 29.1% in France [64]	• Patients with lower urinary tract symptoms have comorbid functional constipation (47%) and fecal incontinence (11%) [65]					

FGID condition and diagnostic criteria		Demographics aspects of the condition		Medical treatment	Psychological aspects of the FGID			
FGID Condition:	Diagnostic criteria:	Prevalence:	Demographic characteristics:	Common medical treatment method:	Incidence of psychological conditions	Psychological predictors	Psychological intervention type	Efficacy of psychological and biofeedback interventions
F3a. Dyssynergic defecation	*Diagnostic criterion* Inappropriate contraction of the pelvic floor or less than 20% relaxation of basal resting sphincter pressure with adequate propulsive forces during attempted defecation [10] Review [2, 5, 62, 66-91] Diagnostic criteria [2]	• 1.5% in Israel [92] • 1.6% (95% CI: 0.7-2.4) in AU [17] • 2.0% (95% CI: 1.0-3.6) in Mexico [16] • 2.2% (95% CI: 1.4-3.1) in Canada [8] • 1-2% in US [7]	• Significantly more prevalent in the female gender [92]	• Surgery had no effect or worsened dyssynergic defecation with prolapse (IV) [93]	• 60.0% CES-D depression (IV) [16]	• Significantly more depression, obsessive-compulsiveness, anxiety, paranoid ideation, somatisation, and psychoticism than controls on SLC-90-R (III-2) [94] • Significantly reduced SF-36 QoL in vitality, social functioning, role-emotional, mental health, physical functioning, role-physical, bodily pain, and general health compared to controls (III-2) [94]	• Biofeedback (II) [95-105], (III-1) [106], (III-2) [107, 108], (III-3) [109], (IV) [110-115]	• Biofeedback o Superior to control (III-2) [107] o Superior to TAU (II) [95] o Superior to TAU or sham (II) [96, 97] o Superior to diazepam and placebo (II) [98, 99] o Superior to laxatives (II) [102] o Superior to balloon defecation training (II) [96, 100, 101] o Superior to psychoeducation and behavioural therapy (II) [103] o Superior to control in both hysterectomy and birth group (III-1) [106] o Comparable in the ‘real world’ to RCTs (III-2) [108] o Improvement (IV) [110-112] o Improvement in non-active IBD/IBS sample (IV) [113-115] o No difference (III-3) [109] o Inferior to surgery and Botox (II) [104, 105]
F3b. Inadequate defecatory propulsion	*Diagnostic criterion* Inadequate propulsive forces with or without inappropriate contraction or less than 20% relaxation of the anal sphincter during attempted defecation [10]							

References

1. National Health and Medical Research Council, *A guide to the development, evaluation and implementation of clinical practice guidelines*. 1999, Author: Canberra.
2. Bharucha, A.E., et al., *Functional Anorectal Disorders.* Gastroenterology, 2006. **130**(5): p. 1510-1518.
3. Times, M.L. and C.A. Reickert, *Functional anorectal disorders.* Clinics in Colon and Rectal Surgery, 2005. **18**(2): p. 109-115.
4. Müller, A. and R. Münch, *Anorectal diseases: Diagnosis and therapy.* Praxis, 2000. **89**(41): p. 1657-1663.
5. Whitehead, W.E., *Functional anorectal disorders.* Seminars in Gastrointestinal Disease, 1996. **7**(4): p. 230-236.
6. Whitehead, W.E., et al., *Functional disorders of the anorectum.* Gastroenterology International, 1992. **5**(2): p. 92-108.
7. Jones, K.R., S. Heymen, and W.E. Whitehead, *Biofeedback for anorectal disorders*, in *Female Pelvic Medicine and Reconstructive Pelvic Surgery*. 2003. p. 313-325.
8. Thompson, W.G., et al., *Functional gastrointestinal disorders in Canada: first population-based survey using Rome II criteria with suggestions for improving the questionnaire.* Dig Dis Sci, 2002. **47**: p. 225-235.
9. Drossman, D.A., et al., *U.S. householder survey of functional gastrointestinal disorders. Prevalence, sociodemography, and health impact.* Dig Dis Sci, 1993. **38**(9): p. 1569-80.
10. Drossman D., C., E., Delvaux, M., Spiller, R., Talley, N., Thompson, G., & Whitehead, W., *Rome III: The Functional Gastrointestinal Disorders*. Third ed. 2006, Lawrence: Allen Press, Inc.
11. Von Gontard, A., *Encopresis.* Praxis der Kinderpsychologie und Kinderpsychiatrie, 2007. **56**(6): p. 492-510.
12. Enck, P., *Biofeedback training in disordered defecation. A critical review.* Dig Dis Sci, 1993. **38**(11): p. 1953-60.
13. Rao, S.S. and C. American College of Gastroenterology Practice Parameters, *Diagnosis and management of fecal incontinence. American College of Gastroenterology Practice Parameters Committee.* Am J Gastroenterol, 2004. **99**(8): p. 1585-604.
14. Koloski, N.A., N.J. Talley, and P.M. Boyce, *Epidemiology and health care seeking in the functional GI disorders: a population-based study.* Am J Gastroenterol, 2002. **97**(9): p. 2290-9.
15. Koloski, N.A., N.J. Talley, and P.M. Boyce, *The impact of functional gastrointestinal disorders on quality of life.* Am J Gastroenterol, 2000. **95**(1): p. 67-71.
16. Lopez-Colombo, A., et al., *The epidemiology of functional gastrointestinal disorders in Mexico: A population-based study.* Gastroenterology Research and Practice, 2012.
17. Boyce, P.M., et al., *Epidemiology of the functional gastrointestinal disorders diagnosed according to Rome II criteria: an Australian population-based study.* Intern Med J, 2006. **36**(1): p. 28-36.
18. Bharucha, A.E., et al., *Prevalence and burden of fecal incontinence: a population-based study in women.* Gastroenterology, 2005. **129**(1): p. 42-9.
19. Graf, W., et al., *Efficacy of dextranomer in stabilised hyaluronic acid for treatment of faecal incontinence: a randomised, sham-controlled trial.* Lancet, 2011. **377**(9770): p. 997-1003.
20. Muñoz-Duyos, A., et al., *Sacral nerve stimulation in the treatment of fecal incontinence. Preliminary results.* Cirugia Espanola, 2004. **76**(3): p. 169-176.
21. Wexner, S.D., et al., *Sacral nerve stimulation for fecal incontinence: results of a 120-patient prospective multicenter study.* Ann Surg, 2010. **251**(3): p. 441-9.
22. Whitehead, W.E., K.L. Burgio, and B.T. Engel, *Biofeedback treatment of fecal incontinence in geriatric patients.* J Am Geriatr Soc, 1985. **33**(5): p. 320-4.
23. Miner, P.B., T.C. Donnelly, and N.W. Read, *Investigation of mode of action of biofeedback in treatment of fecal incontinence.* Dig Dis Sci, 1990. **35**(10): p. 1291-8.
24. Fynes, M.M., et al., *A prospective, randomized study comparing the effect of augmented biofeedback with sensory biofeedback alone on fecal incontinence after obstetric trauma.* Dis Colon Rectum, 1999. **42**(6): p. 753-8; discussion 758-61.
25. Ilnyckyj, A., E. Fachnie, and G. Tougas, *A randomized-controlled trial comparing an educational intervention alone vs education and biofeedback in the management of faecal incontinence in women.* Neurogastroenterol Motil, 2005. **17**(1): p. 58-63.
26. Norton, C., et al., *Randomized controlled trial of biofeedback for fecal incontinence.* Gastroenterology, 2003. **125**(5): p. 1320-9.
27. Naimy, N., et al., *Biofeedback vs. electrostimulation in the treatment of postdelivery anal incontinence: a randomized, clinical trial.* Dis Colon Rectum, 2007. **50**(12): p. 2040-6.
28. Schwandner, T., et al., *Triple-target treatment versus low-frequency electrostimulation for anal incontinence: a randomized, controlled trial.* Dtsch Arztebl Int, 2011. **108**(39): p. 653-60.
29. Solomon, M.J., et al., *Randomized, controlled trial of biofeedback with anal manometry, transanal ultrasound, or pelvic floor retraining with digital guidance alone in the treatment of mild to moderate fecal incontinence.* Dis Colon Rectum, 2003. **46**(6): p. 703-10.
30. Loening-Baucke, V., *Efficacy of biofeedback training in improving faecal incontinence and anorectal physiologic function.* Gut, 1990. **31**(12): p. 1395-1402.
31. Guillemot, F., et al., *Biofeedback for the treatment of fecal incontinence - Long-term clinical results.* Diseases of the Colon & Rectum, 1995. **38**(4): p. 393-397.
32. Wald, A., *Biofeedback therapy for fecal incontinence.* Annals of Internal Medicine, 1981. **95**(2): p. 146-149.
33. Glia, A., et al., *Biofeedback training in patients with fecal incontinence.* Dis Colon Rectum, 1998. **41**(3): p. 359-64.
34. Ozturk, R., et al., *Long-term outcome and objective changes of anorectal function after biofeedback therapy for faecal incontinence.* Aliment Pharmacol Ther, 2004. **20**(6): p. 667-74.
35. Engel, B.T., P. Nikoomanesh, and M.M. Schuster, *Operant conditioning of rectosphincteric responses in the treatment of fecal incontinence.* N Engl J Med, 1974. **290**(12): p. 646-9.
36. Cerulli, M.A., P. Nikoomanesh, and M.M. Schuster, *Progress in biofeedback conditioning for fecal incontinence.* Gastroenterology, 1979. **76**(4): p. 742-6.
37. Goldenberg, D.A., et al., *Biofeedback therapy for fecal incontinence.* Am J Gastroenterol, 1980. **74**(4): p. 342-5.
38. Wald, A. and A.K. Tunuguntla, *Anorectal sensorimotor dysfunction in fecal incontinence and diabetes mellitus. Modification with biofeedback therapy.* N Engl J Med, 1984. **310**(20): p. 1282-7.
39. Latimer, P.R., D. Campbell, and J. Kasperski, *A components analysis of biofeedback in the treatment of fecal incontinence.* Biofeedback Self Regul, 1984. **9**(3): p. 311-24.
40. Buser, W.D. and P.B. Miner Jr, *Delayed rectal sensation with fecal incontinence. Successful treatment using anorectal manometry.* Gastroenterology, 1986. **91**(5): p. 1186-1191.
41. MacLeod, J.H., *Management of anal incontinence by biofeedback.* Gastroenterology, 1987. **93**(2): p. 291-4.
42. Berti Riboli, E., et al., *Biofeedback conditioning for fecal incontinence.* Arch Phys Medical Rehabil, 1988. **69**(1): p. 29-31.
43. Keck, J.O., et al., *Biofeedback training is useful in fecal incontinence but disappointing in constipation.* Diseases of the Colon & Rectum, 1994. **37**(12): p. 1271-1276.
44. Enck, P., et al., *Long-term efficacy of biofeedback training for fecal incontinence.* Diseases of the Colon and Rectum, 1994. **37**(10): p. 997-1001.
45. Sangwan, Y.P., et al., *Can manometric parameters predict response to biofeedback therapy in fecal incontinence?* Diseases of the colon & rectum, 1995. **38**(10): p. 1021-1025.
46. Rao, S.S.C., K.D. Welcher, and J. Happel, *Can biofeedback therapy improve anorectal function in fecal incontinence?* American Journal of Gastroenterology, 1996. **91**(11): p. 2360-2366.
47. Rieger, N.A., et al., *Prospective trial of pelvic floor retraining in patients with fecal incontinence.* Diseases of the Colon and Rectum, 1997. **40**(7): p. 821-826.
48. Patankar, S.K., et al., *Biofeedback in colorectal practice: a multicenter, statewide, three-year experience.* Dis Colon Rectum, 1997. **40**(7): p. 827-31.

49. Norton, C. and M.A. Kamm, *Outcome of biofeedback for faecal incontinence.* Br J Surg, 1999. **86**(9): p. 1159-63.
50. Ryn, A.K., et al., *Long-term results of electromyographic biofeedback training for fecal incontinence.* Diseases of the Colon and Rectum, 2000. **43**(9): p. 1262-1266.
51. Armañanzas, L., et al., *Chronic idiopathic anal pain. Results of a diagnostic-therapeutic protocol in a colorectal referral unit.* Cirugia Espanola, 2014.
52. Bansal, N., et al., *Anorectal manometry: Current techniques and indications.* Journal International Medical Sciences Academy, 2013. **26**(3): p. 169-170.
53. Cheung, O. and A. Wald, *Review article: The management of pelvic floor disorders.* Alimentary Pharmacology and Therapeutics, 2004. **19**(5): p. 481-495.
54. Remes-Troche, J.M. and S.S.C. Rao, *Anorectal motor disorders.* Best Practice and Research in Clinical Gastroenterology, 2007. **21**(4): p. 733-748.
55. Atkin, G.K., A. Suliman, and C.J. Vaizey, *Patient characteristics and treatment outcome in functional anorectal pain.* Diseases of the Colon and Rectum, 2011. **54**(7): p. 870-875.
56. Chiarioni, G., et al., *Biofeedback is superior to electrogalvanic stimulation and massage for treatment of levator ani syndrome.* Gastroenterology, 2010. **138**(4): p. 1321-1329.
57. Chiarioni, G., *Treatment of levator ani syndrome: Update and future developments.* Recenti Progressi in Medicina, 2011. **102**(5): p. 196-201.
58. Sánchez Garrido, A., et al., *Constipation.* Medicine, 2012. **11**(6): p. 331-336.
59. Eltringham, M.T., et al., *Functional defecation disorder as a clinical subgroup of chronic constipation: Analysis of symptoms and physiological parameters.* Scandinavian Journal of Gastroenterology, 2008. **43**(3): p. 262-269.
60. Öztürk, R. and S.S.C. Rao, *Defecation disorders: An important subgroup of functional constipation, its pathophysiology, evaluation and treatment with biofeedback.* Turkish Journal of Gastroenterology, 2007. **18**(3): p. 139-149.
61. Bharucha, A.E., et al., *Phenotypic variation in functional disorders of defecation.* Gastroenterology, 2005. **128**(5): p. 1199-1210.
62. Bouras, E.P., *Functional Constipation and Pelvic Floor Dysfunction*, in *Practical Gastroenterology and Hepatology: Small and Large Intestine and Pancreas*. 2010. p. 452-460.
63. Sung, I.K., *Classification and treatment of constipation.* The Korean journal of gastroenterology = Taehan Sohwagi Hakhoe chi, 2008. **51**(1): p. 4-10.
64. Siproudhis, L., et al., *Defecation disorders: A French population survey.* Diseases of the Colon and Rectum, 2006. **49**(2): p. 219-227.
65. Burgers, R., et al., *Functional defecation disorders in children with lower urinary tract symptoms.* Journal of Urology, 2013. **189**(5): p. 1886-1890.
66. Lee, H.J., K.W. Jung, and S.J. Myung, *Technique of functional and motility test: How to perform biofeedback for constipation and fecal incontinence.* Journal of Neurogastroenterology and Motility, 2013. **19**(4): p. 532-537.
67. Parfenov, A.I., *Pathogenetic treatment for chronic constipation.* Terapevticheskii Arkhiv, 2012. **84**(8): p. 4-9.
68. Schey, R., J. Cromwell, and S.S.C. Rao, *Medical and surgical management of pelvic floor disorders affecting defecation.* American Journal of Gastroenterology, 2012. **107**(11): p. 1624-1633.
69. Bansal, N., et al., *Pharmacological update for chronic constipation.* Journal International Medical Sciences Academy, 2012. **25**(1): p. 23-25.
70. Adams, M.A. and W.D. Chey, *Biofeedback training for dyssynergic defecation: An approach whose time has come?* Gastroenterology, 2011. **140**(5): p. 1682-1685.
71. Roberson, E.N. and A. Wald, *Constipation*, in *Practical Gastroenterology and Hepatology: Small and Large Intestine and Pancreas*. 2010. p. 193-199.
72. Franks, I., *Efficacy of biofeedback therapy.* Nature Reviews Gastroenterology and Hepatology, 2010. **7**(6): p. 305.
73. Rao, S.S., *Constipation: evaluation and treatment of colonic and anorectal motility disorders.* Gastrointest Endosc Clin N Am, 2009. **19**(1): p. 117-39, vii.
74. Frühauf, H. and M.R. Fox, *Constipation.* Gastroenterologe, 2008. **3**(6): p. 488-496.
75. Rao, S.S.C., *Dyssynergic Defecation and Biofeedback Therapy.* Gastroenterology Clinics of North America, 2008. **37**(3): p. 569-586.
76. Chiarioni, G., *Biofeedback therapy for outlet dysfunction: Eventually the light at the end of the tunnel.* Salud(i)Ciencia, 2008. **16**(4): p. 392-396.
77. Chiarioni, G. and W.E. Whitehead, *The role of biofeedback in the treatment of gastrointestinal disorders.* Nature Clinical Practice Gastroenterology and Hepatology, 2008. **5**(7): p. 371-382.
78. Rao, S.S.C., *Constipation: Evaluation and Treatment of Colonic and Anorectal Motility Disorders.* Gastroenterology Clinics of North America, 2007. **36**(3): p. 687-711.
79. Feyen, B.J. and S.S.C. Rao, *Functional disorders of defecation: Evaluation and treatment.* Current Treatment Options in Gastroenterology, 2007. **10**(3): p. 221-230.
80. Wald, A., *Chronic constipation: Advances in management.* Neurogastroenterology and Motility, 2007. **19**(1): p. 4-10.
81. Hasler, W.L., *Nonpharmacologic and OTC therapies for chronic constipation.* Advanced Studies in Medicine, 2006. **6**(2 A): p. S84-S93.
82. Stessman, M., *Biofeedback: its role in the treatment of chronic constipation.* Gastroenterology nursing : the official journal of the Society of Gastroenterology Nurses and Associates, 2003. **26**(6): p. 251-260.
83. Rao, S.S.C., *Constipation: Evaluation and treatment.* Gastroenterology Clinics of North America, 2003. **32**(2): p. 659-683.
84. Doughty, D.B., *When fiber is not enough: current thinking on constipation management.* Ostomy/wound management, 2002. **48**(12): p. 30-41.
85. Rao, S.S.C., *Dyssynergic defecation.* Gastroenterology Clinics of North America, 2001. **30**(1): p. 97-114.
86. Bleijenberg, G. and H.C. Kuijpers, *Treatment of the spastic pelvic floor syndrome with biofeedback.* Diseases of the Colon and Rectum, 1987. **30**(2): p. 108-111.
87. Rao, S.S. and J.T. Go, *Update on the management of constipation in the elderly: new treatment options.* Clinical interventions in aging, 2010. **5**: p. 163-171.
88. Rao, S.S.C., *Biofeedback therapy for constipation in adults.* Best Practice and Research: Clinical Gastroenterology, 2011. **25**(1): p. 159-166.
89. Rao, S.S. and J.T. Go, *Treating pelvic floor disorders of defecation: management or cure?* Curr Gastroenterol Rep, 2009. **11**(4): p. 278-87.
90. Chiarioni, G., S. Heymen, and W.E. Whitehead, *Biofeedback therapy for dyssynergic defecation.* World Journal of Gastroenterology, 2006. **12**(44): p. 7069-7074.
91. Whitehead, W.E., et al., *Conservative and behavioural management of constipation.* Neurogastroenterology and Motility, 2009. **21**(SUPPL. 2): p. 55-61.
92. Sperber, A.D., et al., *Unexpectedly low prevalence rates of IBS among adult Israeli Jews.* Neurogastroenterol Motil, 2005. **17**: p. 207-211.
93. Park, S.Y., et al., *Surgical correction is ineffective for improvement of dyssynergic defecation in patients with rectal prolapse.* Journal of Neurogastroenterology and Motility, 2013. **19**(1): p. 85-89.
94. Rao, S.S.C., et al., *Psychological profiles and quality of life differ between patients with dyssynergia and those with slow transit constipation.* Journal of Psychosomatic Research, 2007. **63**(4): p. 441-449.
95. Rao, S.S., et al., *Long-term efficacy of biofeedback therapy for dyssynergic defecation: randomized controlled trial.* Am J Gastroenterol, 2010. **105**(4): p. 890-6.
96. Rao, S.S., et al., *Randomized controlled trial of biofeedback, sham feedback, and standard therapy for dyssynergic defecation.* Clin Gastroenterol Hepatol, 2007. **5**(3): p. 331-8.
97. Whitehead, W.E., *Is biofeedback therapy an effective treatment for dyssynergic defecation? Commentary.* Nature Clinical Practice Gastroenterology and Hepatology, 2008. **5**(2): p. 74-75.
98. Heymen, M.S., et al., *Randomized, controlled trial shows biofeedback to be superior to alternative treatments for patients with pelvic floor dyssynergia-type constipation.* Dis Colon Rectum, 2007. **50**: p. 428-441.
99. Heymen, S., et al., *Randomized controlled trial shows biofeedback to be superior to pelvic floor exercises for fecal incontinence.* Dis Colon Rectum, 2009. **52**: p. 1730-1737.
100. Pourmomeny, A.A., et al., *Comparing the efficacy of biofeedback and balloon-assisted training in the treatment of dyssynergic defecation.* Can J Gastroenterol, 2011. **25**(2): p. 89-92.

101. Pourmomeni, A., et al., *Comparing biofeedback therapy and balloon defecation training in treatment of dyssynergic defecation.* Journal of Isfahan Medical School, 2010. **28**(105).
102. Chiarioni, G., et al., *Biofeedback is superior to laxatives for normal transit constipation due to pelvic floor dyssynergia.* Gastroenterology, 2006. **130**: p. 657-664.
103. Simón, M.A. and A.M. Bueno, *Behavioural treatment of the dyssynergic defecation in chronically constipated elderly patients: A randomized controlled trial.* Applied Psychophysiology Biofeedback, 2009. **34**(4): p. 273-277.
104. Faried, M., et al., *Comparative study between surgical and non-surgical treatment of anismus in patients with symptoms of obstructed defecation: a prospective randomized study.* J Gastrointest Surg, 2010. **14**: p. 1235-1243.
105. Farid, M., et al., *Comparative study between biofeedback retraining and botulinum neurotoxin in the treatment of anismus patients.* Int J Colorectal Dis, 2009. **24**: p. 115-120.
106. Park, S.K., et al., *Biofeedback therapy in constipated, female patients and caused by radical hysterectomy or vaginal delivery.* Journal of Gastroenterology and Hepatology (Australia), 2013. **28**(7): p. 1133-1140.
107. Rao, S.S.C., et al., *Pathophysiology and Role of Biofeedback Therapy in Solitary Rectal Ulcer Syndrome.* American Journal of Gastroenterology, 2006. **101**(3): p. 613-618.
108. Jodorkovsky, D., et al., *Biofeedback therapy for defecatory dysfunction: "Real life" experience.* Journal of Clinical Gastroenterology, 2013. **47**(3): p. 252-255.
109. Yang, D.H., et al., *Anorectal function and the effect of biofeedback therapy in ambulatory spinal cord disease patients having constipation.* Scandinavian Journal of Gastroenterology, 2010. **45**(11): p. 1281-1288.
110. Simón, M.A., A.M. Bueno, and M. Durán, *Biofeedback treatment in chronically constipated patients with dyssynergic defecation.* Revista Latinoamericana de Psicologia, 2011. **43**(1): p. 105-111.
111. Shin, J.K., et al., *Predictive capability of anorectal physiologic tests for unfavorable outcomes following biofeedback therapy in dyssynergic defecation.* Journal of Korean Medical Science, 2010. **25**(7): p. 1060-1065.
112. Chiarioni, G., L. Salandini, and W.E. Whitehead, *Biofeedback benefits only patients with outlet dysfunction, not patients with isolated slow transit constipation.* Gastroenterology, 2005. **129**(1): p. 86-97.
113. Perera, L.P., et al., *Dyssynergic defecation: A treatable cause of persistent symptoms when inflammatory bowel disease is in remission.* Digestive Diseases and Sciences, 2013. **58**(12): p. 3600-3605.
114. Patcharatrakul, T. and S. Gonlachanvit, *Outcome of biofeedback therapy in dyssynergic defecation patients with and without irritable bowel syndrome.* Journal of Clinical Gastroenterology, 2011. **45**(7): p. 593-598.
115. Rao, S.S.C., *Whats in a name? Putting patients first: Biofeedback for irritable bowel syndrome patients with dyssynergic defecation.* Journal of Clinical Gastroenterology, 2011. **45**(7): p. 572-573.