

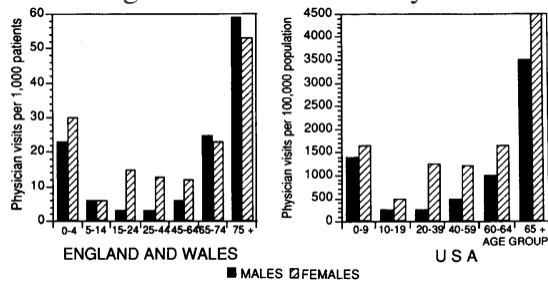
## CONSTIPATION

**Definition:** a diagnosis of constipation requires at least 12 weeks, which need not be consecutive, during the preceding 12 months of two or more of the following symptoms:

- Straining
- Lumpy or hard stool
- Sensation of incomplete evacuation
- Sensation of anorectal obstruction/blockade
- Fewer than three bowel action per week

**Prevalence:**

- Sex: W>M
- Age: children and elderly. In USA 12.5% (30-64), 23%(65-93)



**Classification:**

Type	Main symptom	Other Symptoms	Defining Feature(s)
“Simple”	Infrequent stools and/or difficult defecation	Discomfort	Reversible by diet or advice
Irritable bowel syndrome (IBS)	Abdominal pain/distention	Irregular bowels, hard or loose stools, urgency, mucus	Stools irregular in frequency and form
Slow transit	Infrequent bowel actions	Straining, pain, distention	Stools never loose; no distended gut; intractable
Outlet delay, dyssynergia, anismus	Straining	Infrequent stools, digitation	Straining; bowel frequency normal, decreased, or increased
Fecal impaction	Soiling	Fecal mass, wide distal large bowel	Relieved by emptying rectum
Pseudo-obstruction	Recurrent or constant distention	Pain, vomiting, constipation	Obstructive symptoms with gaseous distention of gut

**Causes:**

**Mode of Life:** Inadequate fiber, little food, Repressed or ignored urge to defecate Immobility

**Medication:** (including opiates, anticholinergics, antidepressants, anticonvulsants, 5HT<sub>3</sub> antagonists)

**Endocrine/metabolic Factors:** Hypothyroidism, Hypercalcemia, Porphyrria

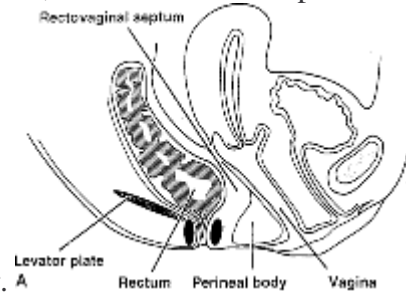
**Neurologic Factors:** Parkinson’s disease, Multiple sclerosis, Spinal lesions

Damage to sacral parasympathetic nerves, Autonomic neuropathy, Autonomic failure

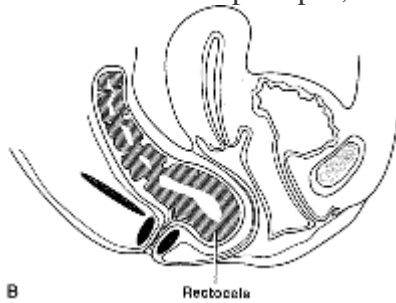
**Psychological Aspects:** Depression, Eating disorders (e.g., anorexia nervosa), Obsession about “inner cleanliness”, Denied bowel actions

**Gastrointestinal Tract:** Obstruction, Aganglionosis (Hirschsprung’s disease, Chagas’ disease), Myopathy, Neuropathy, Systemic sclerosis, Megarectum/ megacolon.

**Anorectal malfunction:** Anal atresia or malformation, Hereditary internal anal sphincter myopathy, Anal stenosis, Weak pelvic floor, Large rectocele, Internal intussusception



Anterior mucosal prolapse, Prolapse, Solitary rectal ulcer. A

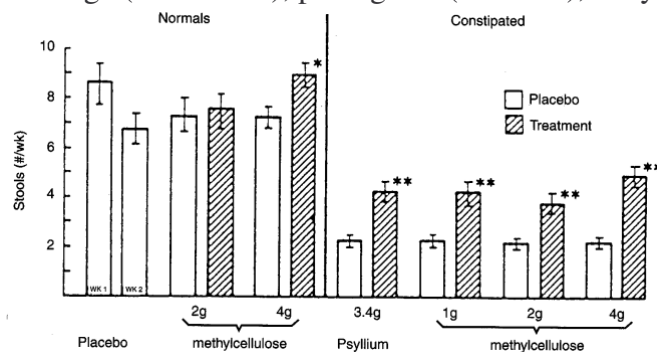


**Investigation:**

Tests to Exclude Systemic Disease, Tests to Exclude Structural Disease of the Gut (BE, Colonoscopy), Either whole-gut or colonic transit rate testing, Defecating Proctography, Anorectal Pressure, EMG Testing of Striated Muscle Activity, Simulated Defecation, Testing Rectal Sensation.

**Treatment:**

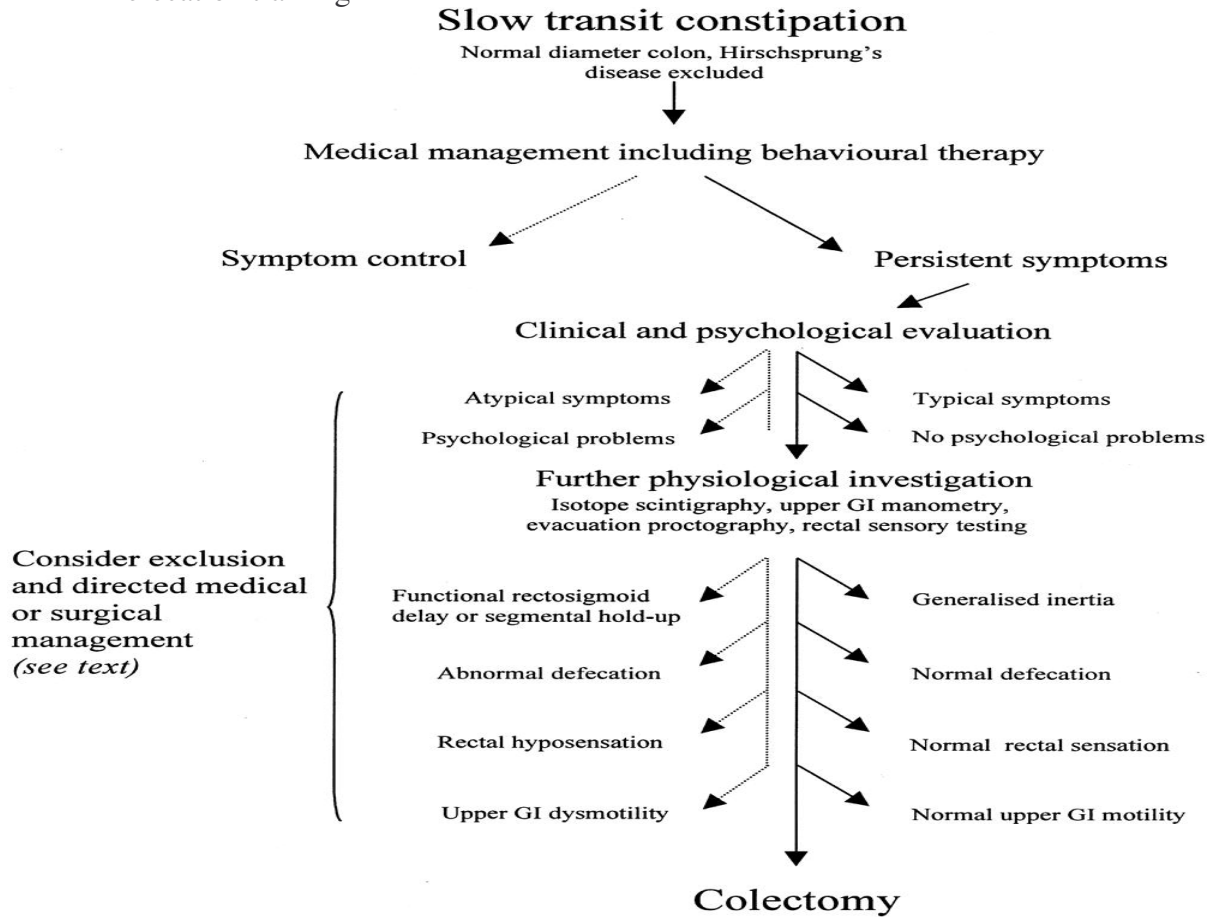
- Diet.
- Fluid intake
- Laxative: wheat, plant seed mucilage (Metamucil), plant gums (sterculia), or synthetic



methylcellulose derivatives.

- Unabsorbed Polyethylene Glycol Electrolyte Solution
- Unabsorbed Sugars and Polyhydric Alcohols: Lactulose, Sorbitol, and lactitol
- Salts: Magnesium and sulfate ions
- Magnesium and sulfate ions: senna, aloe, cascara, and frangula
- Prokinetic Drugs: Cisapride and prucalopride

- Alteration of Bacterial Flora
- Enemas and Suppositories
- Defecation training



**- Surgical Treatment**

- Colectomy with cecorectal anastomosis
- Colectomy with ileosigmoid anastomosis
- Colectomy with ileorectal anastomosis
- Proctocolectomy with ileoanal anastomosis and construction of an ileal pouch
- Colostomy
- Creation of a continent appendicostomy, through which antegrade enemas can be administered
- Segmental resection, Right or Left hemicolectomy.

Author	Operation	Success %
Yoshioka and Keighley, 1989 <sup>6</sup>	IRA, CRA, ISA	58
Akervall <i>et al.</i> , 1988 <sup>18</sup>	IRA	67
Kamm <i>et al.</i> , 1988 <sup>19</sup>	IRA, CRA	50
Vasilevsky <i>et al.</i> , 1988 <sup>20</sup>	IRA, ISA	79
Leon <i>et al.</i> , 1987 <sup>5</sup>	IRA	77
Roe <i>et al.</i> , 1986 <sup>21</sup>	IRA	71

IRA = ileorectal anastomosis; CRA = colorectal anastomosis; ISA = ileosigmoid anastomosis.

From: Nyam: Dis Colon Rectum, 1997

Author	No.	Female (%)	Mean Age	FU (yr)	Physiology	BE	BX	No MC (n)	Success (%)	MC (n)	Success (%)
Watkins and Farmington, 1966 <sup>102</sup>	3	100	43	0.7	—	Yes	Yes	—	—	3	100
Lane and Todd, 1977 <sup>103</sup>	3	33	46	2.2	M, RC, RS	Yes	Yes*	—	—	3	33
Smith <i>et al.</i> , 1977 <sup>104</sup>	1	100	18	3	—	Yes	Yes	—	—	1	100
McCready and Beart, 1979 <sup>105</sup>	6†	65	32	2.4	—	Yes*	Yes*	—	—	6	100
Hughes <i>et al.</i> , 1981 <sup>106</sup>	17	94	35	—	—	Yes	Yes	10	80	7	100
Belliveau <i>et al.</i> , 1982 <sup>107</sup>	9	—	—	5.4	—	Yes*	—	—	—	7	78
Klatt, 1983 <sup>108</sup>	9‡	100	39	2.1	—	Yes	—	3	100	6	100
Gilbert <i>et al.</i> , 1984 <sup>109</sup>	6†	86	36	0.7	—	Yes	—	—	—	6	100
Keighley and Shouler, 1984 <sup>110</sup>	10	100	27	—	D, E, SigM	Yes	—	10	90	—	—
Preston <i>et al.</i> , 1984 <sup>95</sup>	8	100	26	5.7	T, RAIR, RS	Yes	Yes	8	63	—	—
Krishnamurthy <i>et al.</i> , 1985 <sup>47</sup>	12	100	33	—	—	—	—	12	100	—	—
Todd, 1985 <sup>97</sup>	16	—	—	—	—	—	—	16	88	—	—
Barnes <i>et al.</i> , 1986 <sup>111</sup>	6	43	38	5	RAIR*	Yes	Yes	—	—	6	67
Roe <i>et al.</i> , 1986 <sup>112</sup>	7	—	—	0.7	D, M, RS, RSigM, T	Yes	Yes	7	71	—	—
Beck <i>et al.</i> , 1989 <sup>115</sup>	14	100	41	1.2	M*, T*	Yes	Yes*	14	100	—	—
Gasslander <i>et al.</i> , 1987 <sup>114</sup>	6	86	37	2	D*	Yes	Yes*	6	100	—	—
Leon <i>et al.</i> , 1987 <sup>115</sup>	13†	100	31	2.6	EM*, ET*, GE*, SBT*	Yes*	Yes*	13	77	—	—
Walsh <i>et al.</i> , 1987 <sup>116</sup>	19	86	—	3.2	M*, RAIR*, T*	Yes*	Yes*	17	65	2	50
Akervall <i>et al.</i> , 1988 <sup>117</sup>	12	100	39	3.4	M, RAIR, RC, RS, SigM, T*	Yes	—	12	66	—	—
Kamm <i>et al.</i> , 1988 <sup>118</sup>	33	100	34	2	Bexp, E, T	Yes	Yes	33	50	—	—
Vasilevsky <i>et al.</i> , 1988 <sup>115</sup>	51†	94	45	4	M*, T*	Yes	—	24	71	14	93
Yoshioka and Keighley, 1988 <sup>100</sup>	40§	98	35	3	E, M, RS, SigM*, T*	Yes	Yes	32	58	8	58
Zenilman <i>et al.</i> , 1989 <sup>120</sup>	12	100	35	2	M, T	Yes*	Yes*	12	100	—	—
Coremans, 1990 <sup>121</sup>	11	100	46	3.8	D, E, M, T	Yes	Yes	10	60	1	100
Kuijpers, 1990 <sup>60</sup>	12†	—	42	—	D, E, T	—	—	12	50	—	—
Stabile <i>et al.</i> , 1991 <sup>122</sup>	11	64	43	7	D*, M*, RAIR*, T*	Yes	—	—	—	11	100
Tajana <i>et al.</i> , 1990 <sup>123</sup>	7	—	—	—	E, M, T	Yes	—	5	100	2	100
Pemberton <i>et al.</i> , 1991 <sup>101</sup>	38	84	40	—	Bexp, D*, E, M, RAIR, SBM*, ScE, T	Yes	—	38	100	—	—
Wexner <i>et al.</i> , 1991 <sup>96</sup>	16	92	45	1.2	D, E, M, T	Yes	Yes	16	94	—	—
Mahendrarajah <i>et al.</i> , 1994 <sup>124</sup>	9	100	36	1.3	D, T	—	—	9	88	—	—
Stewart <i>et al.</i> , 1994 <sup>125</sup>	1	—	11	2	—	—	—	—	—	1	100
Takahashi <i>et al.</i> , 1994 <sup>126</sup>	38†	—	—	3	Bexp, D, E, M, RC, RS, T	Yes	Yes	37	97	—	—
Piccirillo <i>et al.</i> , 1995 <sup>127</sup>	54	78	49	2.2	D, E, M, SBT, T	Yes	Yes	54	94	—	—
Redmond <i>et al.</i> , 1995 <sup>64</sup>	34	92	43	7.5	D, E, EG, EM, M, SBM, T	Yes	—	34	90¶, 13	—	—
Total	369	89	37	3				444	83	84	88

Bexp = balloon expulsion test; CI = colonic inertia; CRA = cecorectal anastomosis; D = defecography; E = electromyogram; EG = electrogastrography; EM = esophagomanometry; ET = esophageal transit time; Fem = female; FU = followup; GE = gastric emptying; GID = gastrointestinal dysmotility; IRA = ileorectal anastomosis; ISA = ileosigmoid anastomosis; M = anorectal manometry; MC = megacolon; n = number of patients; NS = not stated; RAIR = rectoanal inhibitory reflex; RC = rectal capacity; RS = rectal sensation; RSigM = rectosigmoid motility; SBM = small bowel motility; SBT = small bowel transit; ScE = scintigraphic evacuation; SigM = sigmoid motility; BE = barium enema; BX = biopsy; T = transit time.

\* Not all patients  
† IRA or ISA  
‡ ISA  
§ 34 IRA, 5 CRA, 1 ISA  
|| Overall success  
¶ for CI  
# for GID.

Pfeifer, Johann M.D.; Agachan, Feran M.D.; Wexner, Steven D. M.D.: colo&rectal 1996

Category	Patients with normal preoperative motility (n = 4)	Patients with abnormal preoperative motility (n = 9)
Postoperative pain score	2.0 ± 1.1	6.1 ± 1.0*
Postoperative ileus (days)	4.5 ± 1.0	5.4 ± 0.6
No. of postoperative admissions	1.3 ± 0.5	7.2 ± 2.6*
No. of postoperative surgeries	1.0 ± 0.6	2.4 ± 1.3
Postoperative satisfaction (no. of patients)	3 /4	8 /9

Category	IRA	ISA
Postoperative pain scores	4.0 ± 1.2	5.6 ± 1.4
No. of postoperative bowel movements/wk	18.0 ± 8.0	12.4 ± 5.1
No. of postoperative admissions	2.8 ± 1.5	7.6 ± 3.3
No. of postoperative surgeries	0.7 ± 0.3	3.1 ± 1.6
No. of patients with fecal incontinence/total patients with IRA or ISA	4 /6	1 /7
No. of patients satisfied with postoperative result/total patients	4 /6	7 /7

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