

Table 24.5 Medications Used to Treat Irritable Bowel Syndrome

Therapy	Indications	Dosing	Side effects affecting rehab	Other side effects, drug interactions, or considerations
Probiotic therapy: <i>Bifidobacterium</i> (Align) <i>Lactobacillus</i> (Culturelle, Acidophilus ES) <i>Saccharomyces</i> (Florastor)	Constipation-predominant IBS, diarrhea-predominant IBS, pain-predominant IBS. Corrects the imbalance of intestinal microflora; has improved effects on motility, sensitivity, and gas production; improves immune function; reduces inflammation and infection.	As directed on individual product.	Cog: 0 S: 0 A: 0 Motor: 0 D: 0 Com: 0 F: 0	Drug interactions: Space probiotics at least 1-2 h from any antibiotic to avoid killing the bacteria provided in the probiotic supplement. Contraindications: Avoid in septic patients or in patients with compromised gastrointestinal integrity to avoid bacteremia.
Nonpharmacologic line interventions: Biofeedback Hypnosis Stress reduction Relaxation therapy	Constipation-predominant IBS, diarrhea-predominant IBS, pain-predominant IBS	N/A	N/A	N/A
Dietary interventions: Replace fluids and electrolytes with oral rehydration products, rule out lactose intolerance	Diarrhea-predominant IBS	N/A	N/A	Avoid caffeine, alcohol, gas-producing beverages such as carbonated drinks, fructose, artificial sweeteners, and herbals containing senna.
Serotonin agonist: Alosetron (Lotronex)	Diarrhea-predominant IBS	1 mg once/day for patients who have failed other therapies.	Cog: ++ S: ++ A: + Motor: ++ D: ++ Com: + F: ++	Side effects: Ischemic colitis, severe constipation, arrhythmia, fluid and electrolyte disturbances, cognitive disorders, tremors, confusion, sedation, malaise, fatigue, cramps. Use governed by Food and Drug Administration Risk Evaluation and Mitigation Strategy (REMS) program for prescribing and monitoring.
Opioid agonist: Loperamide (Imodium)	Diarrhea-predominant IBS	Two 2 mg tablets with initial loose stool and then a 2 mg tablet after each subsequent loose stool. Maximum dose of 8 tablets/day.	Cog: ++ S: ++ A: + Motor: + D: ++ Com: + F: ++	Side effects: Blurred vision, constipation, decreased sweating, insomnia, dizziness, somnolence, headache, loss of taste, loss of appetite, xerostomia, nausea.
Opioid agonist: Diphenoxylate with atropine	Diarrhea-predominant IBS	2 tablets for initial dose, followed by 1 tablet every 4 h for no more than 48 h	Cog: ++ S: ++ A: +	Side effects: Blurred vision, constipation, decreased sweating, insomnia, dizziness,

From L. Carl, J. Gallo, and P. Johnson, 2014, *Practical Pharmacology in Rehabilitation: Effect of Medication on Therapy* (Champaign, IL: Human Kinetics).

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(Lomotil)		to prevent tolerance.	Motor: + D: ++ Com: + F: ++	somnolence, headache, loss of taste, loss of appetite, xerostomia, nausea.
Laxatives: Dietary bran Psyllium (Metamucil) Osmotic laxatives such as milk of magnesia, lactulose, or polyethylene glycol	Constipation-predominant IBS	See table 24.4.	Cog: 0 S: 0 A: 0 Motor: + D: ++ Com: 0 F: +	Side effects: Flatulence, intestinal cramps. Chronic use of osmotic laxatives can result in fluid and electrolyte imbalances and dehydration. Avoid lactulose due to bloating and cramping associated with its use which can worsen IBS symptoms.
Calcium channel activator: Lubiprostone (Amitiza)	Constipation-predominant IBS	24 µg tablet 2 times/day with or immediately after meals to minimize nausea.	Cog: 0 S: 0 A: 0 Motor: + D: ++ Com: 0 F: +	Side effects: Nausea (up to 31%), diarrhea (up to 13%), headache (up to 13%).
Antispasmodic: Dicyclomine (Bentyl)	Spasticity in pain-predominant IBS	Start at 20 mg 4 times/day and increase to 40 mg 4 times/day as tolerated.	Cog: +++ S: +++ A: ++ Motor: +++ D: + Com: +++ F: +++	Side effects: Strong sedative and anticholinergic effects, dry mouth and throat, increased heart rate, pupil dilation, urinary retention, constipation. At high doses: Hallucinations or delirium, ataxia, flushed skin, blurred vision, photophobia, difficulty concentrating, short-term memory loss, visual disturbances, irregular breathing, dizziness, irritability, itchy skin, confusion, decreased body temperature (generally in the hands or feet), erectile dysfunction, excitability. Drug interactions: Additive sedation when used with other CNS depressants. Antagonizes dopamine-enhancer therapy used in treatment of Parkinson's disease.
Antispasmodic: Hyoscyamine (Levsin)	Spasticity in pain-predominant IBS	0.25-1 mg 2-4 times/day.	Cog: +++ S: +++ A: ++ Motor: +++ D: + Com: +++ F: +++	Side effects: Strong sedative and anticholinergic effects, dry mouth and throat, increased heart rate, pupil dilation, urinary retention, constipation. At high doses: Hallucinations or delirium, ataxia, flushed skin, blurred vision, photophobia,

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Therapy	Indications	Dosing	Side effects affecting rehab	Other side effects, drug interactions, or considerations
				difficulty concentrating, short-term memory loss, visual disturbances, irregular breathing, dizziness, irritability, itchy skin, confusion, decreased body temperature (generally in the hands or feet), erectile dysfunction, excitability. Drug interactions: Additive sedation when used with other CNS depressants. Antagonizes dopamine-enhancer therapy used in treatment of Parkinson's disease.
Tricyclic antidepressant: Amitriptyline (Elavil)	Pain-predominant IBS	Start at 50 mg/day and slowly titrate to 150 mg/day. Maximum dose of 300 mg/day. Elderly or adolescents may require lower doses (50 mg/day in divided doses). Give as once-daily dose at bedtime to minimize sedative effects.	Cog: ++++ S: ++++ A: 0 Motor: ++ D: ++++ Com: ++++ F: ++++	Weight gain: +++ Seizure: +++ Cardiac: +++ Sexual: ++
Tricyclic antidepressant: Desipramine (Norpramin)	Pain-predominant IBS	Start at 25-50 mg 4 times/day and increase to 200 mg/day. Maximum dose of 300 mg. Dose for elderly or adolescents is 25-100 mg/day. Give as once-daily dose at bedtime to minimize sedative effects.	Cog: ++ S: ++ A: + Motor: ++ D: ++ Com: ++ F: ++	Weight gain: + Seizure: ++ Cardiac: ++ Sexual: ++ Can prolong QT interval and cause arrhythmia.
Tricyclic antidepressant: Imipramine (Tofranil)	Pain-predominant IBS	Start at 25 mg 4 times/day and slowly titrate to 200 mg/day. Maximum dose of 300 mg/day. Give as once-daily dose at bedtime to minimize sedative effects.	Cog: +++ S: +++ A: + Motor: ++ D: +++ Com: +++ F: ++++	Weight gain: +++ Seizure: +++ Cardiac: +++ Sexual: ++
Tricyclic antidepressant: Nortriptyline (Pamelor, Aventyl)	Pain-predominant IBS	Start at 25 mg/day and increase to 150 mg/day. Maximum dose of 150 mg. Dose for elderly or adolescents is 10-75 mg. May be given as once-daily dose at bedtime to minimize sedative effects.	Cog: ++ S: ++ A: 0 Motor: ++ D: ++ Com: ++ F: +	Weight gain: + Seizure: ++ Cardiac: ++ Sexual: ++

Cog = cognition; S = sedation; A = agitation or mania; Motor = discoordination; D = dysphagia; Com = communication; F = falls; CNS= central nervous system; IBS = irritable bowel syndrome.

The likelihood rating scale for encountering the side effects is as follows: 0 = Almost no probability of encountering side effects. + = Little likelihood of encountering side effects. +/++ = Low probability of encountering side effects; however, probability increases with increased dosage. ++ = Medium likelihood of encountering side effects. +++ = High likelihood of encountering side effects, particularly with high doses. ++++ = Highest likelihood of encountering side effects; best to avoid in at-risk patients.