

Table 4.6 Medications Used to Treat Bipolar (Manic–Depressive) Disorder

Medication	Indication	Dose	Side effects affecting rehab	Other side effects	Considerations
Lithium					
High-dose lithium (Eskalith)	Acute mania/rapid cycling, with depression. Target level is 1.0-1.2 mEq/L.	Start at 300 mg 2-3 times/day and increase up to 2400 mg/day in 2-4 divided doses. Dosing is based on levels.	Cog: ++ S: ++ A: + Motor: +++ D: +++ Com: ++ F: ++	Gastrointestinal disturbance, xerostomia, tremors, dysphagia, neuromuscular weakness, ataxia, sedation, polyuria, polydipsia, edema, weight gain, leukocytosis, delirium, cardiac arrhythmias, hypotension, tinnitus, oral or facial tremor, slurred speech	Toxicity with levels >1.5 mEq/L: Lethargy, severe diarrhea, and incoordination can occur. Levels of 2.5-3.0 mEq/L: Myoclonic twitches, dysarthria, coarse tremors, confusion, dyskinesia, choreoathetoid movements, and urinary and fecal incontinence can occur. Levels >3.0 mEq/L: Seizures, cardiogenic shock, peripheral vascular collapse, coma, and death can occur.
Low-dose lithium	Maintenance therapy to prevent recurrence. Target level is 0.6-1.0 mEq/L.	Start at 300 mg 2-3 times/day and increase up to 1200 mg/day. Dosing is based on lithium levels. Lowest dose to maintain therapeutic effects should be used.	Cog: ++ S: ++ A: + Motor: +++ D: +++ Com: ++ F: ++		
Anticonvulsants					
Carbamazepine (Tegretol)	Acute mania/mixed	200-1800 mg/day in 2 divided doses, titrate slowly to minimize side effects.	Cog: ++ S: ++ A: + Motor: ++ D: ++ Com: ++ F: +++	Ataxia, blurred vision, drowsiness, agitation, disequilibrium, dizziness, benign leukopenia, cardiac arrhythmias, congestive heart failure, hepatic failure (rare), syndrome of inappropriate antidiuretic hormone (rare), aplastic anemia (rare)	Monitor for aplastic anemia. Therapeutic levels are 8-12 mg/dl. Autoinduction of its own metabolism occurs after 30 days; may need to adjust dose to maintain levels.
Valproic acid (Depakote)	Acute mania/mixed, maintenance therapy	750-3000 mg/day in 2-3 divided doses.	Cog: ++ S: ++ A: ++ Motor: ++ D: ++ Com: ++ F: ++	Weight gain, hepatotoxicity, dyspepsia, pancreatitis that can be life threatening, alopecia, tremor, thrombocytopenia, platelet dysfunction, rash,	

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

Medication	Indication	Dose	Side effects affecting rehab	Other side effects	Considerations
Lamotrigine (Lamictal)	Acute depression	Start at 25 mg/day and increase by 25-50 mg/day every 2 wk to 50-400 mg/day in 2 divided doses, titrate slowly every 2 wk.	Cog: ++ S: 0 A: + Motor: ++ D: 0 Com: ++ F: ++	hair loss Insomnia, rash that can progress to Stevens-Johnson syndrome	If used with valproic acid, decrease dose by 50% to minimize rash (Stevens-Johnson syndrome).
Antipsychotic medications					
Aripiprazole (Abilify)	Acute mania/mixed	10-30 mg/day as single dose.	Cog: + S: + A: + Motor: + D: + Com: + F: +	Weight gain: + Seizure: 0 Cardiac: + Sexual: +	
Asenapine (Saphris)	Treatment of schizophrenia and bipolar disorder	Start with 5 mg twice daily and increase to 10 mg twice daily after 1 wk.	Cog: + S: + A: + Motor: ++ D: + Com: + F: ++	Weight gain: + Seizure: 0 Cardiac: + Sexual: +	Avoid in elderly patients with dementia; increased risk of death and stroke. Monitor for neutropenia, neuroleptic malignant syndrome, extrapyramidal symptoms, dysphagia, seizures, impaired cognition, weight gain, hyperglycemia, and increased risk of QT prolongation when combined with antiarrhythmics, quinolone or macrolide antibiotics, antidepressants, and other psychotics.
Olanzapine (Zyprexa)	Acute mania/mixed	5-20 mg/day as single dose.	Cog: ++ S: ++ A: + Motor: ++ D: ++ Com: ++	Weight gain: ++++ Seizure: + Cardiac: + Sexual: +	High risk of metabolic effects and weight gain.

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

Medication	Indication	Dose	Side effects affecting rehab	Other side effects	Considerations
			F: ++		
Quetiapine (Seroquel)	Acute mania/mixed, depression	50-800 mg/day in 1-2 divided doses.	Cog: ++ S: ++ A: + Motor: + D: + Com: ++ F: ++	Weight gain: ++ Seizure: 0 Cardiac: ++ Sexual: +	
Risperidone (Risperdal)	Acute mania/mixed	0.5-6 mg/day as single dose.	Cog: + S: + A: + Motor: ++ D: + Com: + F: ++	Weight gain: ++ Seizure: 0 Cardiac: ++ Sexual: ++++	
Ziprasidone (Geodon)	Acute mania/mixed	40-160 mg/day in 2 divided doses.	Cog: ++ S: + A: + Motor: ++ D: + Com: ++ F: +	Weight gain: + Seizure: 0 Cardiac: +++ Sexual: +	High risk of QT prolongation and torsades de pointes with higher doses and injectable form.

Antianxiety medications: Used short term only until symptoms resolve.

Clonazepam (Klonopin)	Acute management of anxiety symptoms in mania	Start at 0.25 mg twice/day and increase every 3 days to maximum dose of 1 mg/day.	Cog: + S: + A: 0 Motor: ++ D: ++ Com: ++ F: +	Drowsiness, headache, fatigue, nausea, ataxia, sedation, dependence	
Lorazepam (Ativan)	Acute management of anxiety symptoms in mania	Start at 0.5-1 mg 2-3 times/day and increase to maximum dose of 6 mg/day.	Cog: +++ S: +++ A: 0 Motor: ++ D: ++ Com: ++ F: +++	Ataxia, sedation, headache, nausea, fatigue, dependence	Higher risk for withdrawal symptoms.

Antidepressants: See information on dosing and side effects in table 4.1.

Selective serotonin and norepinephrine reuptake inhibitors, selective serotonin reuptake inhibitors	Acute management of depression in combination with a mood stabilizer	See table 4.1.	See table 4.1.	See table 4.1.	Do not use as monotherapy. Combine with mood stabilizer such as lithium or an anticonvulsant.
Tricyclic antidepressants	Contraindicated	Contraindicated	Contraindicated	Contraindicated	Do not use in bipolar disease.

Cog = cognition; S = sedation; A = agitation or mania; Motor = discoordination; D = dysphagia; Com = communication; F = falls.

Sexual side effects are associated with gynecomastia and other sexual dysfunction.

The likelihood rating scale for encountering the side effects is as follows: 0 = Almost no probability of encountering side effects. 0/+ = Slight probability of encountering side effects with use of higher doses. + = 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.