

Antipsychotic Medication Reference*

User Guide

- Usual dosage ranges represent treatment of schizophrenia in healthy adults unless otherwise indicated. Dosage adjustments are often required based on patient age, renal and hepatic function, etc.
- Side effects in bold type represent those listed in "Warnings and Precautions" section of product information
- Side effects/adverse effects are not necessarily listed in order of severity or frequency
- Not all side effects/adverse effects are represented. Consult full prescribing information for complete list and frequency of side effects
- Off-label uses identified by one or more references/compendia do not imply appropriate use

Drug Name	FDA-Approved Indications	Other FDA-Approved Indications	Age Group for Which Approved	Off Label Uses	Side Effects/Adverse Effects
1st generation antipsychotics					
Chlorpromazine (Thorazine®): usual oral dosage range for acute treatment of schizophrenia – 300-1000mg/day in divided doses ¹	<ul style="list-style-type: none"> • Management of manifestations of psychotic disorders² • Treatment of schizophrenia² • Control the manifestations of the manic type of manic-depressive illness² • Treatment of severe behavioral problems in children marked by combativeness and/or explosive hyperexcitable behavior² • Short-term treatment of hyperactive children who show excessive motor activity with accompanying conduct disorders consisting of some or all of the following symptoms: impulsivity, difficulty sustaining attention, aggressivity, mood lability and poor frustration tolerance² 	<ul style="list-style-type: none"> • To control nausea and vomiting² • For relief of restlessness and apprehension before surgery² • For acute intermittent porphyria² • As an adjunct in the treatment of tetanus² • For relief of intractable hiccups² 	Adults and Children (6 months-12 years) ²	<ul style="list-style-type: none"> • Behavioral symptoms associated with dementia (elderly); psychosis/ agitation related to Alzheimer's dementia³ • Treatment of migraine in adults (intramuscular/ intravenous)⁴ 	Drowsiness, extrapyramidal symptoms (dystonia, motor restlessness, pseudo-parkinsonism, tardive dyskinesia), neuroleptic malignant syndrome, lowering of seizure threshold, hyperprolactinemia , jaundice, hematologic disorders, agranulocytosis, hypotensive effects, ECG changes, convulsive seizures, allergic reactions, endocrine disorders, autonomic reactions, changes in skin pigmentation, ocular changes, increase in appetite, peripheral edema, lupus-like syndrome, weight changes, hyperpyrexia ²
Fluphenazine (Prolixin®): usual oral dosage range for acute treatment of schizophrenia – 5-20mg/day in divided doses ¹	Management of manifestations of psychotic disorders ⁵		Adults ⁵	<ul style="list-style-type: none"> • Psychosis/ agitation related to Alzheimer's dementia⁶ • Postherpetic neuralgia • Antiemetic⁷ 	Extrapyramidal symptoms, neuroleptic malignant syndrome, hyperprolactinemia , drowsiness, lethargy, nausea, loss of appetite, salivation, polyuria, perspiration, dry mouth, headache, constipation, hypertension, fluctuations in blood pressure, blurred vision, glaucoma, bladder paralysis, fecal impaction, paralytic ileus, tachycardia, nasal congestion, metabolic and endocrine (weight change, peripheral edema, abnormal lactation, gynecomastia, menstrual irregularities, impotence), allergic reactions, hematologic changes, jaundice, lupus-like syndrome, hypotension severe enough to cause fatal cardiac arrest, altered electrocardiographic and electroencephalographic tracings, altered cerebrospinal fluid proteins, cerebral edema, asthma, laryngeal edema, and angioneurotic edema ⁵
Haloperidol (Haldol®): usual oral dosage range for treatment of acute schizophrenia – 1-20mg/day in divided doses ^{1,8}	<ul style="list-style-type: none"> • Management of manifestations of psychotic disorders⁹ • Tourette's Syndrome⁹ 		Adults and Children (3-12 years) ⁹	<ul style="list-style-type: none"> • Treatment of non-schizophrenia psychosis • May be used for the emergency sedation of severely-agitated or delirious patients • Adjunctive treatment of ethanol dependence • Postoperative nausea and vomiting (alternative therapy) • Psychosis/agitation related to Alzheimer's dementia⁸ • Hiccups • Obsessive-compulsive disorder • Prevention of chemotherapy-induced nausea and vomiting • Phencyclidine psychosis (improving phencyclidine-induced aggression, combativeness, and schizophreniform symptoms like hallucinations, delusions, and disorganized thinking)¹⁰ 	Cardiovascular effects (arrhythmias, QT prolongation, torsades de points, sudden death, tachycardia), tardive dyskinesia, dystonia, neuroleptic malignant syndrome, hyperprolactinemia , extrapyramidal symptoms, hypotension, hypertension, insomnia, restlessness, anxiety, euphoria, agitation, drowsiness, depression, lethargy, headache, confusion, vertigo, grand mal seizures, exacerbation of psychotic symptoms including hallucinations and catatonic-like behavioral states, hematologic effects, jaundice, dermatologic reactions, endocrine disorders, gastrointestinal effects, autonomic reactions (dry mouth, blurred vision, urinary retention, diaphoresis), respiratory effects (laryngospasm, bronchospasm), cataracts, retinopathy, visual disturbances ⁹

Drug Name	FDA-Indications	Other FDA-Indications	Age Group for Which Approved	Off Label Uses	Side-Effects/Adverse Effects
Loxapine (Loxitane®): usual oral dosage range for acute treatment of schizophrenia – 30-100mg/day in divided doses ¹	Treatment of schizophrenia ¹¹		Adults ¹¹		Tardive dyskinesia, neuroleptic malignant syndrome, hematologic effects , extrapyramidal symptoms, tachycardia, hypotension, hypertension, orthostatic hypotension, lightheadedness, syncope, EKG changes, anticholinergic effects, dermatologic effects, hematologic effects, gastrointestinal side effects, weight gain, weight loss, dyspnea, ptosis, hyperpyrexia, flushing, headache, paresthesia, and polydipsia, galactorrhea, amenorrhea, gynecomastia, and menstrual irregularity ¹¹
Perphenazine (Trilafon®): usual oral dosage range for acute treatment of schizophrenia – 16-64mg/day in divided doses ¹	Treatment of schizophrenia ¹²	Control of severe nausea and vomiting ¹²	Adults and Children ≥ 12 years ¹²		Tardive dyskinesia, neuroleptic malignant syndrome, hypotension (if pressor needed, use norepinephrine), hyperprolactinemia , extrapyramidal symptoms, convulsive seizures, jaundice, sedation, dry mouth or salivation, nausea, vomiting, diarrhea, anorexia, constipation, obstipation, fecal impaction, urinary retention, frequency or incontinence, bladder paralysis, polyuria, nasal congestion, pallor, myosis, mydriasis, blurred vision, glaucoma, perspiration, hypertension, change in pulse rate, allergic reactions, endocrine effect, cardiovascular effects (tachycardia, bradycardia, ECG changes), hematological effects, ocular changes ¹²
Pimozide (Orap®): usual oral dosage range for treatment of Tourette's Syndrome who have failed to respond satisfactorily to standard treatment ¹⁴	Suppression of motor and phonic tics in patients with Tourette's Syndrome who have failed to respond satisfactorily to standard treatment ¹⁴		Adults and Children ≥ 12 years ¹⁴	Parasitosis (delusional) ¹⁵	Tardive dyskinesia, sudden death, neuroleptic malignant syndrome, hematologic effects , extrapyramidal symptoms, ECG changes, hyperpyrexia, asthenia, chest pain, periorbital edema, postural hypotension, hypotension, hypertension, tachycardia, palpitations, increased salivation, nausea, vomiting, anorexia, GI distress, loss of libido, weight gain, weight loss, dizziness, tremor, parkinsonism, fainting, dyskinesia ¹⁴
Prochlorperazine (Compazine®): usual oral dosage range for acute treatment of schizophrenia – 50-150mg/day in divided doses ¹	<ul style="list-style-type: none"> • Treatment of schizophrenia¹⁶ • Short-term treatment of generalized non-psychotic anxiety¹⁶ 	Control of severe nausea and vomiting ¹⁶	Adults and Children ≥ 20 pounds and ≥ 2 years ¹⁶		Tardive dyskinesia, neuroleptic malignant syndrome, hypotension , extrapyramidal symptoms, drowsiness, dizziness, amenorrhea, blurred vision, skin reactions, leukopenia, agranulocytosis, jaundice ¹⁶
Thioridazine (Mellaril®): usual oral dosage range for acute treatment of schizophrenia – 300-800mg/day in divided doses ¹	Management of schizophrenic patients who fail to respond adequately to treatment with other antipsychotic drugs ¹⁷		Adults and pediatric patients with schizophrenia who are unresponsive to other agents ¹⁷	Management of agitation and psychotic events in patients with dementia and Alzheimer's disease ¹⁸	Proarrhythmic effects (prolongation of QT interval), orthostatic hypotension, neuroleptic malignant syndrome, extrapyramidal symptoms, hyperprolactinemia , drowsiness, nocturnal confusion, lethargy, dry mouth, blurred vision, constipation, nausea, vomiting, diarrhea, dermatitis, skin eruptions, endocrine effects ¹⁷
Thiothixene (Navane®): usual oral dosage range for acute treatment of schizophrenia – 6-50mg/day in divided doses ^{1,19}	Management of schizophrenia ¹⁹		Adults and Children ≥ 12 years ¹⁹	Nonpsychotic patient, dementia behavior (elderly); psychosis/agitation related to Alzheimer's dementia ²⁰	Tardive dyskinesia, extrapyramidal symptoms, sudden death, hyperprolactinemia, seizures, hematologic effects, neuroleptic malignant syndrome, hepatic effects , dry mouth, blurred vision, nasal congestion, constipation, increased sweating, increased salivation, tachycardia, hypotension, light-headedness, syncope, drowsiness, restlessness, agitation, insomnia, impotence, allergic reaction, jaundice, endocrine effects, hyperpyrexia, anorexia, nausea, vomiting, diarrhea, increase in appetite and weight, weakness or fatigue, polydipsia, and peripheral edema ¹⁹
Trifluoperazine (Stelazine®): usual oral dosage range for acute treatment of schizophrenia – 4-40mg/day in divided doses ¹	<ul style="list-style-type: none"> • Management of schizophrenia²¹ • Short-term treatment of generalized non-psychotic anxiety²¹ 		Adults and Children 6-12 years ²¹		Extrapyramidal symptoms , drowsiness, dizziness, skin reactions, rash, dry mouth, insomnia, amenorrhea, fatigue, muscular weakness, anorexia, lactation, blurred vision, hematologic effects ²¹

Drug Name	FDA-Indications	Other FDA-Indications	Age Group for Which Approved	Off Label Uses	Side-Effects/Adverse Effects
2nd generation (atypical) antipsychotics					
Aripiprazole (Abilify®): usual oral immediate release dosage range for monotherapy for treatment of schizophrenia – 15-30mg/day ²² (see full prescribing information for dosages for other indications)	<ul style="list-style-type: none"> • Autistic disorder - Psychomotor agitation²³ • Bipolar disorder - Psychomotor agitation²³ • Bipolar I disorder, Adjunctive therapy with lithium or valproate²³ • Bipolar I disorder, Monotherapy, manic or mixed episodes²³ • Major depressive disorder, Adjunctive treatment in patients receiving antidepressant²³ • Schizophrenia - Psychomotor agitation²³ • Schizophrenia²³ 		Can be used in children 6 and older, however, recommended ages differ for the various indications. ²³	<ul style="list-style-type: none"> • Cocaine dependence²⁴ • Restless legs syndrome²⁴ • Trichotillomania²⁴ • Psychosis/agitation related to Alzheimer's dementia²⁵ 	<p>Suicide, increased mortality in elderly patients with dementia-related psychosis, neuroleptic malignant syndrome, orthostatic hypotension, tardive dyskinesia, commonly observed adverse reactions (incidence ≥ 5% and at least twice placebo):</p> <ul style="list-style-type: none"> • Adult schizophrenia: akathisia. • Adult (monotherapy) bipolar mania: akathisia, sedation, restlessness, tremor, and extrapyramidal disorder. Adult (adjunctive therapy with lithium or valproate) bipolar mania: akathisia, insomnia, and extrapyramidal disorder. • Adult major depressive disorder (adjunctive treatment to antidepressant therapy): akathisia, restlessness, insomnia, constipation, fatigue, and blurred vision. • Adult agitation associated with schizophrenia or bipolar mania: nausea.²³
Asenapine (Saphris®): usual oral dosage range for treatment of schizophrenia – 10-20mg/day in divided doses ²²	<ul style="list-style-type: none"> • Schizophrenia – acute treatment²⁶ • Schizophrenia – maintenance treatment²⁶ • Bipolar mania or mixed – monotherapy²⁶ • Bipolar mania or mixed – as an adjunct to lithium or valproate²⁶ 		Safety and efficacy have not been established in children. ²⁶		<p>Neuroleptic malignant syndrome, tardive dyskinesia, cerebrovascular events, QT prolongation, suicide, commonly observed adverse reactions (incidence ≥5% and at least twice placebo):</p> <ul style="list-style-type: none"> • Schizophrenia: akathisia, oral hypoesthesia, and somnolence. • Bipolar Disorder (Monotherapy): somnolence, dizziness, extrapyramidal symptoms other than akathisia, and weight increase. • Bipolar Disorder (Adjunctive): somnolence and oral hypoesthesia.²⁶
Clozapine (Clozaril®, FazaClo® ODT): usual oral immediate release dosage range for treatment of schizophrenia – 50-500mg/day in divided doses ²²	<ul style="list-style-type: none"> • Schizophrenia, Treatment-resistant²⁷ • Recurrent suicidal behavior in patients with schizophrenia or schizoaffective disorders²⁷ 		Safety and efficacy has not been established in children ²⁷	<ul style="list-style-type: none"> • Parkinson's disease - Psychotic disorder²⁸ • Schizoaffective disorder²⁹ • Acute manic episodes associated with bipolar disorder; treatment of refractory bipolar mania²⁸ • Obsessive-compulsive disorders²⁸ • May be effective in the treatment of tardive dyskinesia²⁸ • Psychosis/agitation related to Alzheimer's dementia²⁸ 	<p>Increased mortality in elderly patients with dementia-related psychosis, agranulocytosis (mandatory monitoring, fatal if not detected early and therapy interrupted), seizures, myocarditis, adverse events observed in incidence of >5%:</p> <ul style="list-style-type: none"> • Central nervous system complaints including drowsiness/sedation, dizziness/vertigo, headache and tremor • Autonomic nervous system complaints including salivation, sweating, dry mouth and visual disturbances • Cardiovascular findings including tachycardia, hypotension and syncope • Gastrointestinal complaints including constipation and nausea; fever.²⁷
Iloperidone (Fanapt®): usual oral dosage range for treatment of schizophrenia – 2-24mg/day in divided doses ²² (must titrate slowly from a low starting dose to avoid orthostatic hypotension due to alpha-adrenergic blocking properties)	Schizophrenia ³⁰		Safety and effectiveness in pediatric patients has not been established. ³⁰		<p>Increased mortality in elderly patients with dementia-related psychosis, neuroleptic malignant syndrome, QT prolongation, tardive dyskinesia. commonly observed adverse reactions (incidence ≥5% and at least twice placebo): dizziness, dry mouth, fatigue, nasal congestion, orthostatic hypotension, somnolence, tachycardia, and weight increase.³⁰</p>
Lurasidone (Latuda®): usual oral dosage range for treatment of schizophrenia 40-160mg/day ³¹	Schizophrenia ³¹		Safety and effectiveness in pediatric patients has not been established. ³¹		<p>Increased mortality in elderly patients with dementia-related psychosis, neuroleptic malignant syndrome, tardive dyskinesia, metabolic changes, commonly observed adverse reactions (incidence ≥5% and at least twice placebo): somnolence, akathisia, nausea, and parkinsonism.³¹</p>

Drug Name	FDA-Indications	Other FDA-Indications	Age Group for Which Approved	Off Label Uses	Side-Effects/Adverse Effects
Olanzapine (Zyprexa®, Zyprexa® Zydys®, Zyprexa® Relprevv®); usual oral immediate release dosage range for schizophrenia 10-20mg/day ²²	<ul style="list-style-type: none"> • Agitation - Bipolar I disorder³² • Agitation - Schizophrenia³² • Bipolar I disorder, Acute mixed or manic episodes³² • Bipolar I disorder - adjunct therapy with lithium or valproate³² • Bipolar I disorder, Maintenance therapy³² • Schizophrenia³² • Depressed bipolar I disorder³² • Depression, Treatment-resistant; Adjunct³² • Bipolar disorder, depressed phase³² • Major depressive disorder (treatment resistant)³² 		Adults and Children >13 years old ³²	<ul style="list-style-type: none"> • Agitation, acute - Dementia^{33,34} • Delirium³⁴ • Obsessive-compulsive disorder - adjunct therapy, treatment resistant^{33,35} • Severe major depression with psychotic features³⁵ • Chronic pain; prevention of chemotherapy-associated delayed nausea or vomiting³⁴ • Tourette's syndrome³⁵ • Stuttering³⁵ • Parasitosis (delusional)³⁵ • Insomnia (elderly)³⁵ 	Increased mortality in elderly patients with dementia-related psychosis, suicide, neuroleptic malignant syndrome, metabolic changes , commonly observed adverse reactions oral olanzapine (incidence ≥5% and at least twice placebo): postural hypotension, constipation, weight gain, dizziness, personality disorder, akathisia, asthenia, dry mouth, dyspepsia, increased appetite, somnolence, and tremor. ³²
Olanzapine/fluoxetine (Symbyax®): usual oral dosage range for bipolar and major depressive disorders 6/25-12/50 mg/day ³⁶	<ul style="list-style-type: none"> • Bipolar disorder, depressed phase³⁶ • Major depressive disorder (treatment resistant)³⁶ 		Safety and effectiveness in children and adolescent patients has not been established. ³⁶		Suicide, increased mortality in elderly patients with dementia-related psychosis, neuroleptic malignant syndrome, metabolic changes , commonly observed adverse reactions (incidence ≥5% and at least twice placebo): disturbance in attention, dry mouth, fatigue, hypersomnia, increased appetite, peripheral edema, sedation, somnolence, tremor, vision blurred, and weight increased. Adverse reactions reported in clinical trials of olanzapine and fluoxetine in combination are generally consistent with treatment-emergent adverse reactions during olanzapine or fluoxetine monotherapy. ³⁶
Paliperidone (Invega®): usual oral immediate release dosage range for schizophrenia 3-9mg/day Invega® Sustenna® 39-234mg/month IM ²²	<ul style="list-style-type: none"> • Schizoaffective disorder³⁷ • Schizophrenia³⁷ 		Adults >18 years old ³⁷	Psychosis/agitation related to Alzheimer's dementia ³⁸	Increased mortality in elderly patients with dementia-related psychosis, QT prolongation, neuroleptic malignant syndrome, tardive dyskinesia , commonly observed adverse reactions (incidence ≥ 5% and at least twice placebo): <ul style="list-style-type: none"> • Schizophrenia: extrapyramidal symptoms, tachycardia, akathisia. • Schizoaffective disorder: extrapyramidal symptoms, somnolence, dyspepsia, constipation, weight increase and nasopharyngitis.³⁷
Quetiapine (Seroquel®, Seroquel® XR): usual oral immediate release dosage range for schizophrenia 250-500mg/day in divided doses ²²	<ul style="list-style-type: none"> • Bipolar disorder, depressed phase³⁹ • Bipolar disorder (maintenance) as an adjunct to lithium or divalproex³⁹ • Acute treatment of manic episodes associated with bipolar I disorder, as monotherapy³⁹ • Acute treatment of manic as an adjunct to lithium or divalproex³⁹ • Schizophrenia³⁹ • Adjunctive treatment of major depressive disorders (XR only-with antidepressants)^{41,42} 		Adults and children >13 years old ³⁹	<ul style="list-style-type: none"> • Autism⁴⁰ • Psychosis/agitation related to Alzheimer's dementia⁴¹ • Insomnia, adjunct therapy in elderly⁴¹ • Treatment resistant obsessive-compulsive disorder^{33,41} • Alcohol dependence⁴¹ • Psychosis in Parkinson's disease⁴¹ • Trichotillomania⁴¹ 	Suicide; increased mortality in elderly patients with dementia-related psychosis, neuroleptic malignant syndrome, metabolic changes, QT prolongation , commonly observed adverse reactions (incidence ≥ 5% and at least twice placebo): somnolence, dry mouth, dizziness, constipation, asthenia, abdominal pain, postural hypotension, pharyngitis, weight gain, lethargy, ALT increased, dyspepsia. ³⁹

Drug Name	FDA-Approved Indications	Other FDA-Approved Indications	Age Group for Which Approved	Off Label Uses	Side Effects/Adverse Effects
Risperidone (Risperdal®): usual oral immediate release dosage range for schizophrenia 2-8mg/day in divided doses Risperdal® Consta® 25-50 mg every 2 weeks IM ²²	<ul style="list-style-type: none"> • Schizophrenia⁴³ • Autistic disorder - Irritability⁴³ • Bipolar I disorder - short term of acute manic or mixed episodes, in combination with lithium or valproate⁴³ 		Adults and children >5 years old, however, recommended ages differ for the various indications. ⁴³	<ul style="list-style-type: none"> • Stuttering⁴⁴ • Insomnia (elderly)⁴⁴ • Tardive dyskinesias⁴⁴ • Psychosis in Parkinson's disease⁴⁴ • Management of agitation and psychotic events in patients with dementia and Alzheimer's disease⁴⁴ • Tourette's syndrome⁴⁴ • Psychosis/agitation related to Alzheimer's dementia^{33,44} • Obsessive-compulsive disorder-adjunct therapy³³ • Post-traumatic stress disorder (PTSD)^{33,45} • Delirium in the critically-ill patient⁴⁵ 	Increased mortality in elderly patients with dementia-related psychosis, neuroleptic malignant syndrome, tardive dyskinesia, metabolic changes, orthostatic hypotension, common adverse reactions in clinical trials (≥10%): somnolence, increased appetite, fatigue, insomnia, sedation, parkinsonism, akathisia, vomiting, cough, constipation, nasopharyngitis, drooling, rhinorrhea, dry mouth, abdominal pain-upper, dizziness, nausea, anxiety, headache, nasal congestion, rhinitis, tremor and rash. ⁴³
Ziprasidone (Geodon®): usual oral dosage range 40-160 mg/day ²²	<ul style="list-style-type: none"> • Bipolar I disorder, acute manic or mixed episodes, monotherapy⁴⁶ • Schizophrenia⁴⁶ • Acute agitation in schizophrenic patients⁴⁶ 		Safety and effectiveness for pediatric patients has not been established ⁴⁶	<ul style="list-style-type: none"> • Psychosis/agitation related to Alzheimer's dementia⁴⁷ • Autism⁴⁸ • Tourette's syndrome⁴⁸ 	Increased mortality in elderly patients with dementia-related psychosis, neuroleptic malignant syndrome, tardive dyskinesia, hyperglycemia and diabetes mellitus, rash, commonly observed adverse reactions (incidence ≥ 5% and at least twice placebo): <ul style="list-style-type: none"> • Somnolence, respiratory tract infection, extrapyramidal symptoms (extrapyramidal syndrome, hypertonia, dystonia, dyskinesia, hypokinesia, tremor, paralysis and twitching. • None of these adverse reactions occurred individually at an incidence greater than 10% in bipolar mania trials, dizziness (dizziness and lightheadedness), akathisia, abnormal vision, asthenia, vomiting, headache.⁴⁶

References

¹Lehman AF, Kreyenbuhl J, Buchanan RW et al. The Schizophrenia Patient Outcomes Research Team (PORT). Updated Treatment Recommendations 2003. Schizophrenia Bulletin. 2004; 30(2): 193-217. ²Chlorpromazine [prescribing information]. Indianapolis, IN: Upsher-Smith Laboratories, Inc. ³Chlorpromazine. In: Lexi-Drugs Online [Internet Database]. Hudson, OH: Lexi-Comp, Inc. Updated 2012 May 17. ⁴Chlorpromazine. In: Facts & Comparisons Online [Internet Database]. Indianapolis, IN: Wolters Kluwer Health. Updated 2012 February. ⁵Fluphenazine [prescribing information]. Spring Valley, IN: Par Pharmaceuticals, Inc.; 2005. ⁶Fluphenazine. In: Lexi-Drugs Online [Internet Database]. Hudson, OH: Lexi-Comp, Inc. Updated 2012 May 30. ⁷Fluphenazine. In: Facts & Comparisons Online [Internet Database]. Indianapolis, IN: Wolters Kluwer Health. Updated 2012 January. ⁸Haloperidol. In: Lexi-Drugs Online [Internet Database]. Hudson, OH: Lexi-Comp, Inc. Updated 2012 May 07. ⁹Haloperidol [prescribing information]. Morgantown, IN: Mylan Pharmaceuticals Inc.; 2011. ¹⁰Haloperidol. In: Facts & Comparisons Online [Internet Database]. Indianapolis, IN: Wolters Kluwer Health. Updated 2010 March. ¹¹Loxapine [prescribing information]. Philadelphia, IN: Lannett Company Inc.; 2011. ¹²Perphenazine [prescribing information]. Huntsville, IN: Qualitest Pharmaceuticals. ¹³Pimozide. In: Facts & Comparisons Online [Internet Database]. Indianapolis, IN: Wolters Kluwer Health. Updated 2011 October. ¹⁴Pimozide. In: Facts & Comparisons Online [Internet Database]. Indianapolis, IN: Wolters Kluwer Health. Updated 2011 September. ¹⁵Prochlorperazine [prescribing information]. Rockford, IN: UDL Laboratories, Inc. ¹⁶Thioridazine [prescribing information]. Morgantown, IN: Mylan Pharmaceuticals Inc. ¹⁷Thioridazine. In: Facts & Comparisons Online [Internet Database]. Indianapolis, IN: Wolters Kluwer Health. Updated 2012 January. ¹⁸Thiothixene [prescribing information]. Morgantown, IN: Mylan Pharmaceuticals Inc.; 2011. ¹⁹Thiothixene. In: Lexi-Drugs Online [Internet Database]. Hudson, OH: Lexi-Comp, Inc. Updated 2012 May 07. ²⁰Trifluoperazine [prescribing information]. Morgantown, IN: Mylan Pharmaceuticals Inc.; 2010. ²¹Crismon L, Argo TR, Buckley PF. Chapter 76. Schizophrenia. In: Talbert RL, DiPiro JT, Matzke GR, Posey LM, Wells BG, Yee GC, eds. Pharmacotherapy: A Pathophysiologic Approach. 8th ed. New York: McGraw-Hill; 2011. ²²http://www.accesspharmacy.com/content.aspx?ID=7987911. Accessed June 4, 2012. ²³Abilify [prescribing information]. Tokyo, Japan: Otsuka Pharmaceutical Co. Ltd.; 2012. ²⁴Aripiprazole. In: Facts & Comparisons Online [Internet Database]. Indianapolis, IN: Wolters Kluwer Health. Updated 2012 March. ²⁵Aripiprazole. In: Lexi-Drugs Online [Internet Database]. Hudson, OH: Lexi-Comp, Inc. Updated 2012 June 07. ²⁶Saphris [prescribing information]. Whitehouse Station, NJ: Merck & Co., Inc.; 2011. ²⁷Clozapin [prescribing information]. East Hanover, NJ: Novartis Pharmaceuticals Co.; 2011. ²⁸Clozapine. In: Facts & Comparisons Online [Internet Database]. Indianapolis, IN: Wolters Kluwer Health. Updated 2011 Jan. ²⁹Clozapine. In: Lexi-Drugs Online [Internet Database]. Indianapolis, IN: Wolters Kluwer Health Updated 2012 July. ³⁰Fanapt [prescribing information]. East Hanover, NJ: Novartis Pharmaceuticals Co.; 2011. ³¹Latuda [prescribing information]. Marlborough, MA: Sunovion Pharmaceuticals Inc.; 2012. ³²Zyprexa [prescribing information]. Indianapolis, IN: Eli Lilly & Company; 2011. ³³Maglione M, Ruelaz Maher A, Hu J, et al. Off-Label Use of Atypical Antipsychotics: An Update. Comparative Effectiveness Review No. 43. (Prepared by the Southern California Evidence-based Practice Center under Contract No. HHS/A290-2007-10062 - 1.) Rockville, MD: Agency for Healthcare Research and Quality, September 2011. Available at: www.effectivehealthcare.ahrq.gov/reports/final.cfm. ³⁴Olanzapine. In: Lexi-Drugs Online [Internet Database]. Hudson, OH: Lexi-Comp, Inc. Updated 2012 June 20. ³⁵Olanzapine. In: Facts & Comparisons Online [Internet Database]. Indianapolis, IN: Wolters Kluwer Health. Updated 2010 Aug. ³⁶Symbyax [prescribing information]. Indianapolis, IN: Eli Lilly & Company; 2012. ³⁷Invega [prescribing information]. Titusville, NJ: Janssen Pharmaceuticals; 2011. ³⁸Paliperidone. In: Lexi-Drugs Online [Internet Database]. Hudson, OH: Lexi-Comp, Inc. Updated 2012 June 18. ³⁹Seroquel [prescribing information]. Wilmington, DE: AstraZeneca Pharmaceuticals LP.; 2012. ⁴⁰Quetiapine. In: Lexi-Drugs Online [Internet Database]. Hudson, OH: Lexi-Comp, Inc. Updated 2012 June 18. ⁴¹Quetiapine. In: Facts & Comparisons Online [Internet Database]. Indianapolis, IN: Wolters Kluwer Health. Updated 2010 March. ⁴²Seroquel (Quetiapine) XR. [prescribing information]; Wilmington, DE: AstraZeneca Pharmaceuticals LP.; 2012. ⁴³Risperdal [prescribing information]; Titusville, NJ: Ortho-McNeil-Janssen Pharmaceuticals, Inc.; 2011. ⁴⁴Risperidone. In: Facts & Comparisons Online [Internet Database]. Indianapolis, IN: Wolters Kluwer Health. Updated 2011 Sept. ⁴⁵Risperidone. In: Lexi-Drugs Online [Internet Database]. Hudson, OH: Lexi-Comp, Inc. Updated 2012 June 18. ⁴⁶Geodon [prescribing information]; NY, NY: Roerig, division of Pfizer, Inc.; 2009. ⁴⁷Ziprasidone. In: Lexi-Drugs Online [Internet Database]. Indianapolis, IN: Wolters Kluwer Health Updated 2012 July. ⁴⁸Ziprasidone. In: Facts & Comparisons Online [Internet Database]. Indianapolis, IN: Wolters Kluwer Health. Updated 2012 March.

HQSI and Delmarva Foundation would like to thank the following students for their assistance in the creation of this reference: Bhavini Parikh, PharmD Candidate 2013, and Judy Sim, PharmD Candidate 2013.

* This document is intended for educational purposes only as a quick reference guide to commonly used antipsychotic drugs. Information contained herein is condensed and incomplete. Please refer to full prescribing information and additional reference materials for detailed information on a specific drug or drug use, dosing in special populations and drug use in patients with specific medical conditions. Promethazine and droperidol may be prescribed as antiemetic agents; however these agents have the same cautions as 1st generation antipsychotics. HQSI and DFMC are not responsible for any omissions or errors. This document is not intended to override a clinician's judgment in individual patient management.



This material was prepared jointly by Healthcare Quality Strategies, Inc., Delmarva Foundation – Maryland, and Delmarva Foundation – District of Columbia, the Medicare Quality Improvement Organizations for New Jersey, Maryland, and the District of Columbia, under contract with the Centers for Medicare & Medicaid Services (CMS), and agency of the U.S. Department of Health and Human Services. The contents presented do not necessarily reflect CMS policy. 10SOW-NJ-C.7.3-12-10. 10/2012

Monitoring Guidelines and Adverse Effects¹

Assessments to monitor physical status and detect concomitant physical conditions		
Assessment	Initial or Baseline	Follow-Up
Vital signs	Pulse, blood pressure, temperature	As clinically indicated, particularly as medication doses are titrated
Hematology	CBC	If clinically indicated, including assessment of patients treated with clozapine
Blood chemistries	Electrolytes, renal function tests (BUN/creatinine ratio), liver function tests, thyroid function tests	Annually and as clinically indicated
Infectious diseases	Test for syphilis, hepatitis C and HIV, if clinically indicated	
Pregnancy	Consider pregnancy test for women of childbearing potential	
Toxicology	Drug toxicology/screen, heavy metal screen, if clinically indicated	Drug toxicology screen, if clinically indicated
Imaging/EEG	EEG, brain imaging (CT or MRI, with MRI being preferred), if clinically indicated	
Practice Guideline for the Treatment of Patients with Schizophrenia Second Edition, American Psychiatric Association, 2010; 1-184.		

Table 76-7 Relative Side-Effect Incidence of Commonly Used Antipsychotics ^{a,b}						
	Sedation	EPS	Anticholinergic	Orthostasis	Weight Gain	Prolactin
Aripiprazole	+	+	+	+	+	+
Asenapine	+	++	+/-	++	+	+
Chlorpromazine	++++	+++	+++	++++	++	+++
Clozapine	++++	+	++++	++++	++++	+
Fluphenazine	+	++++	+	+	+	++++
Haloperidol	+	++++	+	+	+	++++
Iloperidone	+	+/-	++	+++	++	+
Olanzapine	++	++	++	++	++++	+
Paliperidone	+	++	+	++	++	++++
Perphenazine	++	++++	++	+	+	++++
Quetiapine	++	+	+	++	++	+
Risperidone	+	++	+	++	++	++++
Thioridazine	++++	+++	++++	++++	+	+++
Thiothixene	+	++++	+	+	+	++++
Ziprasidone	++	++	+	+	+	+

EPS, extrapyramidal side effects; Relative side-effect risk: ±, negligible; +, low; ++, moderate; +++, moderately high; +++++, high.
^aSide effects shown are relative risk based on doses within the recommended therapeutic range.
^bIndividual patient risk varies depending on patient-specific factors.
Pharmacotherapy: A Pathophysiologic Approach. DiPiro J., et.al. Copyright 2011. *Reproduced with permission from McGraw-Hill Companies, Inc.* [October 17, 2012].

Second-Generation Antipsychotic Monitoring Guide							
	Baseline	4 Weeks	8 Weeks	12 Weeks	Quarterly	Annually	Every 5 years
Personal Family History*	✓					✓	
Weight & Height (BMI)	✓	✓	✓	✓	✓		
Waist Circumference	✓					✓	
Blood Pressure	✓			✓		✓	
Fasting Plasma Glucose	✓			✓		✓	✓
Fasting Plasma Lipids	✓			✓			✓

*Family history of obesity, diabetes, dyslipidemia, hypertension, and/or cardiovascular disease
 Adapted from American Diabetes Association, American Psychiatric Association, American Association of Clinical Endocrinologists, North American Association for the Study of Obesity. Consensus development conference on antipsychotic drugs and obesity and diabetes. *Diabetes Care* 2004; 27(2):596-601.

Antipsychotic Medication Reference

Definitions of Select Adverse Effects

1. **Tardive Dyskinesia:** involuntary, repetitive body movements such as lip smacking, tongue protrusion, and grimacing
2. **Parkinsonism:** tremor, decreased bodily movement, rigidity and postural instability
3. **Anticholinergic Effects:** dry mouth, dry eyes, difficulty urinating, constipation, blurred vision, confusion, memory impairment, drowsiness, nervousness, agitation, rapid heart rate, weakness
4. **Extrapyramidal Symptoms (EPS):** various movement disorders such as acute, sustained muscle contractions causing twisting and repetitive movements or abnormal postures (dystonic reactions), pseudoparkinsonism, and inability to initiate movement (akinesia) and/or inability to remain motionless (akathisia)

Warnings and Precautions²

- **Elderly Patients with Dementia-Related Psychosis:** increased incidence of cerebrovascular adverse events (e.g., stroke, transient ischemic attack, including fatalities)
- **Suicide/Suicidality and Antidepressants:** increased risk of suicidality in children, adolescents, and young adults with major depressive disorder; closely supervise high-risk patients
- **Neuroleptic Malignant Syndrome:** manage with immediate discontinuation and close monitoring
- **Tardive Dyskinesia:** discontinue if clinically appropriate
- **Metabolic Changes:** atypical antipsychotic drugs have been associated with metabolic changes that include hyperglycemia/diabetes mellitus, dyslipidemia, and body weight gain
- **Hyperglycemia/Diabetes Mellitus:** monitor glucose regularly in patients with and at risk for diabetes
- **Dyslipidemia:** undesirable alterations in lipid levels have been observed in patients treated with atypical antipsychotics
- **Weight Gain:** weight gain has been observed with atypical antipsychotic use – monitor weight
- **Hyperprolactinemia:** prolactin elevations occur and persist during chronic administration. Prolactin is a hormone which may cause breast enlargement (gynecomastia) and sexual dysfunction.
- **Orthostatic Hypotension:** use with caution in patients with known cardiovascular or cerebrovascular disease
- **Leukopenia, Neutropenia, and Agranulocytosis** has been reported with antipsychotics. Patients with a history of a clinically significant low white blood cell count (WBC) or a drug-induced leukopenia/neutropenia should have their complete blood count (CBC) monitored frequently during the first few months of therapy and discontinuation of drug should be considered at the first sign of a clinically significant decline in WBC in the absence of other causative factors
- **Seizures/Convulsions:** use cautiously in patients with a history of seizures or with conditions that lower the seizure threshold
- **Potential for Cognitive and Motor Impairment:** use caution when operating machinery
- **QT Prolongation:** increases in QT interval; avoid use with drugs that also increase the QT interval and in patients with risk factors for prolonged QT interval

Black Box Warning

Prescribing information for many antipsychotic medications contains the following “black box” warning cautioning against the use of these drugs in elderly dementia patients:

“Antipsychotic medications are not approved for the treatment of patients with dementia-related psychoses (see Boxed Warning).”

WARNING

Increased Mortality in Elderly Patients with Dementia-Related Psychosis

Elderly patients with dementia-related psychosis treated with antipsychotic drugs are at an increased risk of death. Analyses of 17 placebo-controlled trials (modal duration of 10 weeks), largely in patients taking atypical antipsychotic drugs, revealed a risk of death in drug-treated patients of between 1.6 to 1.7 times the risk of death in placebo-treated patients. Over the course of a typical 10-week controlled trial, the rate of death in drug-treated patients was about 4.5%, compared to a rate of about 2.6% in the placebo group. Although the causes of death were varied, most of the deaths appeared to be either cardiovascular (e.g., heart failure, sudden death) or infections (e.g., pneumonia) in nature.

Observational studies suggest that similar to atypical antipsychotic drugs, treatment with conventional antipsychotic drugs may increase mortality. The extent to which the findings of increased mortality in observational studies may be attributed to the antipsychotic drug as opposed to some characteristic(s) of the patient is not clear.

¹ This document is intended for educational purposes only as a quick reference guide to commonly used antipsychotic drugs. Information contained herein is condensed and incomplete. Please refer to full prescribing information and additional reference materials for detailed information on a specific drug or drug use, dosing in special populations and drug use in patients with specific medical conditions. Promethazine and droperidol may be prescribed as antiemetic agents; however these agents have the same cautions as 1st generation antipsychotics. HQSI and DFMC are not responsible for any omissions or errors. This document is not intended to override a clinician's judgment in individual patient management.

² Antipsychotic Agents. In: Facts & Comparisons Online [Internet Database]. Indianapolis, IN: Wolters Kluwer Health. Updated 2012 Jan.

