

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/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.
- A Black Box Warning (BBW) provides an alert to serious or life-threatening risks with the use of a medication.

1st Generation Antipsychotics				
Drug Name	FDA-Approved Indications	Age Group for Which Approved	Off-Label Uses	Side Effects/Adverse Effects
Chlorpromazine (Thorazine [®]): Usual oral dosage range for acute treatment of schizophrenia – 300-1000-mg/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 	Adults and children (6 months to 12 years) ²	<ul style="list-style-type: none"> • Behavioral symptoms associated with dementia (elderly); psychosis/agitation associated with dementia³ • Treatment of migraine in adults (intramuscular/intravenous)⁴ 	BBW: Increased mortality in elderly patients with dementia-related psychosis³ 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, and hyperpyrexia ²
Fluphenazine (Prolixin [®]): Usual oral dosage range for acute treatment of schizophrenia – 5-20mg/day in divided doses ¹	<ul style="list-style-type: none"> • Management of manifestations of psychotic disorders⁵ 	Adults ⁵	<ul style="list-style-type: none"> • Psychosis/agitation associated with dementia⁶ • Postherpetic neuralgia • Antiemetic⁷ • Chorea of Huntington Disease⁶ • Chronic tic disorders⁶ 	BBW: Increased mortality in elderly patients with dementia-related psychosis⁶ 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

Drug Name	FDA-Approved Indications	Age Group for Which Approved	Off-Label Uses	Side Effects/Adverse Effects
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 nonschizophrenia 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 associated with 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 	<p>BBW: Increased mortality in elderly patients with dementia-related psychosis⁸</p> <p>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, and visual disturbances⁹</p>
Loxapine (Loxitane®): Usual oral dosage range for acute treatment of schizophrenia – 30-100mg/day in divided doses ¹	<ul style="list-style-type: none"> • Treatment of schizophrenia¹¹ • Agitation associated with schizophrenia or bipolar I disorder⁴⁹ 	Adults ¹¹	<ul style="list-style-type: none"> • Psychosis/agitation associated with dementia⁴⁹ 	<p>BBW: Increased mortality in elderly patients with dementia-related psychosis</p> <p>BBW: Bronchospasm with inhalation⁴⁹</p> <p>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 irregularity¹¹</p>
Perphenazine (Trilafon®): Usual oral dosage range for acute treatment of schizophrenia – 16-64mg/day in divided doses ¹	<ul style="list-style-type: none"> • Treatment of schizophrenia¹² • Control of severe nausea and vomiting¹² 	Adults and children ≥ 12 years ¹²	<ul style="list-style-type: none"> • Psychosis/agitation associated with dementia⁵⁰ 	<p>BBW: Increased mortality in elderly patients with dementia-related psychosis⁵⁰</p> <p>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, and ocular changes¹²</p>
Pimozide (Orap®): Usual oral dosage range for treatment of Tourette’s syndrome – 1-10mg/day in divided doses ¹³	<ul style="list-style-type: none"> • Suppression of motor and phonic tics in patients with Tourette’s syndrome who have failed to respond satisfactorily to standard treatment¹⁴ 	Adults and children ≥ 12 years ¹⁴	<ul style="list-style-type: none"> • Parasitosis (delusional)¹⁵ 	<p>BBW: Increased mortality in elderly patients with dementia-related psychosis⁶⁴</p> <p>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, and dyskinesia¹⁴</p>

Drug Name	FDA-Approved Indications	Age Group for Which Approved	Off-Label Uses	Side Effects/Adverse Effects
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 schizophrenia (unsupported)¹⁶ • Short-term treatment of generalized non-psychotic anxiety (unsupported)¹⁶ • Control of severe nausea and vomiting¹⁶ 	Adults and children ≥ 20 pounds and ≥ 2 years ¹⁶	<ul style="list-style-type: none"> • Treatment of intractable, severe migraine⁶⁵ 	<p>BBW: Increased mortality in elderly patients with dementia-related psychosis⁵¹</p> <p>Tardive dyskinesia, neuroleptic malignant syndrome, hypotension, extrapyramidal symptoms, drowsiness, dizziness, amenorrhea, blurred vision, skin reactions, leukopenia, agranulocytosis, and jaundice¹⁶</p>
Thioridazine (Mellaril®): Usual oral dosage range for acute treatment of schizophrenia – 300-800mg/day in divided doses ¹	<ul style="list-style-type: none"> • Management of schizophrenic patients who fail to respond adequately to treatment with other antipsychotic drugs¹⁷ 	Adults and pediatric patients with schizophrenia who are unresponsive to other agents ¹⁷	<ul style="list-style-type: none"> • Management of agitation and psychotic events in patients with dementia and Alzheimer’s disease¹⁸ 	<p>BBW: Increased mortality in elderly patients with dementia-related psychosis</p> <p>BBW: Pro-arrhythmic effects including torsade de pointes^{52,65}</p> <p>Pro-arrhythmic 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, and endocrine effects¹⁷</p>
Thiothixene (Navane®): Usual oral dosage range for acute treatment of schizophrenia – 6-50mg/day in divided doses ^{1,19}	<ul style="list-style-type: none"> • Management of schizophrenia¹⁹ 	Adults and children ≥ 12 years ¹⁹	<ul style="list-style-type: none"> • Nonpsychotic patient, dementia behavior (elderly); psychosis/agitation associated with dementia²⁰ 	<p>BBW: Increased mortality in elderly patients with dementia-related psychosis²⁰</p> <p>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 edema¹⁹</p>
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	<ul style="list-style-type: none"> • Psychosis/agitation associated with dementia⁵³ 	<p>BBW: Increased mortality in elderly patients with dementia-related psychosis⁵³</p> <p>Extrapyramidal symptoms, drowsiness, dizziness, skin reactions, rash, dry mouth, insomnia, amenorrhea, fatigue, muscular weakness, anorexia, lactation, blurred vision, and hematologic effects²¹</p>

2nd Generation (Atypical) Antipsychotics				
Drug Name	FDA-Approved Indications	Age Group for Which Approved	Off-Label Uses	Side Effects/Adverse Effects
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 • Tourette’s syndrome²⁵ 	Can be used in children ages 6 and older; however, recommended ages differ for the various indications ²³	<ul style="list-style-type: none"> • Cocaine dependence²⁴ • Restless leg syndrome²⁴ • Trichotillomania²⁴ • Psychosis/agitation associated with dementia²⁵ 	<p>BBW: Increased risk of suicidality in children, adolescents and young adults²⁵</p> <p>BBW: Increased mortality in elderly patients with dementia-related psychosis²⁵</p> <p>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: nausea²³

Drug Name	FDA-Approved Indications	Age Group for Which Approved	Off-Label Uses	Side Effects/Adverse Effects
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	<ul style="list-style-type: none"> • Psychosis/agitation associated with dementia⁵⁴ 	BBW: Increased mortality in elderly patients with dementia-related psychosis⁵⁴ Neuroleptic malignant syndrome, tardive dyskinesia, cerebrovascular events, QT prolongation, suicide, commonly observed adverse reactions (incidence ≥ 5% and at least twice placebo): <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 hypoesthesia²⁶
Brexipiprazole (Rexulti®): Usual oral dosage range for schizophrenia 1-4mg/day ⁵⁷ (see full prescribing information for dosages for other indications)	<ul style="list-style-type: none"> • Major depressive disorder (adjunctive treatment)⁵⁷ • Schizophrenia⁵⁷ 	Safety and effectiveness have not been established in pediatric patients ⁵⁸	<ul style="list-style-type: none"> • Psychosis/agitation related to Alzheimer's dementia⁵⁷ 	BBW: Increased mortality in elderly patients with dementia-related psychosis, increased risk of suicidal thoughts in patients ≤ 24 years⁵⁷ Neuroleptic malignant syndrome, tardive dyskinesia, metabolic changes, leukopenia, neutropenia, agranulocytosis, orthostatic hypotension and syncope, seizures, falls ⁵⁸ Most common adverse reactions were: <ul style="list-style-type: none"> • MDD: Weight increased and akathisia (≥ 5% and at least twice the rate for placebo) • Schizophrenia: Weight increased (≥ 4% and at least twice the rate for placebo)⁵⁸
Cariprazine (Vraylar®): Usual oral dosage range for schizophrenia 1.5-6mg/day ⁵⁹ (see full prescribing information for dosages for other indications)	<ul style="list-style-type: none"> • Schizophrenia • Bipolar I disorder (acute treatment of manic or mixed episodes)⁵⁹ 	Safety and effectiveness have not been established in pediatric patients ⁶⁰	<ul style="list-style-type: none"> • Psychosis/agitation associated with dementia⁵⁹ 	BBW: Increased mortality in elderly patients with dementia-related psychosis⁵⁹ Neuroleptic malignant syndrome, tardive dyskinesia, late occurring adverse reactions due to long half-life, metabolic changes, and orthostatic hypotension ⁶⁰ Most common adverse reactions (incidence ≥ 5% and at least twice the rate of placebo) were: <ul style="list-style-type: none"> • Schizophrenia: extrapyramidal symptoms and akathisia • Bipolar mania: extrapyramidal symptoms, akathisia, dyspepsia, vomiting, somnolence, and restlessness⁶⁰
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 • Treatment resistant psychosis/agitation associated with dementia²⁸ 	BBW: Increased mortality in elderly patients with dementia-related psychosis BBW: Myocarditis, cardiomyopathy, and mitral valve incompetence, seizures, orthostatic hypotension, bradycardia, syncope, and severe neutropenia²⁹ Agranulocytosis (mandatory monitoring, fatal if not detected early and therapy interrupted), adverse events observed in incidence of > 5%: <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; fever²⁷
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)	<ul style="list-style-type: none"> • Schizophrenia³⁰ 	Safety and effectiveness in pediatric patients has not been established ³⁰	<ul style="list-style-type: none"> • Psychosis/agitation associated with dementia⁵⁵ 	BBW: Increased mortality in elderly patients with dementia-related psychosis⁵⁵ 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

Drug Name	FDA-Approved Indications	Age Group for Which Approved	Off-Label Uses	Side Effects/Adverse Effects
Lurasidone (Latuda®): Usual oral dosage range for treatment of schizophrenia 40-160mg/day ³¹	<ul style="list-style-type: none"> • Schizophrenia³¹ • Bipolar depression⁵⁶ 	Safety and effectiveness in pediatric patients has not been established ³¹	<ul style="list-style-type: none"> • Psychosis/agitation associated with dementia⁵⁶ 	<p>BBW: Increased mortality in elderly patients with dementia-related psychosis, increased risk of suicidal thoughts in pediatric and young adult patients⁵⁶</p> <p>Neuroleptic malignant syndrome, tardive dyskinesia, metabolic changes, commonly observed adverse reactions (incidence ≥ 5% and at least twice placebo): somnolence, akathisia, nausea and parkinsonism³¹</p>
Olanzapine (Zyprexa®, Zyprexa® Zydis®, 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 • Post-traumatic stress disorder³⁴ 	<p>BBW: Increased mortality in elderly patients with dementia-related psychosis</p> <p>BBW: Post-injection delirium/sedation syndrome with Zyprexa Relprevv⁶⁶</p> <p>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 tremor³²</p>
Olanzapine/fluoxetine (Symbax®): Usual oral dosage range for bipolar and major depressive disorders 6/25-12/50mg/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		<p>BBW: Increased mortality in elderly patients with dementia-related psychosis</p> <p>BBW: Suicidal thoughts and behaviors³⁶</p> <p>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</p> <p>Adverse reactions reported in clinical trials of olanzapine and fluoxetine in combination are generally consistent with treatment-emergent adverse reactions during olanzapine or fluoxetine monotherapy³⁶</p>
Paliperidone (Invega®): Usual oral immediate release dosage range for schizophrenia 3-9mg/day	<ul style="list-style-type: none"> • Schizoaffective disorder³⁷ • Schizophrenia³⁷ 	Adults > 18 years old ³⁷	<ul style="list-style-type: none"> • Psychosis/agitation related to Alzheimer’s dementia³⁸ • Delusional parasitosis³⁸ 	<p>BBW: Increased mortality in elderly patients with dementia-related psychosis³⁸</p> <p>QT prolongation, neuroleptic malignant syndrome, tardive dyskinesia, commonly observed adverse reactions (incidence ≥ 5% and at least twice placebo):</p> <ul style="list-style-type: none"> • Schizophrenia: extrapyramidal symptoms, tachycardia, akathisia • Schizoaffective disorder: extrapyramidal symptoms, somnolence, dyspepsia, constipation, weight increase and nasopharyngitis³⁷
Pimavanserin (Nuplazid®): Usual dosage range for Parkinson disease psychosis 34mg/daily ⁶¹	<ul style="list-style-type: none"> • Parkinson disease psychosis⁶¹ 	Safety and effectiveness have not been established in pediatric patients ⁶¹		<p>BBW: Increased mortality in elderly patients with dementia-related psychosis⁶¹</p> <p>QT interval prolongation</p> <p>Most common adverse reactions (≥ 5% and twice the rate of placebo): peripheral edema and confusional state⁶²</p>

Drug Name	FDA-Approved Indications	Age Group for Which Approved	Off-Label Uses	Side Effects/Adverse Effects
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 mania as an adjunct to lithium or divalproex³⁹ Schizophrenia³⁹ Adjunctive treatment of major depressive disorders in combination with antidepressants (XR formulation only)^{41,42} 	Adults and children > 13 years old ³⁹	<ul style="list-style-type: none"> Autism⁴⁰ Delirium in critically ill patient⁴⁰ Generalized anxiety disorder⁴⁰ Post-traumatic stress disorder⁴⁰ Delusional parasitosis⁴⁰ Psychosis/agitation associated with dementia⁴¹ Insomnia, adjunct therapy in elderly⁴¹ Treatment resistant obsessive-compulsive disorder^{33,41} Alcohol dependence⁴¹ Psychosis in Parkinson's disease⁴¹ Trichotillomania⁴¹ 	<p>BBW: Increase mortality in elderly patients with dementia related psychosis</p> <p>BBW: Suicidal thoughts and behavior⁴⁰</p> <p>Neuroleptic malignant syndrome, metabolic changes, QT prolongation, commonly observed adverse reactions (incidence \geq 5% and at least twice placebo): somnolence, dry mouth, dizziness, constipation, asthenia, abdominal pain, postural hypotension, pharyngitis, weight gain, lethargy, ALT increased, and dyspnea³⁹</p>
Risperidone (Risperdal[®]): Usual oral immediate release dosage range for schizophrenia 2-8mg/day in divided doses Risperdal[®] Consta[®] 25-50mg 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; 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 associated with dementia^{33,44} Obsessive-compulsive disorder-adjunct therapy³³ Post-traumatic stress disorder^{33,45} Delirium in the critically ill patient⁴⁵ Major depressive disorder⁴⁵ 	<p>BBW: Increased mortality in elderly patients with dementia-related psychosis⁴⁵</p> <p>Neuroleptic malignant syndrome, tardive dyskinesia, metabolic changes, orthostatic hypotension, common adverse reactions in clinical trials (\geq 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 rash⁴³</p>
Ziprasidone (Geodon[®]): Usual oral dosage range 40-160mg/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 associated with dementia⁴⁷ Autism⁴⁸ Tourette's syndrome⁴⁸ Major depressive disorder⁴⁷ 	<p>BBW: Increased mortality in elderly patients with dementia-related psychosis⁴⁷</p> <p>Neuroleptic malignant syndrome, tardive dyskinesia, hyperglycemia and diabetes mellitus, rash, commonly observed adverse reactions (incidence \geq 5% and at least twice placebo):</p> <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, and headache⁴⁶

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Monitoring Guidelines and Adverse Effects

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

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

EPS, extrapyramidal side effects; relative side-effect risk: ±, negligible; +, low; ++, moderate; +++, moderately high; +++++, high; ? unknown.

^aSide effects shown are relative risk based on doses within the recommended therapeutic range.

^bIndividual patient risk varies depending on patient-specific factors.

Adapted from: Pharmacotherapy: A Pathophysiologic Approach. DiPiro J., et al. Copyright 2017. Reproduced with permission from McGraw-Hill Companies, Inc. [Sept. 20, 2017].

Antipsychotic agents. In: Lexi-Drugs Online [Internet Database]. Hudson, OH: Lexi-Comp, Inc. Updated 2017 June 20.

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.

Definitions, Warnings and Precautions

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 and 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 Precautions¹

- 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 that 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 or a drug-induced leukopenia/neutropenia should have their complete blood count 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.

Boxed Warning²

This type of warning is also called the Black Box Warning (BBW) and alerts to serious or life-threatening risks with the use of a medication.

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

WARNING³

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.

¹Antipsychotic Agents. In: Facts & Comparisons Online [Internet Database], Indianapolis, IN: Wolters Kluwer Health. Updated 2012 Jan.

²U.S. Food and Drug Administration; Consumer Health Information; A Guide to Drug Safety Terms at FDA; November 2012

³Center for Drug Evaluation and Research; Approval Package for Zyprexa/Olnzapine; Eli Lilly; Approved Aug. 14, 2008.

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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, DFMC and TMF are not responsible for any omissions or errors. This document is not intended to override a clinician's judgment in individual patient management.



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