



Geodon (ziprasidone)

Generic name: Ziprasidone

Available strengths: 20 mg, 40 mg, 60 mg, 80 mg capsules;
20 mg/vial injection

Available in generic: No

Drug class: Second-generation antipsychotic

General Information

Geodon (ziprasidone) is a **serotonin and dopamine antagonist** belonging to the class of second-generation antipsychotics that are often called *atypical* antipsychotics. (Refer to the handout on “Second-Generation Antipsychotics” for an explanation of how these antipsychotics work.) These agents are atypical in that they are significantly different, both in structure and pharmacology, from the older, *typical* antipsychotics medications such as Thorazine (chlorpromazine), Mellaril (thioridazine), and Haldol (haloperidol). The second-generation antipsychotics block both serotonin and dopamine receptors, whereas the typical antipsychotics are mainly dopamine-receptor antagonists.

The U.S. Food and Drug Administration approved Geodon for the treatment of schizophrenia and acute mania in bipolar disorder. The use of a medication for its approved indications is called its *labeled use*. In clinical practice, however, physicians often prescribe medications for *unlabeled* (“off-label”) uses when published clinical studies, case reports, or their own clinical experiences support the efficacy and safety of those treatments. Like other second-generation antipsychotics, Geodon is used to treat a variety of psychiatric disorders, including schizoaffective disorder, psychotic depression, severe obsessive-compulsive disorder, and psychosis in Alzheimer’s disease and other neuropsychiatric disorders.

Dosing Information

The recommended starting dosage for Geodon is 20–40 mg twice a day. The target dosage is between 120 mg/day and 160 mg/day, taken in divided doses twice a day. The usual maximum dosage is 160 mg/day. Geodon should be taken with meals to enhance absorption of the medication from the stomach into the bloodstream.

Geodon is also available in an injectable preparation, given intramuscularly, for the treatment of acute agitation.

Common Side Effects

Common side effects of Geodon are drowsiness, dizziness, indigestion, and constipation. Geodon is not associated with any significant weight gain and is notable among the second-generation antipsychotic agents (similar to Abilify) for its low propensity to affect weight.

There is a very low incidence of **extrapyramidal symptoms** (EPS) from Geodon. EPS are neurological disturbances produced by antipsychotics (or other causes) in the area of the brain that controls motor coordination. These side effects include muscle rigidity, tremors, drooling, restlessness, a “mask-like” facial expression, shuffling gait, and muscle spasms that result in abnormal posture (**dystonia**). EPS mimic Parkinson’s disease, and many of the signs and symptoms are common in both conditions. Some patients experience **akathisia**, which is a subjective sense of restlessness accompanied by fidgeting and inability to sit or stand still. EPS may be managed by decreasing the antipsychotic dosage or adding another medication (anticholinergic medication) to counteract the side effect.

Geodon may block a compensatory response—the narrowing of blood vessels—that counterbalances postural change, resulting in a momentary drop in blood pressure when the person rises too rapidly, which may cause dizziness and lightheadedness. This reaction is known as **orthostatic hypotension**. Patients, especially seniors and those taking antihypertensive medications, need to be cautious and rise slowly to allow their body to adjust to the change in position, avoiding a sudden drop in their blood pressure.

Adverse Reactions and Precautions

Geodon may cause drowsiness and dizziness and impair physical coordination and mental alertness. Patients should avoid potentially dangerous activities, such as driving a car or operating machinery, until they are sure that these side effects will not affect their ability to perform these tasks.

Tardive dyskinesia (TD) is a potential adverse reaction from antipsychotic medications. It consists of abnormal involuntary movements. It is a potentially irreversible condition that includes “pill-rolling” movements of the fingers, darting and writhing movements of the tongue, lip puckering, facial grimacing, and shoulder or neck movements. The risk of TD is believed to increase as the duration of treatment and the total cumulative amount of antipsychotic medications prescribed to the patient increases. The risk of TD associated with second-generation antipsychotics is significantly lower than with conventional antipsychotics.

Neuroleptic malignant syndrome (NMS) is a rare, toxic reaction to antipsychotics, including Geodon. The symptoms are severe muscle stiffness, rigidity, elevated body temperature, increased heart rate and blood pressure, irregular pulse, and sweating. NMS may lead to delirium and coma. It can be fatal if medical intervention is not immediately provided. There are no tests to predict whether an individual may be susceptible to developing NMS when exposed to an antipsychotic. Thus NMS must be recognized early because it is a medical emergency that requires immediate discontinuation of the antipsychotic, hospitalization, and intensive medical treatment.

Geodon may **slow electrical conduction in heart tissues** (myocardium). In earlier clinical studies, some patients showed on **electrocardiogram** (ECG) a prolongation of the electrical impulse as it traveled in the myocardium. This abnormal ECG finding, called *QTc prolongation*, may signal a potential for irregular heart-beat (arrhythmia). However, since the launch of Geodon in 2001 in the United States and from wider experience, physicians are more comfortable prescribing Geodon. The abnormal ECG finding associated with Geodon may not be clinically significant after all. However, patients who have a history of arrhythmia should have ECGs before starting Geodon and periodically during treatment to monitor any potential cardiac effect.

Use in Pregnancy and Breastfeeding: Pregnancy Category C

Geodon has not been tested in women to determine its safety in pregnancy. The effects of the medication on the developing fetus in pregnant women are unknown. In animal studies, there was no evidence of harm to the fetus when exposed to Geodon. Animal studies, however, are not always predictive of effects in humans. Women who are pregnant or may become pregnant should discuss this with their physician. Some women may experience a recurrence of their psychosis when they stop Geodon. In these circumstances, the physician may discuss the need to restart the medication or seek an alternative medication or treatment.

Nursing mothers should not take Geodon, because small amounts will pass into breast milk and be ingested by the baby. If stopping the antipsychotic is not an alternative, breastfeeding should not be started or should be discontinued.

Possible Drug Interactions

Some medications when taken with Geodon may result in drug interactions that alter their levels, which may produce undesired reactions. The possible drug interactions with Geodon are summarized in the table below.

Antihypertensive medications	Antihypertensive medications, such as Catapres (clonidine) and Inderal (propranolol), may increase the risk for orthostatic hypotension.
Nizoral (ketoconazole), Diflucan (fluconazole), and Sporanox (itraconazole)	These antifungal agents may decrease the metabolism of Geodon and cause increased Geodon blood levels, thus increasing the likelihood of unwanted side effects.
Tegretol (carbamazepine) and Dilantin (phenytoin)	Tegretol and Dilantin may decrease the blood levels of Geodon, making it less effective in treating the symptoms of the illness.
Central nervous system depressants	Sedating medications, such as barbiturates, benzodiazepines (e.g., Valium), narcotic analgesics, and antihistamines may exaggerate the sedative effect when combined with Geodon.

Patients taking Geodon should not consume alcohol because the combination may impair thinking, judgment, and coordination.

Overdose

The most common signs of Geodon overdose include extreme sedation, orthostatic hypotension, confusion, rapid and irregular heart rate, muscle rigidity, and seizures. The outcome depends on the amount ingested and whether Geodon was combined with other medications.

Any suspected overdose should be treated as an emergency. The person should be taken to the emergency department for observation and treatment. The prescription bottle of medication (and any other medication suspected in the overdose) should be brought as well, because the information on the prescription label can be helpful to the treating physician in determining the number of pills ingested.

