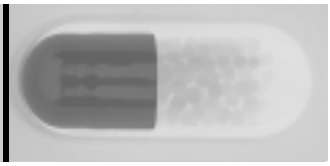

Risperdal, Risperdal M-Tab, and Risperdal Consta (risperidone)

Generic name: Risperidone
Available strengths: 0.25 mg, 0.5 mg, 1 mg, 2 mg, 3 mg, 4 mg tablets;
0.5 mg, 1 mg, 2 mg, 3 mg, 4 mg rapid-disintegrating tablets (Risperdal M-Tab); 1 mg/mL oral solution;
25 mg, 37.5 mg, 50 mg long-acting injection (Risperdal Consta)
Available in generic: Yes, but only the tablets
Drug class: Second-generation antipsychotic

General Information

Risperdal (risperidone) is one of the second-generation antipsychotic medications, which are also called *atypical* antipsychotics. (Refer to the handout "Second-Generation Antipsychotics" for an explanation of how these antipsychotics work.) Risperdal is atypical in that it is significantly different, both in structure and in overall activity, from the earlier, *typical* antipsychotic medications such as chlorpromazine, thioridazine, and Haldol (haloperidol). The second-generation antipsychotics have a wider spectrum of activity, with fewer side effects associated with movement disorders, than the typical antipsychotics. The second-generation antipsychotics block both serotonin and dopamine receptors, whereas the typical antipsychotics are mainly dopamine-receptor antagonists.

When first marketed in the United States in 1993, Risperdal was approved only for treatment of schizophrenia in adults. Subsequently, clinical studies showed that Risperdal, like many of the other atypical antipsychotics, is effective for treating acute mania in bipolar disorder, and the U.S. Food and Drug Administration (FDA) approved Risperdal for this use. In 2007, the FDA expanded the use of Risperdal to include treatment of schizophrenia in adults and in adolescents 13–17 years of age; short-term treatment of acute mania or mixed episodes in bipolar disorder in adults and in pediatric patients 10–17 years of age; and treatment of irritability associated with autistic disorder, including symptoms of aggression, self-injurious behavior, and uncontrollable temper tantrums.

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") use when published clinical studies, case reports, or their own clinical experiences support the efficacy and safety of those treatments. Like other second-generation antipsychotics, Risperdal may be used to treat other psychiatric disorders, including psychotic depression, Tourette's syndrome (a chronic tic disorder), and obsessive-compulsive disorder.

Dosing Information

The new dosage guidelines for Risperdal, reflecting recent changes by the FDA, are as follows:

Indication–age group	Initial dosage (mg/day)	Increasing by	Target dosage (mg/day)	Effective dosage range (mg/day)
Schizophrenia—adults	2	1–2 mg daily	4–8	4–16
Schizophrenia—adolescents ages 13–17 years	0.5	0.5–1 mg daily	3	1–6
Bipolar mania—adults	2–3	1 mg daily	1–6	1–6
Bipolar mania—children and adolescents ages 10–17 years	0.5	0.5–1 mg daily	2.5	0.5–6
Irritability associated with autistic disorder	0.25 (<20 kg) 0.5 (≥20 kg)	0.25–0.5 mg daily after 2 weeks	0.5 (<20 kg) 1 (≥20 kg)	0.5–3

Source. Risperdal [package insert]. Janssen Pharmaceutica Products, L.P., August 2007.

Risperdal comes in a rapid-disintegrating tablet form (Risperdal M-Tab), which dissolves in the mouth. It also comes in a solution that can be mixed in water or other liquids, but it is not compatible with tea or cola.

Risperdal Consta is a long-acting injectable form of Risperdal. The recommended starting dosage is 25 mg every 2 weeks. It takes about 3 weeks for Risperdal Consta to build up adequate blood levels, thus oral Risperdal or another antipsychotic medication must be continued for 3 weeks after the first dose of Risperdal Consta is given in order to prevent worsening of symptoms. Most patients' symptoms respond to 25 mg given every 2 weeks. If symptoms do not respond to 25 mg, a higher dosage of 37.5 or 50 mg every 2 weeks may be needed. The dosage should not exceed the maximum of 50 mg every 2 weeks.

Common Side Effects

At lower doses, Risperdal is generally well tolerated. Common side effects include sedation, dizziness, headache, nausea, vomiting, constipation, insomnia, and agitation. There is a higher incidence of **extrapyramidal symptoms** (EPS) when the dosage of Risperdal exceeds 6 mg/day. 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.

Generally, Risperdal does not induce significant weight gain as compared with some other antipsychotics. Control of weight can usually be managed by diet and exercise without stopping Risperdal.

Risperdal 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 the body to adjust to the change in position, avoiding a sudden drop in blood pressure.

Adverse Reactions and Precautions

Risperdal may cause drowsiness and sedation 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 is characterized by late-onset abnormal involuntary movements. TD is a potentially irreversible condition that commonly includes "pill-rolling" movements of the fingers, darting and writhing movements of the tongue, lip puckering, facial grimacing, and other irregular 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 increase. 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. The symptoms are severe muscle stiffness, rigidity, elevated body temperature, increased heart rate and blood pressure, irregular pulse, and profuse 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 is 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.

Risperdal and other second-generation antipsychotics are associated with abnormalities in glucose regulation. Risperdal may elevate blood glucose levels (**hyperglycemia**) and in some cases cause **diabetes mellitus.** While glucose abnormalities and diabetes are sometimes related to weight gain, these conditions may occur in patients without significant weight gain. Patients who have excessive weight gain are more susceptible to the medication's negative impact on blood sugar and cholesterol. The FDA has required a warning of hyperglycemia and diabetes mellitus with use of Risperdal and other second-generation antipsychotics in their labeling. Patients receiving Risperdal, especially those with a family history or an established diagnosis of diabetes, should be aware of this adverse reaction and should routinely monitor glucose levels while taking Risperdal.

In elderly patients with dementia who are treated with a second-generation antipsychotic, including Risperdal, there is an increased risk of death. The data from clinical studies show a higher risk in elderly patients with dementia treated with second-generation antipsychotics than with placebo-treated patients (i.e., patients taking a sugar pill). It is unclear why these medications have a higher risk in this group. Even though the risk is very low, the FDA requires Risperdal to have in its package insert a warning about the associated risk in this population of taking an atypical antipsychotic medication.

With an indication for treatment of acute mania in bipolar disorder, Risperdal must have in its labeling a warning of suicide risk associated with antidepressant medications. In short-term studies, antidepressants were found to increase the risk of suicidal thinking and behavior in children and adolescents with major depression and other psychiatric disorders. On the basis of these findings, the FDA requires a warning in the package insert that the prescriber be aware of the suicide risks in their patients who are starting antidepressant therapy, especially in the pediatric population. According to the FDA findings, the risk of suicidal thoughts and behaviors associated with antidepressants is age-related. This phenomenon tends to occur in the younger population and is most likely to occur early in the course of treatment. In adults over 24 years of age, there did not appear to be an increased risk of suicidality with antidepressants compared with placebo. In patients over age 65, the findings showed that antidepressants had a "protective effect" against suicidal thoughts and behavior.

After starting or changing antidepressant therapy, the patient, especially a child or adolescent, should be closely observed for worsening signs of depression.

Use in Pregnancy and Breastfeeding: Pregnancy Category C

Risperdal 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 may be effects on the development of the fetus, but there are not adequate and well-controlled studies in humans. Animal studies are not always predictive of effects in humans. Therefore, the use of Risperdal in pregnant woman must always be weighed against the potential risks. 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 Risperdal. 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 Risperdal, 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 Risperdal may result in drug interactions that alter their levels, which may produce undesired reactions. The possible drug interactions with Risperdal are summarized in the table below.

Selective serotonin reuptake inhibitors (SSRIs)	Prozac, Paxil, and other SSRI antidepressants may decrease the metabolism of Risperdal, thus increasing Risperdal blood levels and the likelihood of unwanted side effects.
Nizoral (ketoconazole), Diflucan (fluconazole), and Sporanox (itraconazole)	These antifungal agents may decrease the metabolism of Risperdal, thus increasing Risperdal blood levels and the likelihood of unwanted side effects.
Tegretol (carbamazepine)	Tegretol may decrease the blood levels of Risperdal, making it less effective in treating the symptoms of the illness.

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

Overdose

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

Any suspected overdose should be treated as an emergency. The person should be taken to the emergency room 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.

Special Considerations

- Do not discontinue Risperdal without consulting your physician.
- If you miss a dose, take it as soon as possible that day. If it is close to the next schedule dose, skip the missed dose and continue on your regular dosing schedule. Do not take double doses.
- Risperdal may be taken with or without food.
- Risperdal may cause sedation and drowsiness, especially during initiation of therapy, and may impair your alertness. Use caution when driving or performing tasks that require alertness.
- Store the medication in its originally labeled, light-resistant container, away from heat and moisture. Heat and moisture may precipitate breakdown of your medication, and the medication may lose its therapeutic effects.
- Keep your medication out of reach of children.

If you have any questions about your medication, consult your physician or pharmacist.

Notes

From Chew RH, Hales RE, Yudofsky SC: *What Your Patients Need to Know About Psychiatric Medications*, Second Edition. Washington, DC, American Psychiatric Publishing, 2009