**carbidopa-levodopa-entacapone**  
**Stalevo**

**Pharmacologic class:** Dopamine agonist  
**Therapeutic class:** Antiparkinsonian  
**Pregnancy risk category C**

**Availability**  
*Tablets:* 12.5 mg carbidopa/50 mg levodopa/200 mg entacapone; 25 mg carbidopa/100 mg levodopa/200 mg entacapone; 37.5 mg carbidopa/150 mg levodopa/200 mg entacapone

**Action**  
After conversion to dopamine in CNS, levodopa acts as a neurotransmitter, relieving symptoms of Parkinson's disease. Carbidopa prevents peripheral destruction of levodopa, making more levodopa available to be decarboxylated to dopamine in the brain. Entacapone increases levodopa blood level by more than 30% and prolongs levodopa's effects.

**Indications and dosages**

- Idiopathic Parkinson's disease, postencephalitic parkinsonism, and symptomatic parkinsonism resulting from carbon monoxide or manganese intoxication (drug-induced extrapyramidal effects)

**Adults:** Optimal daily dosage determined by careful individual titration. Target carbidopa dosage is 70 mg to 100 mg P.O. daily, not to exceed 200 mg; maximum entacapone dosage is 1,600 mg P.O. daily. Patients should receive no more than eight tablets daily.

**Contraindications**

- Hypersensitivity to drug

- Malignant melanoma (or history of this disease)
- Monoamine oxidase (MAO) inhibitor use within 14 days
- Narrow-angle glaucoma
- Undiagnosed skin lesions
- Breastfeeding

**Administration**

- Give with meals if GI upset occurs.
- Don’t crush or break tablets.

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<thead>
<tr>
<th>Route</th>
<th>Onset</th>
<th>Peak</th>
<th>Duration</th>
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<tr>
<td>P.O.</td>
<td>Unknown</td>
<td>2-3 hr</td>
<td>12 hr</td>
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**Adverse reactions**

**CNS:** involuntary movements, anxiety, dizziness, hallucinations, memory loss, psychiatric problems, increased hand tremor, headache, numbness, weakness, confusion, insomnia, nightmares, delusions, psychotic changes, depression, dementia, bradykinesia

**CV:** cardiac irregularities, palpitations, orthostatic hypotension, **arrhythmias**

**EENT:** blurred vision, mydriasis, diplopia, blepharospasm, sialorrhea, trismus

**GI:** nausea, vomiting, diarrhea, constipation, abdominal pain, dysphagia, burning sensation, flatulence, anorexia, upper GI hemorrhage

**GU:** urinary retention, urinary incontinence, dark urine, elevated blood urea nitrogen

**Hematologic:** hemolytic anemia, leukopenia

**Hepatic:** hepatotoxicity, elevated alanine aminotransferase (ALT), alkaline phosphatase (ALP), aspartame aminotransferase (AST), bilirubin, and lactate dehydrogenase (LD) levels

**Metabolic:** elevated protein-bound iodine level

**Musculoskeletal:** muscle twitching

**Respiratory:** hiccups, hyperventilation, pulmonary infiltrates

**Skin:** melanoma, rash

**Other:** weight changes, darkened sweat, flushing, hot flashes

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Canada  
Clinical alert  
Reactions in **bold** are life-threatening
Interactions

Drug-drug. Ampicillin, chloramphenicol, cholestyramine, erythromycin, probenecid, rifampin: interference with biliary excretion, additive increase in entacapone blood level
Anticholinergics: decreased levodopa absorption
Antihypertensives: additive hypotension
Haloperidol, papaverine, phenothiazines, phenytoin, reserpine: reversal of levodopa effects

Inhalation hydrocarbon anesthetics: increased risk of arrhythmias
MAO inhibitors: severe hypertension
Methyldopa: altered levodopa efficacy, increased risk of CNS adverse effects
Pyridoxine: antagonism of beneficial effects of levodopa

Drug-diagnostic tests. ALP, ALT, AST, LD, bilirubin, uric acid: increased levels
Coombs’ test: false-positive results
Granulocytes, hemoglobin, platelets, white blood cells: decreased values
Urine tests for glucose or ketones: test interference

Drug-food. Foods high in pyridoxine: reversal of levodopa effects

Drug-herb. Kava: decreased levodopa efficacy
Octacosanol: worsening of dyskinesia

Precautions

Use cautiously in:
• biliary obstruction, renal disease, cerebrovascular disease, endocrine disorders, hepatic impairment, psychiatric disorders
• history of cardiac disease or GI ulcers
• pregnant patients
• children younger than age 18 (safety not established).

Patient monitoring

Monitor closely for mental changes, especially psychosis and depression. Report suicidal ideation immediately.

• Assess neurologic status closely to evaluate drug efficacy and identify adverse effects.
• Monitor complete blood count with white cell differential; also monitor liver function test results.
• Evaluate vital signs; watch for arrhythmias, orthostatic hypotension, and respiratory problems.
• Assess fluid intake and output; check for urinary problems.

Patient teaching

• Explain to patient or caregiver that drug may cause significant neurologic effects.
• Instruct patient or caregiver to report anxiety, dizziness, hallucinations, memory loss, increased hand tremor, headache, confusion, nightmares, and depression.
• Teach patient or caregiver about recommended home modifications and other safety measures to reduce risk of injury.
• Advise patient to rise slowly and carefully; drug may cause temporary blood pressure drop if he stands up suddenly.
• Instruct patient to avoid hazardous activities until disease is well controlled and he knows how drug affects concentration, alertness, vision, and motor function.
• Teach patient to minimize GI upset by eating small, frequent servings of healthy food and ensuring adequate fluid intake.
• Tell patient that he’ll undergo regular blood testing while taking this drug.