

## Levodopa/Carbidopa (Sinemet)

Levodopa/carbidopa, which is sometimes referred to as levocarb or sinemet, is a combination drug used to treat Parkinson's disease. This drug works by increasing dopamine delivery in the brain. Levodopa, or L-dopa, readily crosses the blood-brain barrier, and is converted to dopamine centrally. Carbidopa inhibits DOPA decarboxylase, and protects L-dopa from being broken into dopamine peripherally and in the gut. A side effect of this drug is arrhythmia, which occurs from peripheral conversion of the drug into catecholamines. Dyskinesia, which is a distortion or difficulty with voluntary movement, may occur with long term use of this drug.



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### Indications

#### Parkinson's Disease

##### [Park-in-sun garage](#)

Levodopa/carbidopa is indicated to treat Parkinson's disease. Parkinson's is a degenerative disorder of the central nervous system with prominent motor symptoms. Patients' symptoms result from decreased circulating dopamine levels, due to substantia nigra destruction.

### Mechanism of Action

#### Increase Dopamine in Brain

##### [Up-arrow Doberman with Brain](#)

This drug increases dopamine availability in the brain. L-dopa (levodopa), crosses the blood brain barrier and is converted to dopamine centrally.

#### Cross blood-brain barrier

##### [Crossing Blood Brain Barrier](#)

L-dopa (levodopa) is combined with carbidopa, which is an inhibitor of DOPA decarboxylase. By combining L-dopa with carbidopa, it is protected from being peripherally converted into dopamine. L-dopa readily crosses the blood brain barrier, where it can then be broken down.

#### Increase bioavailability

##### [Up-arrow Bio-cans](#)

Carbidopa prevents peripheral conversion of L-dopa (levodopa) to dopamine in the periphery and gut, increasing its availability for transport to the CNS.

### Side Effects

#### Arrhythmias

##### [Broken Arrhythmia-drum](#)

Though very rare, side effects of this medication include arrhythmias and tachyarrhythmias from peripheral catecholamines being formed. This, however, is usually mitigated by carbidopa blocking peripheral conversion of dopamines.

#### Dyskinesia

##### [Disc-kite](#)

Long term use of these medications can lead to dyskinesia, which is a distortion or difficulty of voluntary movements.