

## Lamotrigine

Lamotrigine is an anticonvulsant medication used to treat simple and complex partial seizures, as well as generalized tonic-clonic seizures. This drug has mood stabilizing properties, as it is also approved for use as a maintenance therapy in bipolar type I disorder. Off label indications for lamotrigine include neuropathies, migraine and personality disorders. These drugs work by blocking voltage-sensitive  $\text{Na}^+$  channels, thereby stabilizing neuronal membranes, and consequently modulating presynaptic transmitter release of glutamate and aspartate, which are excitatory amino acids (glutamate is a precursor to GABA). Lamotrigine use is associated with Stevens-Johnson syndrome, which is a severe, life-threatening drug reaction characterized by hypersensitivity complexes, leading to skin and mucous membrane desquamation.



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### Indications

#### Seizure Treatment

##### Caesar

Lamotrigine is indicated to treat simple and complex partial seizures, as well as generalized tonic-clonic seizures.

#### Bipolar Disorder

##### Bi-polar-bear

Lamotrigine acts as a mood stabilizer and is approved for use as a maintenance agent for Bipolar Type I disorder.

### Mechanism of Action

#### Blocks Voltage-Gated $\text{Na}^+$ Channels

##### Block-guy-blocking Electric-gate Salt-shaker Channel

This drug blocks voltage-sensitive  $\text{Na}^+$  channels, thereby stabilizing neuronal membranes and consequently modulating presynaptic transmitter release of glutamate and aspartate, which are excitatory amino acids.

### Side Effect

#### Stevens-Johnson Syndrome

##### Steve-Johns

Lamotrigine can trigger Stevens-Johnson syndrome. Stevens-Johnson syndrome is a life-threatening skin condition, which is a hypersensitivity complex affecting the skin and mucous membranes.