

Topiramate

Topiramate is an epilepsy drug used in the treatment of partial seizures, as well as generalized tonic-clonic seizures. It is most commonly prescribed as a prophylactic measure for migraine prevention. The mechanism by which topiramate acts is not entirely understood, but there are properties of the drug which are thought to add to their effects on migraine and seizure. One of which is that this drug potentiates GABA, augmenting its action on the GABA_A receptor. Another property of Topiramate, possibly mediating its antiepileptic and antimigraine effects, is that it induces a blockage of voltage-gated Na²⁺ channels. Side effects seen in patients taking this medication include kidney stones, weight loss and sedation.



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Indications

Seizure Treatment

Caesar

This drug is an anticonvulsant agent indicated for partial seizures and severe tonic-clonic (grand mal) seizures.

Migraine Prophylaxis

Mind-rain with Purple-axes

Migraine headache prophylaxis is the most prescribed use of Topiramate, due to its effects on blood vessels in the brain.

Mechanism of Action

Increase GABA Action

Up-arrow GABA-goose

While the exact mechanism is still unclear, it is thought that topiramate acts to potentiate GABA action.

Blocks Voltage-Gated Na⁺ Channels

Block-guy blocking Electric-gate Salt-shaker Channel

The exact mechanism of Topiramate is still unclear, although it is thought that its antiepileptic and antimigraine effects may be partially due to a blockage of voltage-gated sodium channels.

Side Effects

Kidney Stones

Kidney-throwing Stones

Kidney stones may occur as a side effect of Topiramate use.

Weight Loss

Skinny-with-baggy-pants

An adverse side effect of Topiramate is weight loss. Recently, however, this drug has been FDA approved to be used for weight loss in obesity when combined with phentermine.

Sedation

[Sedation-dart](#)

The side effect of topiramate most-frequently leading to discontinuation is sedation.