

## Serotonin Norepinephrine Reuptake Inhibitors (SNRIs)

Serotonin Norepinephrine reuptake inhibitors are a class of drug indicated for the use of major depression, diabetic peripheral neuropathy, panic and anxiety. Differing symptoms call for varied SNRI drug therapy. Duloxetine is a drug indicated for diabetic peripheral neuropathy, as well as depression. The drug venlafaxine is indicated to treat panic and anxiety disorders. SNRI drugs work by inhibiting reuptake of the neurotransmitters serotonin and norepinephrine, thus increasing their bioavailability, yielding increased neurotransmission. Side effects of these medications include hypertension and insomnia, which are thought to be associated with increased levels of norepinephrine. The most common side effect of SNRIs is nausea and vomiting, making this the primary reason for non-compliance with this therapy. Many patients complain of decreased libido and anorgasmia with SNRI treatment as well.



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### Indications

#### Depression

[Depressed-emo](#)

This drug is used for its antidepressant properties in patients with major depressive disorder.

#### Diabetic Peripheral Neuropathy

[Dyed-bead-pancreas with Wavy-nerve-arms](#)

The SNRI duloxetine is indicated for diabetic peripheral neuropathy and related neuropathic pain.

#### Duloxetine

[Doll-ox](#)

Duloxetine is used to treat peripheral diabetic neuropathic pain, and can also be used for depression. Other indications for this drug include anxiety, chronic pain and fibromyalgia. This drug has a greater effect on NE reuptake inhibition.

#### Panic and Anxiety

[Panic-button and Anxiety-bag](#)

Generalized panic and anxiety disorders are indications for use of the SNRI drug, Venlafaxine.

#### Venlafaxine

[Vanilla-fax](#)

Venlafaxine is a medication that works on serotonergic and noradrenergic receptors, when administered at moderate doses, to help treat anxiety and panic disorders.

### Mechanism of Action

#### Inhibits Reuptake of Serotonin and NE

[Inhibit-chains on Silver-tonic and North-epi-pen Reuptake-tube](#)

The mechanism by which SNRIs work by inhibiting the reuptake of the neurotransmitters serotonin and norepinephrine. This leads to an increase in neurotransmission by increasing the availability of extracellular concentrations of serotonin and norepinephrine.

## Side Effects

### Hypertension

[Hiker-BP](#)

Hypertension is a side effect of SNRIs, which is attributed to the increased circulating amounts of NE.

### Insomnia

[Taped-awake-insomniac](#)

The side effect of SNRI associated insomnia is believed to be caused by increased circulating NE.

### Nausea and Vomiting

[Vomiting](#)

Nausea and vomiting are typically the most common side effects related to SNRI therapy.

### Decreased Libido

[Down-arrow Libido-limbo](#)

Patients commonly complain of decreased sexual desire (decreased libido), as well as an inability to reach sexual climax (anorgasmia).