

## Vitamin B3 - Niacin (Nicotinic Acid)

Niacin (nicotinic acid) plays a role as both a vitamin and a medicine. As a medicine, nicotinic acid works to decrease triglycerides and low-density lipoproteins (LDL) while also increasing high-density lipoproteins (HDL). As a vitamin, niacin is only indicated to treat nicotinic acid deficiency. Niacin (nicotinic acid) can be used to treat dyslipidemia, pellagra, dermatitis, diarrhea, and dementia. Side effects include flushing, GI distress and liver toxicity.



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### Mechanism

#### Decreases Triglycerides

[Down-arrow Triceratops](#)

Niacin interferes with triglyceride production in the liver, causing triglyceride levels to decrease within the first four days of drug therapy.

#### Decreases LDL

[Down-arrow Ladybug-devil](#)

Because Niacin interferes with triglyceride production in the liver, production of very low-density lipoproteins (VLDL) also decreases. LDLs are by-products of VLDLs; therefore, LDL levels will also begin to decrease after three to five weeks of taking niacin.

#### Increases HDL

[Up-arrow Hot-dog-angel](#)

Niacin works to increase HDL levels, also known as "good cholesterol." The mechanism of action is unclear.

### Indications

#### Dyslipidemia

[Disc-lips](#)

Elevated cholesterol and/or triglyceride levels, also called dyslipidemia, can be treated using high doses of niacin.

#### Pellagra

[Pelican](#)

Niacin deficiency, also called pellagra, is a vitamin deficiency that can lead to rough skin or photosensitive dermatitis. Patients with this condition may experience scaling or cracking of the skin, diarrhea, memory loss, dementia, and possibly death.

#### Diarrhea

[Toilet](#)

Gastrointestinal complications, such as diarrhea and abdominal pain may also occur in patients with pellagra.

## **Dermatitis**

### [Dermatologist Examining Rash](#)

Patients with pellagra develop dermatitis, and may notice scaling or cracking of the skin, especially in areas that are exposed to sunlight.

## **Dementia**

### [Demented-D-man](#)

Niacin deficiency can have a negative effect on the central nervous system, causing symptoms such as irritability, insomnia, memory loss, and dementia.

## **Side Effects**

### **Flushing**

#### [Flashlight](#)

In high doses, nicotinic acid can cause vasodilation that leads to flushing or reddening of the skin. This side effect can be prevented by taking aspirin before taking niacin or taking an extended-release form of the niacin.

### **GI Distress**

#### [GI with Flare-gun](#)

Gastrointestinal complications such as diarrhea and abdominal pain can be a side effect of niacin therapy.

### **Hepatotoxicity**

#### [Liver with Toxic-green-glow](#)

Niacin may cause liver toxicity. Patients should have their liver enzyme levels checked before and during niacin therapy to monitor for toxicity.