

# Is a Niacin Flush Dangerous?

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## STORY AT-A-GLANCE

- › Niacin (vitamin B3) deficiency, called pellagra, is characterized by diarrhea, mental confusion and scaly skin sores; it is often confined to people who have problems absorbing the vitamin from food
- › Niacin flush, a common side effect in doses 100 mg and above, is harmless; it starts on your face and may travel to your chest and arms, disappearing after 30 minutes to two hours
- › Niacin has significant side effects when taken consistently, but may be used safely once or twice weekly in combination with exercise and sauna to detoxify your body during weight loss

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Niacin, or vitamin B3, is important to your overall good health. Vitamin B3 deficiency may result in a condition called pellagra, characterized by mental confusion, diarrhea and scaly skin sores. Deficiencies, however, are rare and often confined to people with trouble absorbing the vitamin from their food.<sup>1</sup>

The vitamin is water soluble, so it is not stored in the body but eliminated through the kidneys. This means you need a steady supply from your diet. Niacin is found in many foods commonly found in an everyday diet, such as chicken, eggs, legumes (peanuts), milk and rice.<sup>2</sup>

The vitamin helps convert carbohydrates into glucose and is part of the process in making several sex and stress-related hormones.<sup>3</sup> You can meet your daily requirements for niacin through dietary intake.

It is rare to develop a deficiency unless you also suffer from an underlying medical condition that reduces your absorption in the gastrointestinal tract, such as alcoholism. Niacin is available as a supplement, but comes with several potential side effects, especially when taken in large doses. One of those side effects is commonly known as a niacin flush.

## **How a Niacin Flush Develops**

A niacin flush is the most common immediate side effect of taking a supplemental form of the vitamin in a large enough dose. Most people use the niacin form to help reduce cholesterol levels. Another form, niacinamide, does not produce the flushing side effect, but neither does it have an effect on cholesterol levels.<sup>4</sup>

The flushing effect is not triggered by eating foods high in niacin or vitamin B3. Symptoms begin with a burning or tingling sensation in the chest, neck and face. The skin takes on a flushed or red appearance.<sup>5</sup> Your skin may also feel warm to the touch.

As little as a 50 milligram (mg) supplement may trigger a niacin flush reaction. Niacin triggers the blood vessels near the surface of the skin to dilate, causing the tingling sensation and appearance. You may build a tolerance to the vitamin over time, which reduces the flushing effect. Some researchers believe everyone using niacin will experience a flush.<sup>6</sup> While irritating, and sometimes alarming if you don't expect the side effect, a niacin flush is nonetheless harmless.

Taking a time-released version of the supplement, taking it with meals or drinking plenty of fluid with the supplement have all been found to reduce the flushing effect as your body builds tolerance. It may also be helpful to begin taking smaller doses of the supplement throughout the day to reduce the effect. Taking niacin may trigger an upset stomach, nausea or diarrhea. These effects also often diminish over time.<sup>7</sup>

## Reduce Your Risk of Niacin Flush

The flush that accompanies niacin supplementation may appear as a blotchy red appearance on your neck and face.<sup>8</sup> The color and tingling sensation may gradually move down your body, usually stopping at your chest and arms. This flush is harmless, without any ill effects other than an irritating and tingling sensation.

A niacin flush may last between 10 and 30 minutes, depending upon the severity of the reaction and the amount of niacin you took. In some cases it may last up to two hours. There are several strategies you may try to reduce the potential you'll experience this side effect. Taking a cold shower during the flush may help reduce the symptoms as they subside.

Researchers have found that up to 50% of people taking the immediate-release formula of niacin will experience a flush reaction. Switching to a time-release formula may reduce this risk, and may reduce the severity if it occurs.<sup>9,10</sup> The flush occurs because niacin at higher doses increases the use of methyl groups and this releases histamine. You can prevent this effect by taking methyl donors like TMG, trimethylglycine.

Starting with smaller doses and slowly increasing the amount of niacin you take daily may help to bypass the side effect of a niacin flush altogether.<sup>11</sup> Taking your niacin with food may lengthen the amount of time it takes to be fully absorbed and has also been found to reduce the side effect.

Drinking additional clean, filtered water may help to reduce the niacin flush and will also help support your overall hydration and removal of toxins. Although there has been some research to suggest taking an aspirin 30 minutes prior to taking the niacin supplement will reduce the niacin flush, I recommend trying food, fluids and an extended release formula first.

There is a form of niacin advertised as "no-flush," which contains inositol nicotinate. However, there is little evidence that it provides you with as much niacin and likely explains why the formula doesn't produce a flushing effect.<sup>12</sup>

## **Long-Term Use of Sustained Release Niacin Supplements Is Dangerous**

While the niacin flush is harmless, long-term use of niacin does have significant side effects that may be dangerous. The sustained release form of niacin may be hepatotoxic, causing irreparable damage to your liver. However non-sustained release forms do not cause this problem and are safe.<sup>13</sup>

Research also finds long-term use of niacin, prescribed for nearly 50 years at high doses to reduce cholesterol levels, has been linked with an increased risk of death and no association with a reduction in heart attacks or strokes.<sup>14</sup> While high doses have been found to reduce cholesterol, an increase in cholesterol is not the causative factor behind heart attack and stroke.<sup>15,16</sup>

The increased risks in study participants associated with high doses of niacin included excessive bleeding, gout, development of diabetes in those who didn't have it when the study began, liver problems, excessive infections and loss of blood sugar control in diabetics.<sup>17</sup>

Macular edema has also been noted in people using niacin in doses more than 1500 mg per day.<sup>18</sup> The effect of maculopathy occurred from one to 36 months after high-dose niacin was initiated. Cystoid macular edema causes painless vision loss, resulting in blindness. It has also been noted in patients taking lower doses of niacin.<sup>19</sup> In one study, the effects of maculopathy reversed when the supplement was discontinued.<sup>20</sup>

## **Weight Management May Increase Your Toxic Load**

In this short interview with Dr. George W. Yu, we discuss how weight loss mobilizes greater amounts of toxins as they are released from fat cells, which then need to be removed from your body to reduce potential health problems.

Your body stores toxins in fat and fatty organs, including your brain. As you lose weight these toxins are freed from fat cells. In a paper published in 1990, Dr. David Root found

fat cells in Yugoslavian capacitor workers contained 140 to 150 times higher levels than their blood.<sup>21</sup>

After a detoxification program, the toxic load decreased by 30%. Another study looked at how science may be able to reduce this number even further. Yu and John Laseter, Ph.D., of Accu-Chem Laboratories, assessed the levels of toxic chemicals in visceral fat. They found the average person likely had more than 500 times higher levels of toxins in their body than what was found in their blood.

Root has extensive experience detoxifying veterans exposed to Agent Orange exposure in Vietnam. In treating the veterans he used niacin to mobilize fat and free up toxic chemicals locked in lipophilic fatty tissues. Yu explains the process:<sup>22</sup>

*"Of course, a lot of substances come out from your body. But the two biggest surface areas are the skin and the GI tract. In our clinic, we started thinking that we have to mobilize it not only from the skin by sweating after we use the niacin, but also using the GI tract to pull it out. One of the things that I want to clarify is that people think detoxification is the process.*

*I think it's actually mobilization of the toxic chemicals, and then having a way to eliminate it and to excrete it out. 'Detoxification' by medical terms is only in the liver. That's very important. But to mobilize things quickly, you have to use this kind of [mobilization and elimination] system."*

## **Simple Detox Program Uses Niacin, Exercise and a Sauna**

A simple way to detoxify your body starts with optimizing your lean body mass. To mobilize the toxins stored in the fat you've lost, Yu recommends using niacin in combination with exercise and sauna therapy. Exercise speeds the number of toxins that are eliminated through the skin. Using a sauna also helps excretion through your pores and may significantly expedite the process.

An infrared sauna heats your tissues several inches deep, enhancing your natural metabolic processes, circulation and tissue oxygenation. Although your skin is a major

organ of elimination, most people don't sweat on a regular basis. Sedentary living, tight fitting clothes and sun damage may reduce your skin's ability to excrete toxins. Repeated sauna use may restore this process.

Additionally, you may consider using activated charcoal and/or zeolite clay, both pull toxins out of your blood through the GI tract. Yu typically recommends 500 mg of charcoal. Just be aware that any medicines or supplements you take in the same hours will also be bound to the charcoal and eliminated from your body, so do not take them together. Yu recommends 100 mg of niacin once or twice weekly, combined with exercise and sauna to detoxify during an active weight loss program.

On the days you take niacin, start exercising 20 minutes after ingestion. Exercise for approximately 20 minutes, ensure you are sweating, and then get into a sauna for up to one hour. The sauna should be at least 130 degrees Fahrenheit. After the sauna you may want to use the activated charcoal or zeolite clay to help eliminate toxins through your GI tract.

While sweating profusely, you will lose minerals and even some vitamins. So, be sure to rehydrate using a fluid rich with electrolytes, magnesium and potassium. Coconut water is excellent for this purpose as it contains natural electrolytes, vitamins, minerals, trace elements, amino acids, enzymes, antioxidants and phytonutrients.

## Sources and References

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