

# NIACIN XR



## CLINICAL APPLICATIONS

- Promotes Healthy Blood Lipid Levels
- Supports Healthy High-Density Lipoprotein (HDL) Levels
- Maintains Healthy Low-Density Lipoprotein (LDL) Levels and Lipid Particle Size
- Maintains Healthy Triglycerides Levels
- Enhances Endothelial Function by Increasing Nitric Oxide Synthase



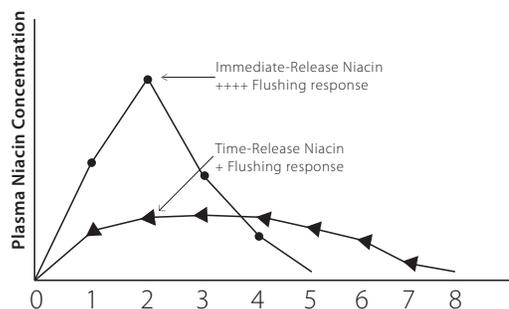
HECTOR LOPEZ D.O.

*Treating patients like family.*

## CARDIOVASCULAR HEALTH

### What is Niacin?

Niacin, also known as vitamin B3, is a micronutrient with a 40-year history of efficacy in supporting healthy lipid levels, especially high-density lipoprotein cholesterol (HDL-C) levels. However, one side effect often makes supplementing niacin a less than pleasurable experience, limiting adherence. Some patients experience flushing when supplementing niacin. However, a properly-manufactured sustained release niacin circumvents this side effect. By using a proprietary, natural wax-matrix coating technology, Ortho Molecular's Time-Release Niacin is released slowly over a seven to eight hour period to reduce flushing. This time period is considered the ideal window for releasing equal amounts of niacin into circulation as nicotinic acid, the beneficial metabolite responsible for niacin's lipid balancing benefits.<sup>[1-2]</sup> In a double-blind placebo-controlled study, this specific form of Time-Released Niacin had only a 5-7 percent flush rate, making it well-tolerated and highly effective for supporting balanced cholesterol levels.



Representative plasma pharmacokinetic profiles of immediate-release vs time-release niacin preparations.

Adapted from Chapman et al. (2010)

### Overview

Niacin is required by the body to promote the health and function of the digestive system, liver, skin and nerves.<sup>[3-4]</sup> It also plays a role in converting food to energy. Niacin is found in dairy products, eggs, grains, as well as fish, lean meats, nuts and legumes. However, it is a water-soluble vitamin, meaning that excess is excreted through the urine and continuous dietary intake is necessary to support optimal health.

Niacin is most notably known for its broad cardiovascular benefits, but is also an important nutrient for bone health, blood sugar balance, as well as cerebrovascular function.<sup>[5-9]</sup> Populations that consume adequate levels of niacin have been shown to have better outcomes for long-term health.<sup>[10]</sup>

### Niacin Depletion<sup>†</sup>

Symptoms of mild deficiency of niacin may include indigestion, fatigue, canker sores, and depression. Niacin deficiency, if left unattended, can negatively affect brain function leading to apathy, fatigue, disorientation and memory loss.

### Cardiovascular Health and Cholesterol Balance<sup>†</sup>

Niacin has been used since the 1950s to maintain healthy balance of cholesterol levels. Since 1978, researchers have labeled niacin a "front-line" nutrient for cardiovascular support.<sup>[11]</sup> The National Cholesterol Education Program (NCEP) panel designated niacin a "first-line therapy" for support of specific parameters related to balancing cholesterol levels in 1988, further emphasizing the micronutrient's safety and importance in cardiovascular health.<sup>[12]</sup> Other studies have shown niacin to enhance long-term cardiovascular health.<sup>[7-10]</sup>

<sup>†</sup>This statement has not been evaluated by the Food and Drug Administration. This product is not intended to treat, diagnose, cure, or prevent any disease.

When taken at doses greater than the RDA, niacin:

- Promotes healthy high-density lipoprotein (HDL) levels already within the normal range by 20-35%. No other nutrient or compound has been shown to be as effective in supporting healthy HDL levels.
- Maintains healthy lipid particle size. Small low-density lipoprotein (small LDL) particles are an important yet underappreciated marker of cardiovascular function. Niacin is the most effective agent known for supporting a normal cholesterol pattern.
- Supports healthy triglycerides levels. Niacin is especially effective when taken with fish oil (at doses of 1500-3000mg of EPA/DHA daily).
- Supports normal very low-density lipoprotein (VLDL) particles.
- Supports healthy lipoprotein(a), or Lp(a) levels. No other treatment approaches the power of niacin to promote healthy Lp(a) levels, which is among the most important markers of heart health.
- Promotes low-density lipoprotein (LDL) balance

Niacin supports lipid balance by blocking the release of fatty acids from fat cells. Fewer fatty acids are passed through to the liver, resulting in fewer VLDL particles. Less VLDL leads to less small LDL and higher HDL. To the benefit of the cardiovascular system, niacin also improves endothelial function and nitric oxide synthase activity which protects blood vessels and promotes healthy circulation.

## Directions

1 tablet three times per day with a meal or as recommended by your health care professional.

## Does Not Contain

Gluten, corn, yeast, artificial colors and flavors.

## Cautions

If you are pregnant or nursing, consult your physician before taking this product. This product is designed to release Niacin over a 6-8 hour period to minimize flushing (Avoiding hot beverages is recommended). A small percentage of people may still experience harmless flushing while taking this product.

Supplement Facts <sup>V1</sup>		
Serving Size 1 Tablet		
Servings Per Container 90		
1 tablet contains	Amount Per Serving	% Daily Value
Time Release Niacin (Niamax™)	500 mg	2,500%

## References

1. Keenan JM, Fontaine PL et al. Niacin revisited. A randomized, controlled trial of wax-matrix sustained-release niacin in hypercholesterolemia. *Arch Intern Med.* 1991 Jul;151(7):1424-32.information.
2. Keenan JM, Bae CY et al. Treatment of hypercholesterolemia: comparison of younger versus older patients using wax-matrix sustained-release niacin. *J Am Geriatr Soc.* 1992; 40(1):12-8.
3. Bissett DL, Oblong JE, Berge CA, et al. Niacinamide: A B vitamin that improves aging facial skin appearance. *Dermatol Surg.* 2005;31:860-865; discussion 865.
4. Benavente CA, Jacobson MK, Jacobson EL. NAD in skin: therapeutic approaches for niacin. *Curr Pharm Des.* 2009;15(1):29-38.
5. Elam M, Hunninghake DB, Davis KB, et al. Effects of niacin on lipid and lipoprotein levels and glycemic control in patients with diabetes and peripheral arterial disease: the ADMIT study: a randomized trial. Arterial Disease Multiple Intervention Trial. *JAMA.* 2000;284:1263-1270.
6. Canner PL, Furberg CD, Terrin ML, McGovern ME. Benefits of niacin by glycemic status in patients with healed myocardial infarction (from the Coronary Drug Project). *Am J Cardiol.* 2005; 95(2):254-7.
7. Guyton JR. Niacin in cardiovascular prevention: mechanisms, efficacy, and safety. *Curr Opin Lipidol.* 2007 Aug;18(4):415-20.
8. McKenney J. New perspectives on the use of niacin in the treatment of lipid disorders. *Arch Intern Med.* 2004 Apr 12;164(7):697-705.
9. Morgan JM, Carey CM, Lincoff A, Capuzzi DM. The effects of niacin on lipoprotein subclass distribution. *Prev Cardiol.* 2004; 7(4):182-7.
10. AIM-HIGH Investigators. The role of niacin in raising high-density lipoprotein cholesterol to reduce cardiovascular events in patients with atherosclerotic cardiovascular disease and optimally treated low-density lipoprotein cholesterol Rationale and study design. The Atherothrombosis Intervention in Metabolic syndrome with low HDL/high triglycerides: Impact on Global Health outcomes (AIM-HIGH). *Am Heart J.* 2011 Mar;161(3):471-477.e2.
11. Kannel WB. Recent findings from the Framingham study—I. *Med Times.* 1978 Apr;106(4):23-27
12. Hulley SB. The US National Cholesterol Education Program. Adult treatment guidelines. *Drugs.* 1988;36 Suppl 3:100-04.

†This statement has not been evaluated by the Food and Drug Administration. This product is not intended to treat, diagnose, cure, or prevent any disease.