

Vitamin B3 (Niacin) Overview

Why We Need It

Vitamin B3, also known as niacin, is an essential water-soluble vitamin crucial for energy metabolism, cellular repair, and maintaining healthy skin, nerves, and digestion. It also plays a significant role in cardiovascular health by supporting cholesterol balance and vascular function.

Functions in the Body

Energy Production: Niacin is a key component of NAD (Nicotinamide Adenine Dinucleotide) and NADP (Nicotinamide Adenine Dinucleotide Phosphate), which are essential for ATP production and cellular respiration.

DNA Repair & Cellular Health: Supports DNA synthesis and repair, influencing cell survival and function.

Lipid & Cholesterol Metabolism: Helps regulate triglyceride and LDL cholesterol levels while boosting HDL cholesterol.

Brain Function: Supports neurotransmitter synthesis and protects against cognitive decline.

Antioxidant & Anti-Inflammatory Effects: Contributes to reducing oxidative stress and inflammation in the body.

Recommended Daily Intake

Men: 16 mg per day

Women: 14 mg per day

Pregnant Women: 18 mg per day

Lactating Women: 17 mg per day

Upper Tolerable Limit: 35 mg/day (higher doses used therapeutically under medical supervision)

Benefits of Vitamin B3 Supplementation

- Improves Cholesterol Levels – Reduces LDL & triglycerides while increasing HDL
- Supports Brain Health – May reduce risk of neurodegenerative diseases like Alzheimer's
- Enhances Energy Metabolism – Improves ATP production and cellular efficiency
- Promotes Skin Health – Helps with acne, inflammation, and UV protection
- Aids in Cardiovascular Function – Supports proper blood circulation and vascular health
- Reduces Joint Inflammation – May help in managing osteoarthritis symptoms

Most Bioavailable Forms

Nicotinamide Riboside (NR) – Highly bioavailable and efficiently converted into NAD+

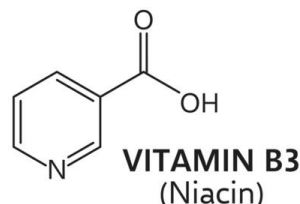
Nicotinamide Mononucleotide (NMN) – Direct precursor to NAD+, effective for aging and cellular health

Nicotinamide (NAM) – Non-flushing form, beneficial for general supplementation

Nicotinic Acid – Effective for cholesterol management but may cause flushing

Food Sources of Niacin

1. Meat (chicken, turkey, beef, liver)
2. Fish (salmon, tuna)
3. Whole grains & legumes
4. Nuts & seeds
5. Mushrooms & avocados



Conclusion

Vitamin B3 is an essential nutrient with widespread benefits for energy production, cardiovascular health, brain function, and skin integrity. Ensuring adequate intake through diet or supplementation can support overall well-being and prevent deficiency-related conditions. Choosing the most bioavailable form of niacin based on individual needs maximizes its effectiveness. Regular monitoring and professional guidance are recommended when using high doses for therapeutic purposes.