

Vitamin B5 (Pantothenic Acid) Overview

Why We Need It?

Vitamin B5 is an essential water-soluble vitamin required for energy production, metabolism, and overall cellular function. It is crucial for synthesizing coenzyme A (CoA), which is involved in the breakdown of fats, carbohydrates, and proteins for energy.

Functions in the Body

Energy Metabolism: Helps convert food into ATP (usable energy) via the Krebs cycle.

Fatty Acid Synthesis & Breakdown: Supports lipid metabolism, essential for cell membrane integrity.

Neurotransmitter Production: Aids in the synthesis of acetylcholine, a key neurotransmitter for brain function.

Hormone Production: Involved in adrenal gland function and the synthesis of steroid hormones (cortisol, testosterone, estrogen).

Wound Healing & Skin Health: Promotes skin barrier repair and reduces inflammation.

Daily Recommended Intake (RDI)

Adults: 5 mg/day

Pregnant Women: 6 mg/day

Lactating Women: 7 mg/day

No established upper limit (UL), but very high doses may cause mild gastrointestinal issues.

Benefits of Supplementation

- Enhances energy levels and reduces fatigue.
- Supports brain function and may improve memory and cognitive performance.
- Aids in stress management by regulating adrenal function.
- Promotes healthy skin, hair, and nails (often used in skincare for wound healing and acne treatment).
- May help reduce cholesterol levels and support heart health.

Most Bioavailable Form

Pantethine (a more active and absorbable form than calcium pantothenate) is the preferred choice for supplementation, as it directly supports CoA production and lipid metabolism more efficiently.

Best Food Sources

Animal-based: Liver, egg yolks, salmon, chicken, and beef.

Plant-based: Avocados, mushrooms, whole grains, sunflower seeds, and sweet potatoes.

Conclusion

Vitamin B5 is essential for metabolism, hormone production, and overall vitality. While most people get enough through diet, supplementation with Pantethine may provide additional benefits for energy, stress resilience, and cardiovascular health.

