

What NAD+ is

Not a peptide: a coenzyme every cell uses to move energy and to run the repair enzymes longevity research is built on. Levels fall with age. Raising them back is the idea behind the drip, the shot, and the pill.

FORMS	Oral precursors (NR, NMN) as supplements; compounded injection at 100–200 mg/mL; IV bags of 250–1,000 mg; research vials
PRICE	Drips \$250–\$1,500 each; weekly shots \$199–\$350 a month; NR pills about a dollar a day
STATUS	No approved injectable. Compounded under FDA's interim policy; nominated 2016, still under evaluation. Not permitted for 503B facilities
ANTI-DOPING	Not prohibited

THE ONE TITLE WHERE THE PILL HAS THE BETTER EVIDENCE

Oral NR doubles blood NAD+ in a week with a safety record across many small trials. The drip does the same faster, at fifty times the price, with side effects the pill lacks.

This pamphlet is for adults using or being offered NAD+ by drip, shot, or vial. It is a summary of the published record, not medical advice.

Before the first drip or shot, ask

- ☐ What am I trying to change, and how will we know? A blood level is not a symptom.
- ☐ Why not oral NR first?
- ☐ 503A pharmacy on a prescription, 503B office stock, or research vial?
- ☐ What is the concentration, and my dose in units?
- ☐ For a drip: how many milligrams, over how long, and what if my chest tightens?
- ☐ Heart rhythm problem, low blood pressure, cancer history, or pregnancy?

SOURCES

- Covarrubias AJ, et al. NAD+ metabolism and its roles in cellular processes during ageing. *Nat Rev Mol Cell Biol.* 2021;22(2):119-141.
- Trammell SAJ, et al. Nicotinamide riboside is uniquely and orally bioavailable in mice and humans. *Nat Commun.* 2016;7:12948; and Martens CR, et al. Chronic nicotinamide riboside supplementation is well-tolerated and elevates NAD+ in healthy middle-aged and older adults. *Nat Commun.* 2018;9:1286.
- Yi L, et al. The efficacy and safety of beta-nicotinamide mononucleotide (NMN) supplementation in healthy middle-aged adults: a randomized, multicentre, double-blind, placebo-controlled trial. *GeroScience.* 2023;45(1):29-43.
- Intravenous infusion of nicotinamide adenine dinucleotide (NAD+) versus nicotinamide riboside (NR): a retrospective tolerability pilot study in a real-world setting. *Front Aging.* 2026.
- Randomized, placebo-controlled, pilot clinical study evaluating acute Niagen+ IV and NAD+ IV in healthy adults. *medRxiv preprint*, 2024.
- NPR. Marketers say NAD+ pills and infusions can boost longevity. What's the evidence? May 11, 2026.
- U.S. Food and Drug Administration. Warning letter to GenoGenix LLC, January 20, 2026 (NAD+ not on the 503B bulks list).
- U.S. Food and Drug Administration. Bulk drug substances nominated for use in compounding under section 503A (nicotinamide adenine dinucleotide, nominated 2016; interim policy).
- Representative compounded NAD+ injection listings (100 and 200 mg/mL), med-spa infusion menus, and research-chemical vial listings, as sold September 2026.

This guide is an educational summary of published sources and is not medical advice. NAD+ has no FDA-approved injectable product and no approved indication; compounded NAD+ is dispensed under pharmacy compounding rules that FDA has not finalized for it, and research-chemical vials are unapproved drugs. The doses described are reported as clinics and sellers use them, not recommended. Status statements are current as of the edition date.

Newport Peptide Society

[NEWPORTPEPTIDESOCIETY.COM/GUIDES/NAD](https://newportpeptidesociety.com/guides/nad)

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READER'S GUIDE

NAD+

A guide to the drip and the shot: a molecule every cell makes, sold by the milligram at med spas, with real chemistry, small trials, and no outcome anyone has measured

NAD+ is not a peptide. It is a coenzyme, nicotinamide adenine dinucleotide, that every cell uses hundreds of times a second to move energy and to run the repair enzymes that longevity research is built around. Blood and tissue levels fall with age, which is the observation behind an industry: intravenous drips of 250 to 1,000 mg over a few hours, subcutaneous shots of 50 to 100 mg a week, and vials of powder for home use. This guide covers what the molecule does, what the small human studies have and have not shown, how the drip and the shot are dosed, why a fast infusion makes people feel terrible, and where the FDA stands on a compounded injection with no approved product behind it.

LONGEVITY ·

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What the studies have shown

HUMAN EVIDENCE BY ROUTE		
ROUTE	RESULT	GRADE
Oral NR, dozens of small trials	Level rises reliably; little downstream	B / C
Oral NMN, several trials	Level rises; small walking gain in one	C
IV NAD+, one pilot and one clinic review	Level rises; flushing, nausea, chest tightness; no outcome	C
Injected NAD+	No published controlled trial	D

No trial of any route measured energy, recovery, clarity, addiction, or aging. The claims come from mice and from the level going up.

O

Randomized trials of NAD+ infusion or injection with an outcome a buyer would notice

~2x²

Rise in blood NAD+ from 1 g of oral NR daily, the best-documented route

WHAT WOULD COUNT

Injected NAD+ against placebo, in the people it is sold to, measuring fatigue, exercise capacity, or cognition over months. None exists.

How it is used, and where the FDA stands

CLINIC INJECTION PROTOCOL FOR A 500 MG VIAL + 2.5 ML (200 MG/ML). NO TRIAL. SUBCUTANEOUS.			
WEEKS	DOSE	UNITS PER 4 WK	
1–2	25 mg twice weekly	12.5	100 mg
3–4	50 mg twice weekly	25	200 mg
5 on	100 mg once or twice weekly	50	400–800 mg

Drips: 250–500 mg over 2–4 hours; the slow rate limits flushing and chest tightness. Pharmacy solutions come at 100 or 200 mg/mL; the label governs.

503A PHARMACY, PRESCRIBED Permitted under FDA's interim policy while the 2016 nomination is evaluated

503B BULK Not permitted: not on the list; FDA warning letter, January 2026

RESEARCH VIAL Unapproved drug; unstable in solution; purity rarely certified

LEGAL, AND UNFINISHED

The rare injectable here a pharmacy may lawfully make today. That is FDA's interim policy, not evidence: the agency has neither approved it nor decided, ten years on.

Dose arithmetic, and what happens in the chair

UNITS = (MG ÷ MG/ML) × 100

500 mg with 2.5 mL is 200 mg/mL: 50 mg is 25 units, 100 mg is 50. At a pharmacy's 100 mg/mL the same 100 mg is a full 100 units. Check the label; concentrations differ between pharmacies.

ILLUSTRATION ONLY		
CONCENTRATION	50 MG	100 MG
200 mg/mL	25 units	50 units
100 mg/mL	50 units	100 units

- Drip: flushing, racing heart, chest tightness, nausea, cramping, light-headedness; rate effects, eased by slowing the pump.
- Shot: stinging at the site, brief nausea, headache; whole-body effects above about 250 mg.
- Careful with heart rhythm problems, low blood pressure, or pressure drugs; the studies excluded them.
- NAD+ feeds every cell, tumor cells included; never studied in anyone with a cancer history.
- Unstable in solution: a degraded vial delivers breakdown products, not NAD+.

WHAT DOES HAVE EVIDENCE

Sleep, exercise, and not smoking, with outcome data no NAD+ product has. Among NAD+ routes, oral NR for the level, with the caveat that the level has not been shown to change anything a person notices.