

PRESCRIPTION MONOGRAPH

Compounded Active Ingredients: NAD⁺

Form: Nasal Spray

Drug Class:

- Nicotinamide adenine dinucleotide (NAD⁺): coenzyme present in all living cells
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Mechanism of Action^{1,2}: NAD⁺ is a coenzyme central to cellular metabolism. It functions as an electron carrier in redox reactions and is intended to play a critical role in:

- ATP production via mitochondrial oxidative phosphorylation
- DNA repair (through activation of PARP enzymes)
- Sirtuin activation, influencing aging, inflammation, and metabolic regulation
- Neurotransmitter modulation, especially in detox and neurodegenerative pathways

When administered NAD⁺ is intended to replenish intracellular stores, enhance mitochondrial function, and support cellular repair.

Indications Commonly Prescribed For:

- Treatment of pellagra (severe niacin deficiency)
 - Adjunctive treatment in substance use detox (alcohol, opioids, etc.)
 - Anti-aging and longevity protocols
 - Cognitive enhancement and neurodegenerative disorders (e.g., Alzheimer's)
 - Chronic fatigue syndrome, fibromyalgia
 - Athletic recovery and cellular repair
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Before Use: Let your healthcare provider know if you have had any allergic reactions to nasal sprays in the past. Let your healthcare provider know if you are pregnant or breast feeding. Let your healthcare provider know of all supplements you are currently taking.

Contraindications:

- Hypersensitivity to NAD⁺ or formulation excipients
 - Use cautiously in individuals with active gout (may increase uric acid)
 - Not recommended during acute severe illness without supervision
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Cautions: Let your healthcare provider know of any changes of vision while on this compounded preparation.

Warnings and Precautions^{1,2,3}:

- Electrolyte disturbances possible with prolonged use
 - Uncontrolled hypertension: Elevated blood pressure may worsen due to increased cellular activity and sympathetic nervous system stimulation
 - Congestive heart failure (CHF): risk of fluid overload or cardiac strain in patients with compromised heart function
 - Severe liver or kidney disease: Inefficient metabolism of NAD⁺ may cause systemic effects
 - Active infections: enhanced immune activity and oxidative stress can potentially worsen systemic infections or prolong recovery
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PRESCRIPTION MONOGRAPH

Adverse Reactions^{1,2,3}: If you experience any side effects or adverse reactions, including those not listed, please contact your healthcare provider. Seek emergency care if symptoms are severe.

Common:

- Nausea or Vomiting
- Flushing, rashes, or red, itchy skin
- Dizziness or vision problems
- Headaches or muscle cramps
- Sleep disturbances
- Transient pressure or tightness in the chest
- Fatigue or mental fog
- Digestive discomfort
- Sweating or chills

Serious:

- Hypotension
- Bradycardia
- Chest pain
- Persistent shortness of breath
- Fainting or loss of consciousness
- Glucose intolerance
- Liver toxicity
- Facial swelling
- Allergic reaction

Interactions^{1,2,3}:

- Metabolic therapies (i.e. Glutathione, alpha-lipoic acid): overlapping metabolic stimulation can lead to exaggerated effects or patient discomfort
- May theoretically interact with chemotherapeutics that rely on redox mechanisms
- Oral niacin/nicotinamide should be spaced from NAD⁺ to reduce GI effects
- Patients on medications such as metformin, statins, or certain antidiabetics may respond unpredictably when NAD⁺ is added

Use in Specific Populations:

- Pregnancy & Lactation: Not enough evidence; avoid unless prescribed
- Pediatrics: Safety not established
- Elderly: Well-tolerated in wellness protocols, but monitor comorbidities

Storage:

- Refrigerate at 2°C to 8°C (36°F to 46°F)
- Can be stored at room temperature (up to 30°C or 86°F) for up to 48hrs
- Do not freeze

How to Use: This medication is a nasal spray and is delivered in a premixed liquid form. Gently blow your nose to clear it from mucous before using the compound. Remove the ring and protective cap to reveal the nasal spray tip. Tilt head slightly forward, hold bottle with thumb on bottom and your index and middle fingers on top. Use your fingers to squeeze down on the pump while you breathe in slowly through your nose. If needed, repeat the process for the second nostril.

Monitoring Parameters:

- Consider pre- and post-treatment electrolyte and liver function labs in high-dose regimens
- Clinical assessment of fatigue, cognition, or detox symptoms if applicable

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Citations:

1. Conlon NJ. The Role of NAD⁺ in Regenerative Medicine. *Plast Reconstr Surg.* 2022 Oct 1;150(4 Suppl):41S-48S. doi: 10.1097/PRS.0000000000009673. Epub 2021 Sep 28. PMID: 36170435; PMCID: PMC9512238
2. Gindri, Izabelle de Mello Ferrari, Gustav Pinto, Luiz Paulo S. Bicca, Juliana dos Santos, Isis Kelly Dallacosta, Darlan Roesler, Carlos Rodrigo de Mello Evaluation of safety and effectiveness of NAD in different clinical conditions: a systematic review 2024 *American Journal of Physiology-Endocrinology and Metabolism* E417-E427 326
3. Poljšak B, Kovač V, Milisav I. Current uncertainties and future challenges regarding NAD⁺ boosting strategies. *Antioxidants.* 2022;11(9):1637. Published August 24, 2022. doi:10.3390/antiox11091637. <https://www.mdpi.com/2076-3921/11/9/1637>