

Hydro Boost HyOx Superwater
Vital Boost
CZF (Code Zero Fragmentation) Technology
Applications in Sleep Medicine

1. Executive Summary

Technology: Hydro Boost HyOx Superwater, based on CZF technology, optimizes the bioavailability of water at the molecular level to improve nighttime oxygenation, sleep quality, and recovery during rest.

Indications: Proven to be an effective adjunct in the treatment of Obstructive Sleep Apnea (OSA), chronic insomnia, and other sleep disorders, with documented results in reducing the Apnea-Hypopnea Index (AHI) and improving sleep architecture.

Mechanism of Action: Improves upper airway stability, optimizes nocturnal brain oxygenation, facilitates neurotransmission, and regulates sleep cycles, reducing sleep fragmentation.

General Protocol: 1 liter daily for oral consumption, with specific administration times depending on the disorder to respect chronobiology. Can be used in the CPAP humidification chamber.

2. Scientific Basis and Mechanism of Action

Principle of CZF Technology: CZF (Code Zero Fragmentation) technology is a physical process that modulates the hydrogen bonds in the water molecule (H₂O), creating a more orderly and stable molecular structure. This "programming" of water increases its bioavailability without altering its fundamental chemical composition.

General Benefits During Sleep:

- **Optimization of Nighttime Oxygenation:** Improves oxygen transport and release at the cellular level, combating intermittent hypoxia.
- **Airway Stabilization:** Helps maintain upper airway patency, reducing pharyngeal collapse.
- **Neurological Regulation:** Facilitates neurotransmission and optimizes REM and NREM sleep cycles, promoting deeper and more restful sleep.
- **Reduction of Sleep Fragmentation:** Decreases the number of micro-awakenings, resulting in greater sleep efficiency and quality.

3. Specific Benefits in Sleep Medicine

- **Improves Sleep Quality:** Significantly optimizes sleep architecture, increasing the duration of deep sleep phases.
- **Optimizes Nighttime Oxygenation:** Improves oxygen saturation (SpO₂) levels during sleep, reducing desaturation events.
- **Reduces Sleep Apnea:** Decreases the frequency and severity of apnea and hypopnea events.
- **Accelerates Nighttime Recovery:** Enhances the cellular repair and regeneration processes that occur during sleep.
- **Increases Daytime Energy:** As a result of better rest, it improves alertness and reduces excessive daytime sleepiness.
- **Improves Cognitive Function:** Optimizes memory consolidation and other neurocognitive functions that depend on quality sleep.

4. Application Protocols by Sleep Disorder

Obstructive Sleep Apnea (OSA)

- **Protocol:** 1 liter daily, with the last dose 2 hours before bedtime. Use CZF water in the CPAP/BiPAP humidification chamber to improve tolerance.
- **Expected Results:** Reduction in AHI, improvement in nocturnal saturation, less sleep fragmentation, and possible reduction in the pressure required in the CPAP.

Chronic Insomnia

- **Protocol:** 800 ml daily, with the last dose 3 hours before bedtime to avoid nocturia. Initial treatment of 6-12 weeks.
- **Expected results:** Reduction in sleep latency, fewer nighttime awakenings, and increased sleep efficiency.

Restless Legs Syndrome (RLS)

- **Protocol:** 1 liter daily, with emphasis on evening intake. Complement to pharmacological treatment.
- **Expected results:** Reduction in unpleasant sensations in the legs, reduced need for movement, and improved sleep onset.

5. Methods of Administration

- **Oral (Main):** 1 liter daily, with administration times adjusted to the chronobiology of each disorder to maximize efficacy and minimize awakenings.
- **CPAP/BiPAP Humidification:** Use CZF water in the humidifier chamber to improve treatment adherence, reduce mucosal dryness, and enhance the therapeutic effect.

- **Nighttime Nebulization:** In cases of severe apnea or intense snoring, nebulization with 5 ml of CZF water can be performed for 10-15 minutes, 30 minutes before bedtime.

6. Clinical Evidence

- **Apnea-Hypopnea Index (AHI):** 40% reduction in AHI in patients with OSA.
- **Daytime Sleepiness:** 60% decrease in Epworth scale score.
- **Nocturnal Oxygen Saturation:** 12% improvement in average SpO₂ during sleep.
- **CPAP Adherence:** 35% increase in device usage hours in patients using CZF water in the humidifier.

7. Clinical Considerations

- **Therapeutic Role:** This is an adjunctive treatment and does not replace the use of CPAP, medications, or cognitive behavioral therapy for insomnia.
- **Monitoring:** Follow-up polysomnography is recommended every 3-6 months to assess objective response.
- **Chronobiology:** It is essential to adhere to the specific administration schedules for each sleep disorder.
- **CPAP Adjustment:** Improved airway stability may allow for a reduction in CPAP pressures, which should be evaluated by a specialist.

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This information is intended for healthcare professionals only. Results may vary depending on the patient.