



Glutathione: Master Antioxidant Defense

IM + Buccal + Liposomal Protocol

The Silent Depletion of Cellular Defense



- **Accelerated Depletion:** Stress, toxins, and age drain reserves faster than replenishment.
- **Critical Dependency:** **90%** of cellular antioxidant defense requires adequate GSH levels.
- **The Absorption Barrier:** Native oral bioavailability is **below 1%** due to digestive degradation.
- **The Consequence:** Fatigue, slow recovery, and increased oxidative vulnerability.

Glutathione (GSH): The Master Antioxidant

Nature: Endogenous **tripeptide**
(L-glutamate + L-cysteine + glycine).

Abundance: Found at high concentrations
(0.5–10 mM) in **every living cell**.

Function: The primary firewall against
intracellular oxidative damage and aging.

Restoration: Provider-guided delivery bypasses
digestion to ensure **tissue saturation**.



The Four Pillars of Cellular Defense

GPx Enzyme



Neutralizes hydroperoxides and prevents **lipid peroxidation** cascades.

GST System



GST System
Conjugates toxins for water-soluble **Phase II elimination**.

GR Recycling



GR Recycling
Rapidly reverts oxidized GSSG back to **active GSH** via NADPH.

Nrf2 Signaling



Nrf2 Signaling
Upregulates antioxidant gene expression in response to stress.

Systemic Optimization & Impact

System	Mechanism	Clinical Impact
Immune	Amplifies NK cells & lymphocytes	Up to 400% NK elevation
Detox	GST-mediated toxin conjugation	Enhanced xenobiotic elimination
Mitochondrial	Shields electron transport chain	Sustained ATP production
Cellular	Neutralizes ROS, protects DNA	35% oxidative stress reduction

Precision Delivery: Bypassing the Gut



Method	Bioavailability	Advantage	Best For
IM	~100%	Rapid, maximum absorption	Acute depletion & repair
Buccal	40–70%	Needle-free, rapid onset	Convenient daily use
Liposomal	15–25%	Non-invasive protection	At-home maintenance

Your provider selects optimal delivery based on individual needs.

The Path to Saturation



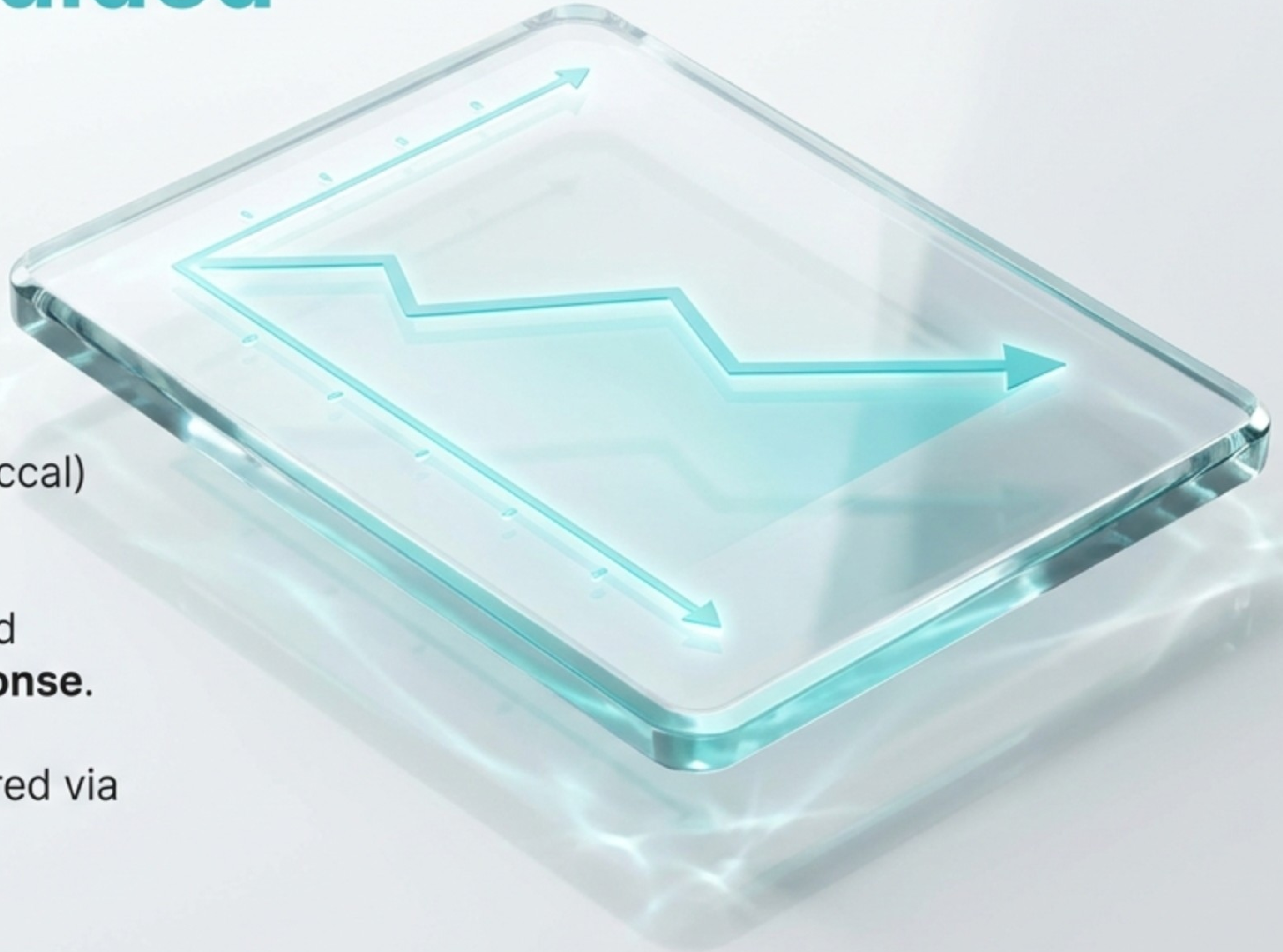
Indications for Glutathione Therapy

- **Persistent Fatigue:** Sluggishness despite adequate sleep; reliant on caffeine.
- **Compromised Resilience:** Slow recovery from **illness** or intense exercise.
- **Toxic Burden:** Exposure to urban pollution, chemicals, or **brain fog**.
- **Clinical Protocol:** Patients on multi-compound therapies requiring **liver support**.



The Provider-Guided Advantage

- **Baseline Assessment:** Provider evaluates **oxidative stress** and depletion levels.
- **Strategic Selection:** Method (IM/Buccal) matched to **physiology** and goals.
- **Dose Calibration:** Protocols adjusted based on individual **metabolic response**.
- **Progress Tracking:** Efficacy monitored via objective **biomarker reassessment**.



Clinical Precision vs. Generic Supplements

Generic Oral

< 1% Absorption

Blind Dosing

Isolated Product

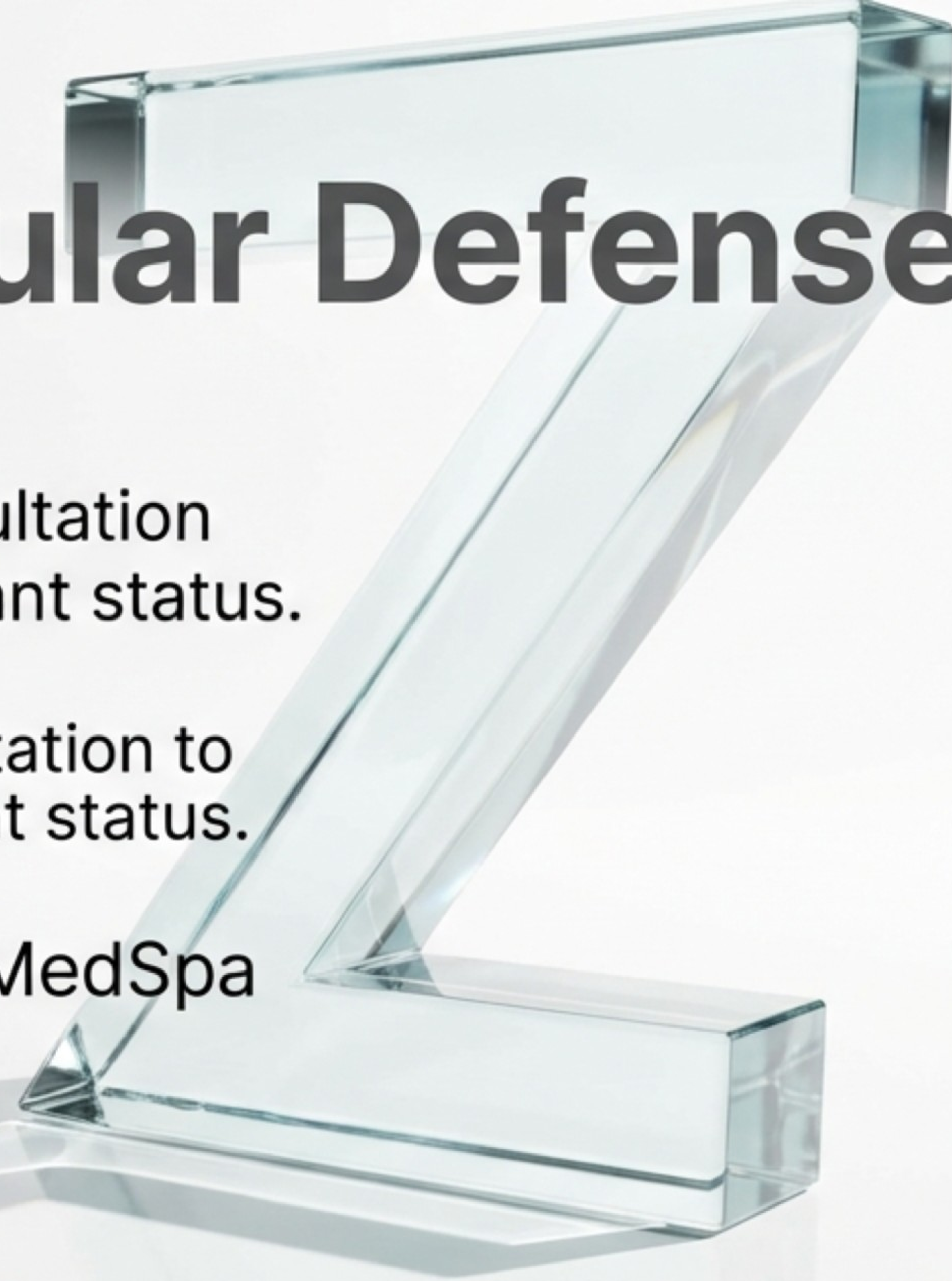


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- **Bioavailability:** Multi-delivery precision vs. generic oral (< 1% **absorption**).
- **Optimization:** **Biomarker-guided** adjustments rather than blind dosing.
- **Integration:** Glutathione orchestrated within a complete **therapeutic strategy**.
- **Expertise:** Protocols managed by providers to ensure **safety and efficacy**.



Restore Your Cellular Defense



Schedule Your Consultation
to assess your antioxidant status.

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Zvia Weight Loss & MedSpa

www.zvia.com
(303) 902-5353

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