

Glutathione Comprehensive Dosage Guide (600 mg Vial)

I. Overview

Glutathione (GSH) is the body's most abundant intracellular antioxidant, a tripeptide composed of glutamate, cysteine, and glycine, present in virtually every cell at concentrations of 1–10 mM . As the primary thiol-based redox buffer, it plays a central role in neutralizing free radicals, supporting Phase II detoxification pathways, and facilitating the excretion of xenobiotics and heavy metals . The reduced form (GSH) donates electrons to neutralize free radicals and is then recycled back from its oxidized form (GSSG) by glutathione reductase . Clinical and preclinical research demonstrates that maintaining optimal GSH levels supports liver function, immune cell activity, mitochondrial protection, and overall cellular homeostasis .

This guide is based on the **600 mg** vial, utilizing a once-daily subcutaneous injection protocol, intended for educational and research purposes.

II. Dosage and Reconstitution Guidelines

600 mg Vial

Reconstitution: Add **2.0 mL** bacteriostatic water → Concentration **300 mg/mL**

U-100 Insulin Syringe Conversion: 1 unit = 0.01 mL = **3 mg**

Shelf Life After Reconstitution: **2–3 weeks** when refrigerated (2–8°C). Glutathione is relatively unstable once reconstituted; use within this period for optimal potency .

Standard/Gradual Protocol (Concentration 300 mg/mL):

Phase	Weeks	Daily Dose	Injection Volume (mL)	Units
Initial	Weeks 1–2	100 mg	0.33 mL	33 units
Escalation	Weeks 3–4	150 mg	0.50 mL	50 units
Maintenance	Weeks 5–8	200 mg	0.67 mL	67 units

Injection Frequency: Once daily subcutaneous injection, or split into every-other-day dosing based on protocol goals. Some maintenance protocols utilize 200 mg 1–2 × weekly.

Cycle Length: 4–8 weeks; optional cycling off for 2–4 weeks between protocols.

Timing: Any consistent time; rotate injection sites.

III. Reconstitution Steps

- Draw **2.0 mL** of bacteriostatic water into a sterile syringe.
- Inject slowly down the vial wall to avoid foaming or a direct stream onto the lyophilized powder.
- Gently swirl/roll until the powder is completely dissolved (do not shake vigorously).
- Label with the reconstitution date and concentration. Store refrigerated (2–8°C / 35.6–46.4°F), protected from light.

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5. Use within **2–3 weeks** of reconstitution; discard if turbidity or particulate matter is observed.

IV. Required Supplies

Plan based on a 4 to 8-week daily protocol with gradual dose adjustments.

Peptide Vials (Glutathione, 600 mg each):

4 weeks (100–150 mg/day avg): ≈3 vials

8 weeks (150–200 mg/day avg): ≈7 vials

Insulin Syringes (U-100):

Per week: 7 syringes (1/day)

4 weeks: 28 syringes

8 weeks: 56 syringes

Bacteriostatic Water (10 mL vials): Use ~2.0 mL per vial for reconstitution.

4 weeks (3 vials): 6 mL → 1 × 10 mL vial

8 weeks (7 vials): 14 mL → 2 × 10 mL vials

Alcohol Swabs: One for the vial stopper + one for the injection site each day.

Per week: 14 swabs (2/day)

4 weeks: 56 swabs → recommend 1 × 100-count box

8 weeks: 112 swabs → recommend 2 × 100-count boxes

V. Protocol Overview

A concise summary of the subcutaneous regimen.

Goal: Support antioxidant defense, cellular detoxification, and immune function .

Schedule: Daily or every-other-day subcutaneous injections for 4–8 weeks.

Dose Range: 100–200 mg daily with gradual titration.

Reconstitution: 2.0 mL per 600 mg vial (300 mg/mL) for accurate unit measurements.

Storage: Lyophilized frozen; reconstituted refrigerated; avoid repeated freeze–thaw.

VI. Dosage Protocol

Suggested daily titration approach.

Start: 100 mg daily; increase by ~50 mg every 1–2 weeks as tolerated.

Target: 150–200 mg daily by Weeks 3–8.

Frequency: Once per day (subcutaneous) or every other day for maintenance.

Cycle Length: 4–8 weeks; optional cycling off for 2–4 weeks between protocols.

Timing: Any consistent time; rotate injection sites.

VII. Storage Instructions

Proper storage preserves peptide quality.

Lyophilized: Store at –20°C (–4°F) in dry, dark conditions; minimize moisture exposure.

Reconstituted: Refrigerate at 2–8°C (35.6–46.4°F); use promptly and avoid freeze–thaw.

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Allow vials to reach room temperature before opening to reduce condensation uptake.

Glutathione is relatively unstable once reconstituted—use within **2–3 weeks** for optimal potency .

VIII. Important Notes

Practical considerations for consistency and safety.

Use new sterile insulin syringes; dispose in a sharps container.

Rotate injection sites (abdomen, thighs, upper arms) to reduce local irritation.

Inject slowly; wait a few seconds before withdrawing the needle.

Document daily dose and site rotation to maintain consistency.

IX. Potential Benefits & Side Effects

Potential Benefits:

Antioxidant Support: Supports reduction of oxidative stress markers and maintenance of cellular redox balance .

Liver Support: May enhance liver function and support hepatic detoxification pathways .

Immune Modulation: Research suggests immune-modulating effects, including support for natural killer cell activity and T-cell function .

Skin Health: Clinical studies indicate potential effects on melanin index and skin brightness with sustained use.

Common Side Effects:

Generally well tolerated; occasional mild injection-site reactions (redness/itch) may occur with subcutaneous administration.

Rare reports of gastrointestinal discomfort with high-dose protocols; start with lower doses and titrate gradually.

X. Injection Technique

General subcutaneous guidance from clinical best-practice resources.

Clean the vial stopper and skin with alcohol; allow to dry.

Pinch a skinfold; insert the needle at a 45–90° angle into subcutaneous tissue.

Do not aspirate for subcutaneous injections; inject slowly and steadily.

Systematically rotate sites (abdomen, thighs, upper arms) to avoid lipohypertrophy.

Important Disclaimer: This document is for educational and research purposes only and does not constitute medical advice, diagnosis, or treatment. Glutathione is a dietary supplement ingredient and may, in certain contexts, be used as an investigational compound. Please consult a qualified healthcare professional before use.