CLEAN PEPTIDES

GHK-Cu Dosage Guide

Copper peptide GHK-Cu — injectable and topical dosing, reconstitution, stacking with BPC-157, cycling and safety.

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What Is GHK-Cu?

GHK-Cu (glycyl-L-histidyl-L-lysine:copper(II)) is a naturally occurring tripeptide with high affinity for copper(II) ions, first isolated from human plasma by Dr. Loren Pickart in 1973. It has over 60 published studies across wound healing, collagen synthesis, anti-aging and tissue remodeling. Uniquely, it has established protocols for both **injectable** (systemic healing) and **topical** (localized skin rejuvenation) use.

Injectable dosing derives from animal studies, plasma-concentration research and community protocols; topical is supported by human skin studies.

Key Characteristics

- **Naturally occurring** — declines with age (200 ng/mL in youth → 80 ng/mL by age 60).
- **Copper delivery** — essential cofactor for repair enzymes (SOD, lysyl oxidase).
- **Collagen synthesis** — stimulates collagen I and III, decorin, elastin, glycosaminoglycans.
- **Wound healing** — accelerates closure, attracts immune cells, promotes angiogenesis.
- **Anti-inflammatory** — reduces TNF-alpha and IL-6.
- **Gene modulation** — affects expression of >4,000 genes toward a healthier profile.
- **Dual routes** — effective both systemically (injectable) and locally (topical).

How Dosage Is Determined

Informed by decades of research: topical 1–2% studies in humans, injectable studies in animals/cell cultures, and plasma-concentration data. Injectable 1–2 mg/day SubQ emerged from practitioner and community experience. **Strength of evidence: strong for topical, moderate for injectable.**

Injectable Dosage Ranges

Level	Dose/Injection	Frequency	Daily Total
Conservative	0.5 mg	Once daily	0.5 mg/day
Standard	1.0 mg	Once daily	1.0 mg/day
Aggressive	2.0 mg	Once daily	2.0 mg/day

Most start at 1.0 mg once daily. The 2.0 mg dose is reserved for acute wound healing/post-surgical protocols. Higher doses do not produce proportionally better results.

Topical Protocols

Formulation	Concentration	Frequency	Application Area
Serum	1–2% GHK-Cu	1–2x daily	Face, neck, target areas
Cream	0.5–1% GHK-Cu	1–2x daily	Face, body, wound sites
Custom (compounded)	1–3% GHK-Cu	1–2x daily	Per provider instructions

Apply to clean skin before heavier creams. Consistency for 4–8 weeks before assessing. No cycling needed. Avoid layering with strong acids or L-ascorbic acid (vitamin C), which destabilize the copper peptide. Patch test first.

Reconstitution & Dosing (with the supplied 3 ml)

Every Clean Peptides vial ships with **3 ml of bacteriostatic water** (0.9% benzyl alcohol). All figures below assume you reconstitute with the **full 3 ml**. On a standard U-100 insulin syringe, **100 units = 1 ml**.

Quick formula: concentration = vial strength ÷ 3 ml, and **units to draw = dose (mg) × 300 ÷ vial strength (mg)**.

How to reconstitute

1. **Wash your hands** and lay out the vial, the 3 ml bacteriostatic water, an insulin syringe and alcohol swabs on a clean surface.
2. **Flip off the caps** and swab both rubber stoppers with alcohol; let them air-dry 10–15 seconds.
3. **Draw the full 3 ml** of bacteriostatic water (in three 1 ml passes with an insulin syringe, or in one pass with a 3 ml syringe).
4. **Add the water slowly**, angling the needle so it runs down the inside glass wall — never squirt it directly onto the powder cake.
5. **Dissolve gently** — let the vial sit 1–2 minutes, then swirl or roll it between your palms until the solution is clear. Expect a blue/blue-green tint — this is normal for copper peptides and confirms the copper is bound. Never shake.
6. **Label and refrigerate** at 2–8 °C. Resulting concentration: 50 mg → 16.67 mg/mL; 100 mg → 33.33 mg/mL.

Storage: unreconstituted powder refrigerated (2–8 °C); reconstituted solution refrigerated and used within 28–30 days; do not freeze; protect from light and heat.

Draw volumes with 3 ml — GHK-Cu

Vial (Clean Peptides)	Concentration	0.5 mg	1 mg	2 mg
50 mg	16.67 mg/mL	3 u	6 u	12 u
100 mg	33.33 mg/mL	1.5 u	3 u	6 u

Dosage by Goal

- **Skin rejuvenation & anti-aging:** injectable 1.0 mg/day × 4–8 wk + topical 1–2% serum 2x daily ongoing.
- **Wound healing & post-surgical:** injectable 1–2 mg/day × 2–4 wk; topical once granulation begins. Often stacked with BPC-157.
- **Hair growth:** topical 1–2% to scalp daily + injectable 1.0 mg/day × 8–12 wk.
- **Systemic anti-inflammatory & tissue repair:** injectable 1–2 mg/day × 4–8 wk; often with BPC-157.

For cosmetic skin goals, topical has the strongest human evidence; injectable is preferred for systemic/post-surgical goals.

Injection Guide

1. Wash hands & prepare.
2. Swab the stopper; air-dry.
3. Draw the dose (slight blue/green tint is normal); tap out bubbles.
4. Select site — abdomen (2–3 in from navel) or front of thigh; rotate daily.
5. Clean the site; air-dry.
6. Inject into a pinched fold at 45°.
7. Dispose in a sharps container.

Cycle Duration & Timing

Protocol	Duration	Best For
Standard injectable cycle	4–8 wk on, 4 wk off	Skin rejuvenation, general healing, anti-inflam.
Extended injectable cycle	8–12 wk on, 4 wk off	Hair growth, chronic wound healing
Topical (ongoing)	Continuous — no cycling	Daily skincare, cosmetic maintenance

Injectable at any consistent time (morning common). Topical serum best applied twice daily.

Stacking Protocols

GHK-Cu + BPC-157 — comprehensive healing stack:

Compound	Dose	Frequency	Purpose
GHK-Cu	1–2 mg SubQ	Once daily	Collagen synthesis, tissue remodeling
BPC-157	250–500 mcg SubQ	Once/twice daily	Angiogenesis, growth factor, local repair

GHK-Cu + Thymosin Alpha-1 — immune + repair stack: GHK-Cu 1 mg SubQ daily + Thymosin Alpha-1 1.6 mg SubQ 2–3x/week.

Safety, Side Effects & Contraindications

Favorable safety profile across decades; topical widely used in OTC cosmetics.

Injectable side effects (mild, transient): injection-site irritation/redness, occasional headache, rare nausea. **Topical:** occasional mild irritation; rare contact sensitivity.

Contraindications: active cancer or history of cancer; Wilson's disease or copper-metabolism disorders; pregnancy and breastfeeding; copper allergy.

Regulatory: injectable not FDA-approved (research peptide); topical regulated as a cosmetic ingredient; not currently prohibited by WADA (verify).

Common Mistakes

- Using topical-grade GHK-Cu for injection (only sterile injectable-grade for SubQ).
- Expecting overnight topical results (4–8 weeks needed).
- Applying topical to open wounds too early.
- Discarding the vial because it looks blue/green (that is normal).
- Running injectable doses beyond 2 mg/day.
- Not cycling injectable use.
- Layering with incompatible actives (AHAs/BHAs, vitamin C).

Key Takeaways

- Dual-route peptide: injectable 1–2 mg/day SubQ and topical 1–2% serum.
- Naturally declines with age; stimulates collagen I/III, elastin and glycosaminoglycans.
- Blue/green reconstituted color is normal (copper II).
- Injectable cycle 4–8 wk on / 4 wk off; topical continuous.
- Top stack GHK-Cu + BPC-157; contraindicated in copper disorders, active cancer, pregnancy.

References

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