

GHK-Cu (Copper Peptide)

Patient Education Guide — What It Does, Why a Physician Would Prescribe It, and What the Evidence Says

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Important Disclaimer

This information is not medical advice and is provided only to help begin your research. All clinical and dosing decisions must be made with a licensed, experienced physician and a licensed, experienced compounding pharmacist, supported by published clinical studies. This material was compiled using Artificial Intelligence, statements from videos and websites by apparent qualified professionals, and available published research. Anyone starting a medication they have never taken before should take an extremely conservative approach. We are not affiliated with any of the doctors whose videos are referenced below.

GHK-Cu (Copper Peptide) Compounded

Category: Skin, Hair & Cellular Repair

How it works. GHK-Cu is a naturally occurring tripeptide-copper complex found in human plasma, saliva, urine, and gastric juice. Plasma levels decline from roughly 200 ng/mL at age 20 to about 80 ng/mL by age 60, which coincides with declining regenerative capacity. It stimulates collagen and glycosaminoglycan synthesis, modulates metalloproteinases and their inhibitors (TIMP-1, TIMP-2), promotes wound healing, and supports hair follicle activity.

Route of administration is a completely different conversation. Topical GHK-Cu has a relatively clear cosmetic and dermatologic use pathway. It is widely available in over-the-counter skincare products and professional dermatologic formulations, permitted under U.S. FDA cosmetic regulations, with a favorable safety record across decades of consumer and clinical use. For skin texture improvement, photoaging, scar support, or as an adjunct in hair protocols, topical is the appropriate first-line approach. Injectable GHK-Cu is a much more restricted regulatory conversation: no country approves injectable GHK-Cu as a finished drug for anti-aging, tissue repair, or any systemic medical indication, and FDA compounding concerns have limited pharmacy availability. For most skin indications, there is no clinical reason to jump to injections when topical use is safer and better established.

Cautions. Contraindications include Wilson's disease and other copper metabolism disorders (copper accumulates to toxic levels in these patients), copper or metal allergy, active or recent cancer (because GHK-Cu promotes angiogenesis and tissue remodeling), and pregnancy. Layering topical GHK-Cu with acidic products or high-concentration vitamin C can reduce tolerability or destabilize the peptide. Mild irritation or redness with topical use usually resolves with a frequency adjustment.

Published Evidence: GHK-Cu was first isolated in 1973 by Pickart for its ability to cause old human liver tissue to synthesize proteins like younger tissue. At nanomolar concentrations (1-10 nM), it stimulates collagen and glycosaminoglycan synthesis while modulating metalloproteinases. Animal studies confirm accelerated wound healing, increased blood vessel formation, and improved healing of diabetic and ischemic wounds. It has been shown to restore replicative vitality to fibroblasts after anticancer radiation therapy.

Key Studies:

- Pickart L, et al. "GHK Peptide as a Natural Modulator of Multiple Cellular Pathways in Skin Regeneration." *PMC*. 2014.
- Pickart L, et al. "Regenerative and Protective Actions of the GHK-Cu Peptide." *PMC*. 2018.

Recommended Videos (educational, independent sources)

- **Dr. Dray — Board-Certified Dermatologist** — Injectable Peptides for Anti-Aging? A Dermatologist Explains GHK-Cu <https://www.youtube.com/watch?v=ERb5yaBumTQ>
- **Quinn Stillson, MD** — GHK-Cu (Copper Peptide) Deep Dive: Mechanisms, Benefits, Risks, Forms, & Dosing <https://www.youtube.com/watch?v=IU6oRY7im6k>
- **Dr. Morales — FitDoc Podcast** — GHK-Cu Peptide Benefits (And a Few Risks) Explained

https://www.youtube.com/watch?v=zR_suFDqpvU

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njweightloss.us/Peptide-Guide-Dosing.html