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Why Glycine Deserves a Place in Your Healthy Aging Plan

Analysis by Dr. Joseph Mercola | November 22, 2026

STORY AT-A-GLANCE

- Glycine is an amino acid that helps build collagen and is involved in regulating inflammation, and researchers are exploring its role in healthy aging, yet your body may produce less of it as you get older
- Modern diets often lack glycine-rich connective tissues, such as bones, tendons and cartilage, making grass fed beef bone broth, gelatin and collagen-rich cuts of meat valuable additions to your meals
- Animal studies described by biochemist Joel Brind, Ph.D., found that glycine supplementation extended lifespan in rats and mice by approximately 10% to 15%, although researchers have yet to establish whether it produces similar benefits in humans
- In a small, three-month placebo-controlled trial of 74 adults with Type 2 diabetes, those given glycine had significantly lower HbA1c and reduced inflammatory markers compared with placebo, although larger studies are needed
- Research suggests glycine may help your body release heat and lower its core temperature before sleep, while collagen-rich foods and plain glycine powder offer practical ways to increase your intake

Protein gets plenty of attention for its role in maintaining muscle and supporting healthy aging. Foods such as grass fed steak and beef tenderloin are common protein sources, but they provide a different balance of amino acids than the bones, tendons, cartilage

and other connective tissues that are often discarded. Those overlooked parts contain glycine, an amino acid involved in many processes that help keep your body healthy.

Your body makes its own glycine, and you also get some from the foods you eat. Glycine helps produce collagen, the structural protein that supports your skin, joints and connective tissues. It also participates in processes involved in inflammation control, nervous system function and cellular repair. Because glycine is classified as nonessential, it's widely assumed that your body always makes enough. That assumption may be wrong.

Biochemist Joel Brind, Ph.D., challenges that assumption. His research into amino acid metabolism led him to investigate whether glycine plays an overlooked role in healthy aging. He argues that modern diets provide too little glycine relative to the body's demands, especially as you get older. Brind is also the founder of a company that sells a glycine supplement.

The connection between glycine, inflammation and longevity is particularly interesting because it challenges how you might think about protein quality. Getting enough protein is important, but the types of amino acids you consume also deserve attention. Brind's research offers an intriguing starting point for understanding why.

How Glycine Influences Longevity, Inflammation and Metabolic Health

In an interview on The Primal Podcast published in August 2026, Brind discussed his research into **glycine** and its role in healthy aging.[1] His work explores why this inexpensive amino acid deserves more attention, particularly for its effects on inflammation, blood sugar regulation and sleep. He also explained how research on lifespan extension in animals led him to investigate glycine's broader effects on health.

Brind argues that glycine's importance extends beyond its role in **collagen production**. He described animal experiments, human clinical research and biological mechanisms that, in his view, help explain why adequate glycine intake may be important for several

processes involved in healthy aging.

- **Glycine supplementation extended lifespan in animal experiments —** Brind described research showing that severe restriction of methionine, an amino acid abundant in muscle meat, extended lifespan in rats and mice by approximately 30% to 40%. Researchers then investigated whether adding glycine could produce similar benefits.

  According to Brind, animals given supplemental glycine in his research group's experiments lived approximately 10% to 15% longer. These findings are from laboratory or animal research and may not directly apply to human health; they don't establish that glycine extends human lifespan.

- **Glycine helps regulate the body's inflammatory response —** According to Brind, immune cells called macrophages have specialized receptors that respond to glycine. Macrophages help remove damaged cells and coordinate the immune response. When glycine binds to these receptors, it opens channels that let chloride ions flow into the cell.

  This makes the macrophage less reactive, functioning like a dimmer switch that turns down the signal that triggers the release of inflammatory messengers such as tumor necrosis factor-alpha (TNF-alpha). Brind believes this mechanism helps explain glycine's wide-ranging effects on health. Normal inflammation remains necessary for fighting infections and repairing injuries; the concern is excessive or prolonged inflammation.

- **A small clinical trial linked glycine to lower HbA1c in people with Type 2 diabetes —** Brind highlighted a 2008 placebo-controlled clinical trial of 74 adults with Type 2 diabetes conducted in Mexico.[2] Participants, whose average age was 58.5 and average body mass index was 28.5, received either glycine or an inactive placebo, for three months.

Hemoglobin A1c (HbA1c), which reflects average blood sugar over roughly three months, was significantly lower in the glycine group than in the placebo group after treatment. According to Brind, the glycine group's average HbA1c dropped from 8.3% to 6.9%.

The glycine group also showed reductions in proinflammatory markers, including TNF-receptor I, and Brind noted that these changes occurred without weight loss. Brind proposed that glycine's influence on inflammation in the pancreas and abdominal fat may help explain the results.

The study was small and lasted only three months, so larger trials are needed to confirm these results. These findings are from research conducted in clinical settings. Results may not apply to all individuals.

- **Glycine helps the body prepare for restful sleep —** Brind discussed research from Japan, including work involving Stanford University, that investigated glycine's effects on sleep regulation. He noted that much of this research has been funded by Ajinomoto, a company that manufactures glycine. Glycine acts as a neurotransmitter, meaning it helps nerve cells communicate.

  Brind explained that glycine helps widen small blood vessels near the skin, allowing more heat to escape and lowering core body temperature. This temperature change supports the transition into sleep. He also discussed glycine's involvement in muscle relaxation, although he acknowledged that poor sleep has many causes and that glycine won't resolve every sleep problem.

- **Modern diets provide less glycine by favoring muscle meat over connective tissues —** Brind explained that traditional diets made greater use of animal bones, cartilage, tendons and skin, often by simmering them into soups and broths. These tissues contain large amounts of collagen, which is particularly rich in glycine. Modern food preparation often removes these parts, leaving muscle meat as the primary animal protein source.

Muscle meat supplies some glycine, but it's also rich in methionine. When you eat more methionine than your body needs, your liver uses glycine to help clear the excess, so, according to Brind, the more methionine you eat, the more glycine you use up. Brind argues that a diet built around muscle meat therefore raises your need for glycine while supplying less of it. As he explained, previous generations put these animal parts "in the soup, not the trash."

- **Modern diets provide less glycine by favoring muscle meat over connective tissues —** Brind explained that traditional diets made greater use of animal bones, cartilage, tendons and skin, often by simmering them into soups and broths. These tissues contain large amounts of collagen, which is particularly rich in glycine. Modern food preparation often removes these parts, leaving muscle meat as the primary animal protein source.

  Muscle meat supplies some glycine, but it's also rich in methionine. When your body processes methionine, it produces excess byproducts that glycine helps clear away, so the more methionine you eat, the more glycine you use up. Brind argues that a diet built around muscle meat therefore raises your need for glycine while supplying less of it. As he explained, previous generations put these animal parts "in the soup, not the trash."

- **Glycine availability becomes an important consideration with age —** Brind argues that the body's ability to produce glycine declines with age, while modern diets often provide less because connective tissues are discarded. He also noted that low glycine levels have been observed in people with obesity and diabetes, although these associations don't establish that inadequate glycine intake causes those conditions.

- **Brind recommends about 10 grams of glycine daily —** Brind estimated that a typical diet supplies roughly 2 to 3 grams of glycine and advocated another 8 grams to bring total intake closer to 10 grams daily. He described bone broth, gelatin and collagen-rich animal tissues as useful sources.

For perspective, he estimated that approximately 1 quart of bone broth could provide 8 grams, although the amount varies with preparation. He also discussed glycine powder as a convenient alternative. His proposed intake is not an established dietary requirement, and the interview did not demonstrate that this amount prevents disease or extends human life.

How to Increase Your Glycine Intake for Healthy Aging

The first step toward getting enough glycine is to address what's missing from your diet. If most of your protein comes from muscle meat, I recommend adding more collagen-rich foods to provide a better balance of amino acids. From there, you have several simple ways to increase your intake and support the processes involved in tissue repair, inflammation control and healthy aging.

1. **Balance your muscle meat intake with collagen-rich foods —** If you regularly eat grass fed beef or other muscle meats, make collagen-rich foods part of your meals as well. Muscle meat provides valuable protein, but it contains a different balance of amino acids than connective tissue.

   I recommend getting approximately one-third of your daily protein from collagen-rich sources, while keeping your total protein intake around 0.8 grams per pound of ideal body weight (or 1.76 grams per kilogram).

   Start with familiar foods. Grass fed beef shanks, oxtail and other connective tissue-rich cuts of beef provide glycine alongside other nutrients. This approach helps you get a broader range of amino acids while maintaining the protein intake your muscles need.

2. **Make homemade beef bone broth part of your routine —** Beef bone broth is one of the easiest ways to get more glycine from foods that would otherwise go to waste. Use grass fed beef bones, cartilage and connective tissues, and simmer them slowly in water to extract collagen and gelatin. You can drink the broth warm or use it as a base for soups, stews and sauces.

If you're new to bone broth, start with a cup a day and gradually make it a regular part of your meals. The amount of glycine varies depending on the bones, water and preparation time, so think of broth as a useful dietary source rather than a precisely measured dose. Homemade broth also gives you control over the ingredients.

3. **Use unflavored gelatin to add glycine to everyday foods —** Unflavored gelatin offers another inexpensive way to increase your glycine intake. It's made from collagen and works well in homemade fruit gelatin, soups and other recipes. Choose a plain product without artificial sweeteners, colors or unnecessary additives.

   For an easy homemade dessert, dissolve unflavored gelatin according to the package directions and combine it with natural fruit juice. Refrigerate until firm. You can also experiment with the amount of gelatin to find a texture you enjoy. Check the protein content on the label to help estimate how much gelatin you're consuming, keeping in mind that gelatin protein isn't entirely glycine.

4. **Consider supplemental glycine to fill dietary gaps —** If your meals rarely include bone broth, gelatin or connective tissue-rich foods, plain glycine powder offers a convenient way to increase your intake. Brind recommends approximately 10 grams of total glycine daily, including what you obtain from food.

   If you choose to supplement, I recommend starting with a small amount to assess your tolerance rather than immediately taking a large dose. Brind noted that a minority of people experience digestive discomfort, such as stomach cramps or diarrhea, when taking glycine powder, and that dividing the amount into smaller doses can help.

   If you take medications or are managing a health condition, talk with your healthcare provider before adding a supplement. Look for a product that contains pure glycine without unnecessary additives. Glycine has a mildly sweet taste and dissolves easily in beverages. If you already take magnesium glycinate or collagen supplements, account for those sources when evaluating your overall intake.

5. **Build a consistent routine and pay attention to how you feel —** Glycine is a nutrient your body uses continuously, so regular dietary intake makes more sense than occasional large doses. Choose one or two simple habits that fit your lifestyle, such as having beef bone broth with lunch, preparing gelatin-rich foods several times a week or adding a measured amount of glycine to a daily beverage.

   Track your sleep quality, morning energy and joint comfort over several weeks to see whether you notice meaningful changes. A simple daily rating from 1 to 5 makes it easier to recognize patterns. Remember that these symptoms have many causes, and improvement doesn't establish that you were deficient in glycine. Your goal is to build a sustainable eating pattern that supplies the nutrients your body needs, rather than rely on a supplement as a treatment for every ache or restless night.

FAQs About Glycine

Q: Why is glycine important for healthy aging?

A: Glycine supports collagen production, immune regulation and several processes involved in cellular health. Animal research has also linked supplemental glycine to longer lifespan, although researchers haven't established that it produces the same longevity benefits in humans.

Q: How does glycine affect inflammation?

A: Research, much of it from laboratory and animal studies, suggests glycine interacts with receptors on immune cells that help control inflammatory activity. This process may help regulate the release of substances that promote inflammation, which is important because prolonged inflammation contributes to tissue damage and chronic health problems.

Q: Does glycine help improve blood sugar levels?

A: A small, three-month placebo-controlled trial of 74 adults with Type 2 diabetes found that participants given glycine had significantly lower HbA1c than those given a placebo. According to Brind, average HbA1c in the glycine group fell from 8.3% to 6.9%.

Participants given glycine also showed reductions in proinflammatory markers, and Brind noted that these changes occurred without weight loss. These findings are encouraging, but more research is needed to establish glycine's role in blood sugar regulation.

Q: Why is glycine associated with better sleep?

A: Research suggests glycine participates in nerve signaling that helps the body prepare for sleep. One of its effects involves increasing blood flow near the skin, which allows excess heat to escape and lowers core body temperature. This supports the body's natural transition into restful sleep, although sleep difficulties have many possible causes.

Q: What are the best ways to get more glycine, and how much is enough?

A: Grass fed beef bone broth, gelatin, collagen-rich cuts of grass fed beef and plain glycine powder are useful sources. Brind recommends approximately 10 grams of glycine daily from food and supplements combined, although this isn't an officially established requirement. Including collagen-rich foods regularly is a practical way to improve your amino acid balance.

This article is for informational purposes only and does not constitute medical advice. Consult a qualified healthcare provider before making changes to your health regimen.

Sources and References

- [1] YouTube, The Primal Podcast, August 22, 2026
- [2] J Endocrinol Invest. 2008 Aug;31(8):694-9. doi: 10.1007/BF03346417