

Bone Broth Beyond the Buzzword

Separating the science from the hype—what bone broth actually does for postpartum recovery

Introduction

Bone broth has become a wellness phenomenon. It has been credited with everything from curing leaky gut to erasing wrinkles to boosting athletic performance. Celebrity endorsements, boutique broth bars, and a steady stream of influencer content have elevated bone broth from a humble kitchen staple to a superfood with almost mythological properties.

This paper takes a different approach. Rather than adding to the hype or debunking it entirely, we examine what the peer-reviewed research actually says about bone broth's constituent compounds—collagen, glycine, glutamine, gelatin, and trace minerals—and their relevance to postpartum recovery specifically. The picture that emerges is more nuanced and more interesting than either the evangelists or the skeptics suggest.

As a neuroscientist trained at the University of Pennsylvania's Smell & Taste Treatment and Research Center and a professional cook who has made thousands of gallons of bone broth, I bring both a scientific rigor and a practical understanding to this topic that most treatments lack. The science is real, but it requires honest examination.

What Is Actually in Bone Broth?

Bone broth is made by simmering animal bones—typically beef, chicken, or pork—in water for an extended period (usually 12–48 hours), often with an acid component (vinegar) to facilitate mineral

extraction. The resulting liquid contains a complex mixture of compounds that vary significantly based on bone type, cooking time, and preparation method.¹

Collagen and Gelatin

Collagen is the most abundant protein in the human body, providing structural integrity to skin, bones, tendons, and—critically for postpartum recovery—the connective tissues of the pelvic floor and abdominal wall. When simmered for extended periods, the collagen in bones and connective tissues denatures into gelatin, a water-soluble protein that the body can absorb and use as raw material for tissue repair.²

Here is where honesty is required. A 2019 study published in the *International Journal of Sport Nutrition and Exercise Metabolism* found that bone broth provides "unreliable concentrations of collagen precursors compared with supplemental sources of collagen used in collagen research." The amino acid concentrations in standardized bone broth were significantly lower than the therapeutic doses used in clinical studies of collagen supplementation.³

This does not mean bone broth's collagen is useless—it means that treating a single cup of broth as equivalent to a clinical-grade collagen supplement is misleading. What bone broth *does* provide is a consistent, daily source of collagen precursors (glycine, proline, hydroxyproline) in a highly bioavailable form—dissolved in warm liquid, combined with co-factors that support absorption—consumed as part of a broader dietary pattern. The cumulative effect of daily bone broth consumption over weeks is a different proposition than a single serving measured against a supplement capsule.

Glycine: The Quiet Workhorse

If bone broth has an unsung hero, it is glycine. This amino acid—present at approximately 3–4 grams per cup of well-made bone broth—participates in a remarkable range of physiological processes relevant to postpartum recovery.⁴

Glycine is a key precursor to glutathione, the body's master antioxidant, which is essential for managing the oxidative stress that accompanies childbirth and the early postpartum period. It serves as an inhibitory neurotransmitter in the central nervous system, contributing to calm and sleep quality—both of which are severely compromised postpartum. Research published in *Current Opinion in Clinical Nutrition and Metabolic Care* describes glycine as "a novel anti-inflammatory, immunomodulatory, and cytoprotective agent."⁵

Glycine is also conditionally essential during periods of tissue repair. The body can synthesize glycine, but synthesis capacity may be insufficient during periods of high demand—exactly the situation following childbirth, when the uterus is involuting, the placental wound site is healing, and any surgical incisions (cesarean or episiotomy) are repairing. Dietary glycine from bone broth helps close this gap.

Glutamine: Fuel for the Gut

Glutamine is the most abundant amino acid in human plasma and serves as the primary fuel source for enterocytes—the cells that line the intestinal wall. This is relevant to postpartum recovery because pregnancy and birth alter intestinal permeability, and the early postpartum period is characterized by a gut barrier that is more vulnerable to disruption.⁶

Research in the International Journal of Molecular Sciences has established that glutamine supports intestinal barrier function through multiple mechanisms: it provides metabolic fuel for rapid enterocyte turnover, it stimulates the expression of tight junction proteins that maintain barrier integrity, and it modulates the intestinal immune response. For a postpartum mother whose gut permeability is already elevated, dietary glutamine from bone broth supports the restoration of normal barrier function.⁷

Minerals: Context Matters

Bone broth is often touted as a rich source of calcium, magnesium, and phosphorus. The reality is more qualified. Studies analyzing the mineral content of various bone broth preparations have found highly variable concentrations that depend on bone type, cooking time, acid concentration, and preparation method. Some preparations contained meaningful amounts of calcium and magnesium; others contained very little.⁸

What bone broth does reliably provide is minerals in a highly bioavailable form—dissolved in liquid, accompanied by amino acids that facilitate absorption, and consumed warm (which promotes gastric blood flow and nutrient uptake). For postpartum mothers, who are depleted across multiple mineral categories, this bioavailability may matter more than absolute concentration.

"Bone broth is not a supplement. It is a food—a deeply traditional, nutrient-dense, slow-cooked food that provides a constellation of compounds working in concert. Evaluating it by isolating any single compound misses the point."

— Monika Sudakov, Founder, MotherShip

The Postpartum Case: Why Now?

The postpartum body faces simultaneous demands that make bone broth's compound profile particularly relevant:

Tissue Repair

Whether birth was vaginal or cesarean, significant tissue repair is required. The uterus must involute from the size of a watermelon to the size of a pear over approximately six weeks. The placental wound site—roughly the size of a dinner plate—must heal. Any tears, incisions, or surgical wounds must repair. Collagen and its precursor amino acids (glycine, proline) are the raw materials for this repair. Vitamin C, also present in many bone broth preparations that include vegetables, is essential for collagen synthesis.⁹

Gut Recovery

The postpartum gut is working to restore normal permeability, reestablish microbiome balance, and manage the inflammatory aftermath of birth. Glutamine for enterocyte fuel, gelatin for mucosal support, and glycine for anti-inflammatory modulation all contribute to this recovery. The warm, liquid delivery system further supports digestive function by promoting gastric motility and parasympathetic activation.

Hydration

Breastfeeding mothers need approximately 13 cups of fluid daily—substantially more than the standard recommendation. Many postpartum mothers are chronically under-hydrated, which impairs milk production, slows recovery, and exacerbates fatigue. Bone broth provides hydration that is more sustained than water alone because its protein and mineral content slows gastric emptying, promoting steady absorption rather than rapid excretion.¹⁰

Sleep Support

Glycine has been studied for its effects on sleep quality. A 2007 study in *Sleep and Biological Rhythms* found that 3 grams of glycine before bed (the amount in roughly one cup of bone broth) improved subjective sleep quality, reduced sleep onset latency, and decreased next-day fatigue in participants with impaired sleep. For postpartum mothers, whose sleep is fragmented by feeding schedules, anything that improves sleep *quality*—even when sleep *quantity* is constrained—is clinically meaningful.¹¹

What the Skeptics Get Right

Intellectual honesty requires acknowledging the limitations of the evidence. There are no randomized controlled trials specifically studying bone broth consumption and postpartum recovery outcomes. The research on individual compounds (glycine, glutamine, collagen) is robust, but extrapolating from isolated compound studies to whole-food bone broth involves assumptions about dosage and bioavailability that have not been directly validated.

Additionally, bone broth quality varies enormously. A bone broth simmered from pastured, organic bones for 24+ hours with proper acid supplementation is a fundamentally different product from a "bone broth" made from conventional bouillon paste and water. The research on beneficial compounds assumes a well-made, slow-cooked product. Most commercial bone broths do not meet this standard.

There is also a legitimate safety consideration. Research has found that bone broth can contain measurable levels of heavy metals, particularly lead, which accumulates in bones. The concentrations found in studies were generally below levels of concern for adults, but it underscores the importance of sourcing bones from animals raised in clean environments without heavy metal exposure.¹²

Mothership's Standard: All Mothership bone broths are made from pasture-raised, organic bones, simmered for 24+ hours with apple cider vinegar. We treat bone broth as a foundation—not a magic bullet—consumed daily as part of a complete postpartum nutrition program.

Beyond Nutrition: The Sensory and Cultural Dimensions

The science of bone broth extends beyond its molecular composition. The act of drinking warm broth activates thermoreceptors that signal through the vagus nerve, promoting parasympathetic tone. The aroma of simmering broth—rich with the Maillard reaction products of slow-cooked protein and the volatile compounds of aromatics like garlic, ginger, and onion—activates the olfactory-limbic pathway, creating associations between the home environment and comfort.¹³

And culturally, bone broth connects the postpartum mother to a tradition that spans virtually every human civilization. Chinese, Korean, Japanese, Indian, Middle Eastern, European, African, and Indigenous American food traditions all feature slow-cooked bone broths as healing foods. When a new mother drinks bone broth, she is participating—consciously or not—in one of humanity's oldest and most universal acts of self-care.

Conclusion

Bone broth is neither magic nor myth. It is a traditional food with a well-characterized nutrient profile that addresses multiple dimensions of postpartum recovery: tissue repair through collagen precursors, gut healing through glutamine, inflammation modulation through glycine, hydration through warm liquid delivery, and sleep support through glycine's neurological effects. The evidence for each of these mechanisms is strong, even if the specific clinical application to postpartum recovery awaits dedicated trials.

At Mothership, we use bone broth as a foundation—not a supplement, not a cure-all, but a daily practice that provides a consistent baseline of nourishment. It is the liquid backbone of our meal program, present in soups, stews, congees, and as a standalone sipping broth. We make it with the care and rigor that good science demands, because the mothers who drink it deserve both honesty and excellence.

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