

## The Power of the Almighty Bone Broth

by Rylen Feeney Holistic Health Practitioner, Certified Amma Therapist, Dipl. ABT & CH(NCCAOM).

If I were to recommend one simple healing food that contributes to our overall health, it would be Traditional Bone Broth. This is one of the most healing, nutrient dense substances that we can add to our daily lives. Bone broth is a traditional healing food used by nearly every culture. Chinese Medicine believes that bone broth strengthens and nourishes our essence, qi, and wei qi, warms the yang and builds blood. The broth is said to enter and nourish our Kidneys, Liver, Lungs and Spleen.

So what makes bone broth so special? The exact nutrient profile of bone broth depends on the type of bones you use, how and with what it is cooked. We do know that it is rich in minerals that are found in bones and marrow, including Calcium, Magnesium, Iron, Silicon, Phosphorus, Sulphur and other trace minerals. The other unique and powerful substances found in bone broth are Marrow, Cartilage, Glycine, Proline, Collagen and Gelatin. The latter six substances are interrelated and in many cases either a part of one another or a different version of the same thing. For instance, cartilage, marrow and gelatin are merely forms of collagen. Proline and Glycine are amino acids that are foundational components found in collagen (or gelatin and cartilage). So broadly speaking it is the collagen that really provides the powerful health punch we experience from traditionally prepared bone broths.

To better understand the potential healing benefits of bone broth, I will discuss these six substances separately:

Marrow: Contains omega 3 fatty acids, minerals, vitamin A (maybe K) and stem cells. According to Cindy Micleu MTCM., L.Ac. "Red marrow is an important source of nutritional and immune support factors extracted in the cooking of bone soup. It contains myeloid stem cells, which are the precursors to red blood cells, and lymphoid stem cells, the precursors to white blood cells and platelets. The red marrow produces these immature precursor cells, which later convert to mature cell outside the marrow."<sup>1</sup>

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<sup>1</sup> Micleu, Cindi. "The Jade Institute | Bone Broth for Health Building: Nourishing the Liver and Kidneys." N.p., 2007.

Highlights of the benefits of Marrow:

- Contains AKG's (alkylglycerols) which increase RBC, WBC & Platelets.
- Rebuilding after marrow suppression (chemo & radiation treatments).
- Treats anemia.
- Carries oxygen to other cells in the body via RBC.

Cartilage: Composed primarily of collagen and elastin proteins. It is rich in glycosaminoglycans (GAGs), hyaluronic acid, chondroitin sulfate, and keratin sulfate.

The cartilage in bone broth is found mostly in the joints. If you want to make your broth richer in cartilage, consider adding chicken feet, trachea or pigs ears.

Highlights of the benefits of Cartilage:

- Greatly reduces joint deterioration & benefits joint and connective tissues.
- Heals inflammatory bowel disease.
- Contains AAF's (antiangiogenesis factors) that starve blood supply to cancer cells.
- Stimulates B, T, and macrophage immune cells.

Glycine: Bone broth is rich in this "nonessential" amino acid that plays a wide variety of important roles in the body including glucose production & regulation. It is one of the three amino acids that make up Glutathione, a tripeptide that acts as our most prominent antioxidant. It is also crucial for protecting muscle, in muscle recovery, and in wound healing. According to scientist & nutritionist Dr. Ray Peat "Glycine is recognized as an "inhibitory" neurotransmitter, and promotes natural sleep. Used as a supplement, it has helped to promote recovery from strokes and seizures, and to improve learning and memory. But in every type of cell, it apparently has the same kind of quieting, protective anti-stress action."<sup>2</sup> Another very important role of Glycine is its ability to increase gastric juices and thereby assisting in the prevention of ulcers and other digestive related conditions.

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<sup>2</sup> Peat, Ray. "Gelatin, Stress, Longevity." Gelatin, Stress, Longevity. N.p., n.d. Web.

### Highlights of the benefits of Glycine:

- Inhibitory neurotransmitter similar to GABA (gamma aminobutyric acid).
- Protects the brain.
- Primary amino acid involved in gluconeogenesis.
- Elevates gastric acid levels.
- Relaxes the mind and shows promise in treatment of insomnia and stress.
- Muscle recovery and wound healing.
- Essential for Phase I & II liver detoxification.

Proline: Another nonessential amino acid, this is the primary amino acid required for Collagen formation, and therefore is essential healthy cartilage, tendons, bones, ligaments and skin. Proline is also helps keep the arteries flexible and producing collagen, reducing arteriosclerosis and blood pressure.

### Highlights of the benefits of Proline:

- Collagen formation (best taken with Vitamin C).
- Prevents arteriosclerosis and may reduce risk of developing heart disease.
- Repairs damaged tissues.

Collagen: Referred to as the “glue” that holds our cells together, it is our main structural protein that makes up our connective tissues. There are several (15 or more), forms of collagen in the body and it comprises approximately 25% of the protein found in our bodies. It is part of all of our organs, arteries, veins, skin, ligaments, tendons, bones, and marrow. Collagen works together with elastin (another structural protein) to maintain connective tissue flexibility or elasticity. Collagen is destroyed by inflammatory processes. Essential to Collagen formation and health are antioxidant, particularly anthocyanidins (found in dark red/purple fruits) and vitamin C.

Collagen and Gelatin are the same thing. Collagen is the term used to refer to what is found in the body tissues, whereas Gelatin is the term referring to extracted collagen used as food.

Gelatin: The cooked form of collagen which is 35% glycine, 11% alanine, and 21% proline and hydroxyproline. Gelatin, as found in bone broth, is the ideal way to increase and feed the collagen in the body. In a warm liquid form it lends itself to easy digestion, and is generally well tolerated in people with gastrointestinal conditions and food sensitivities.

In traditional cultures, including in Chinese Medicine, bone broth makes an excellent base for feeding infants who cannot breast feed or are otherwise intolerant to cow or goat dairy. Gelatin is thought to heal mucus membranes and has been shown to heal inflammation and damage to intestinal walls. The regular consumption of gelatin helps replenish the secretory IgA (SIgA), mucosal barrier of the gut, which is the primary antibody of the intestinal system. It is now estimated that up to 70% of our immunity is found in our intestinal system. Gelatin has been shown to reduce inflammation and heal the small intestine in Leaky Gut Syndrome or intestinal hyper-permeability conditions.

Most current thinking in medicine sees intestinal permeability issues as being central in allergies, food intolerances, autoimmune conditions, and many other inflammatory chronic health conditions. Additionally Ray Peat makes the strong argument, "It is especially important to balance our diets with more gelatin because the amino acids found in muscle meats (methionine, cysteine, and tryptophan) should be balanced with a rich source of gelatin which counters their anti-metabolic effects and leads to a more efficient metabolism and healthy thyroid." <sup>3</sup>

Highlights of the benefits of Gelatin:

- Anti-inflammatory.
- Helps heal damaged mucosal membranes of the GI tract and reduce permeability.
- Plays a strong role in immunity and the treatment of auto-immune conditions.
- Soft tissue and wound healing.
- Formation of health ligament, cartilage, and bone.
- Supports healthy thyroid and metabolism.
- Supports healthy sleep and neurotransmitter health.
- Treats anemia and enhances protein assimilation.

Adding traditionally prepared bone broths to you and your clients' diets is a simple yet powerful dietary recommendation. It's deeply nourishing, comforting and is tonifying to blood, qi and the essence. It is truly a superfood.

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<sup>3</sup> Peat, Ray. "Gelatin, Stress, Longevity." Gelatin, Stress, Longevity. N.p., n.d. Web.

It is easy to make, freezes well, and can be used straight as a broth tea or as a base for soups, congees, stews, sauces, gravy, cooking grains, vegetables, savory baked goods, and added to beans. Bone Broth is simply made from cooking the bones of healthy animals or fish in water with vegetables, spices and herbs. The best broth is made slowly, 4 – 48 hours, steeping the nutrients from deep inside the bones and dissolving the marrow, cartilage and tendons into a silky rich fragrant broth.

### **To Make Bone Broth:<sup>4</sup>**

Broth can be cooked on the stovetop on low heat, or in a slow cooker (crock pot).

#### **Ingredients:**

- 2–3 pounds of bones (Include 2–4 chicken feet, or 1 sliced calf's foot for added gelatin; if using fish, use non-oily only. If using beef bones, you may want to roast them first for added flavor.)
- 4 quarts of cold filtered water
- 2 Tbsp to ½ cup vinegar (to taste)
- (optionally add 1 –3 onions, 2–3 carrots, 2–3 celery stalks, Spices as desired,
- 1 bunch parsley

#### **Directions:**

1. Put bones, meat, vinegar, water, any spices and all vegetables (except parsley) in stainless steel pot or crock pot. Let stand for 30 minutes to 1 hour.
2. Bring to boil.
3. Skim the scum off of the surface of the water.
4. Reduce heat, cover and simmer. For fish, at least 2 hours; for poultry, at least 8 hours; for beef, at least 12 hours.
5. Add the parsley in the last 10 minutes.
6. Strain, let cool, and refrigerate. Observe amount of gelatin in broth, and make adjustments to cooking time, and vinegar amount, accordingly.
7. Remove congealed fat that rises to the top.
8. Freeze any broth that you won't be using within 7 days.

Consider fortifying broth with Chinese herbs and nutrients:

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<sup>4</sup> Recipe adapted from 2011 instructor handout (Jessie Hensley) for WNP class.

- For Blood: Beef or Chicken, Dang Gui (Angelica Sinesis), Red dates (Hong Zao), Greens
- For Qi: Chicken, Astragalus (Huang Qi), Goji Berries (Gou Qi Zi), Red dates (Hong Zao), Ginseng (Ren Shen) or Codonopsis (Dang Shen)
- For Wei Qi: Fish, onions, Dried Lily bulbs (Bai He), Astragalus (Huang Qi)
- For Digestion: Fresh Ginger, Shitake Mushrooms, Lotus seeds (Lian Zi), Citrus Peel (Chen Pi), Umeboshi Plum (Suan Mei Zi), Poria (Fu Ling)
- For Pain & Swelling: Tumeric (Jiang Huang), Coix seeds (Yi mi),
- For Aging: Lotus Root, Dioscorea (Shan Yao), Red dates (Hong Zao), Mung beans.

Always rinse and drain your Chinese herbs, wrap your woody herbs (i.e. Astragalus, Dang Gui, etc) in muslin and remove prior to eating.

Màn man chī (bon appétite or eat slowly)

### **Resources:**

Auer, Daniel. "Benefits of Bone Broth." Doctor Auer RSS. N.p., n.d. Web. Aug. 2012

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Wang, Yuan, Warren Sheir, and Mika Ono. Ancient Wisdom, Modern Kitchen: Recipes from the East for Health, Healing, and Long Life. Cambridge, MA: Da Capo Lifelong, 2010. Print.