

Volume 9, Issue 3
March, 2023



The Scientific Approach to Making Bone Broth

by Wayne Persky

Many inflammatory bowel disease (IBD) patients have found that homemade bone broth can be very helpful for digestive system healing, due to its nutritional benefits. And as is almost always the case for us, because of our food sensitivities, homemade bone broth is a much safer choice than commercially made products. It's also typically a more beneficial choice, because it almost always contains more of the essential and beneficial amino acids that we need for intestinal healing.

Although recipes for bone broth can be found in many places on the Internet, most of us were unaware that the health benefits of bone broth have actually been scientifically studied. For example, the Thai Journal of Pharmaceutical Sciences reported a 2018 study that found that chicken bones gently boiled for three hours at a temperature between 194–203°F (90–95°C), produced bone broth that contained more amino acids and better flavor than stock that was simmered for shorter periods of time (Intermill, 2023, December 23)¹.

The cited reference also noted that in



Healing Bone Broth

by Gabes Ryan

Here's a recipe copied from a previous Microscopic Colitis Foundation Newsletter, volume 2, issue four, published in July 2017. Although this recipe was published almost 6 years ago, you'll notice that Gabes had already incorporated many of the suggestions made later, by researchers, and bloggers.

Homemade bone broth is a cheap gut healing power force! It has 75% of the amino acids your body needs and has gut healing essentials like collagen and gelatin, all in an easy to digest form and in a perfect combination of elements that optimize each other. When starting on a gut healing journey it is best to keep the bone broth really basic, with no herbs or vegetables. Later in the healing process you can experiment with adding them.

What sort of bones?

Use bones from safe protein sources. If roasting meats for meals, buy cuts on the bone, and keep the bones after eating the roast meat. Then freeze until you are making the broth to minimize histamine production when meat is kept in the refrigerator.

If having any poultry such as chicken,

February of 2022, the journal Food Control reported that researchers in China discovered that the nutrient content and flavor of bone broth reached their maximum levels within a 10-hour cooking time period. Presumably, this research was done using larger, thicker bones, because obviously, the thicker the bones used, the longer that they will need to be simmered in order to extract the highest percentage of nutrients without overcooking.

Bone broth is anti-inflammatory.

Science has also examined the anti-inflammatory benefits of bone broth (Mar-Solis et al., 2021)². The bone broth used in this study was made by simmering cattle femur bones in a mixture of 20 mL of white vinegar in 1 L of distilled water (2/3 fluid ounce of white vinegar in 34 fluid ounces of distilled water) at 98–102°C (208–216°F) for 8 hours. Using mice as research subjects, researchers studied the prophylactic capabilities of bone broth, by comparing the epithelial linings of the colons of mice that had been subjected to chemically-induced ulcerative colitis, with the linings of the colons of a control group of mice that were free of ulcerative colitis. After analyzing the data from the two groups, the discussion section of the research article points out that:

. . . The characterization of the nutrients present in BB prepared from bovine femur revealed that BB is a food with a high nutritional value, 54.56% of AA corresponds to EAA; these results can be attributed to the type of bone used, in this case, the femur contains a large proportion of bone marrow, which is rich in EAA. It can be attributed [sic] that the anti-inflammatory effect of BB is due to the EAA that it provides . . .

In the above quote, BB stands for bone broth, AA stands for amino acids, and EAA stands for essential amino acids. A more appropriate choice for the word "attributed" would have been "assumed". This preliminary research suggests that consuming bone broth may be as effective for treating colitis as any known medical treatment, if this can be confirmed by additional research.

A Condé Nast website contains an

turkey, or duck, freeze the carcass until use. Chicken feet also make great bone broth.

Lamb shanks are excellent to use for those sensitive to chicken or beef. Butchers, Whole Foods, and online retailers sell these.

For the best broth, get bones that have a joint within them such as feet, wings, or knee.

While the good quality bones from organic, free-range or grass-fed animals may appear at first to be expensive, they are really a great value, especially when you consider the cost per serving. Then add the goodness contained within the bone broth with the various amino acids, minerals, and other nutrients it contains that are in a readily absorbable form.

Commercially prepared products typically contain additional ingredients besides the bones and salt, in order to add to the flavor. Many brands include rosemary extract, which has soy. So in order to have a safe, bland, minimally processed bone broth, make it yourself!

What preparation is required?

Defrost any frozen bones.

For added flavor, roast fresh bones from non-poultry sources such as beef or lamb. Simply bake bones or meaty bones for 45 minutes at 425F (220°C).

How do I cook a basic and bland bone broth?

All you need is large pot, water, a small handful of salt (pure salt no additives) and the bones.

The exact water quantity depends on how many bones you have and how big the pot is. The water to bone ratio is about the 1 lb bones per quart of water (0.5 kg per litre).

Slow boil for 2-3 hours. A slow boil is where the water is lightly bubbling. This is more than a simmer and less than full boil.

Start with small batch. Then if the broth is runny and doesn't set like jello/jelly when in the fridge, you can cook the next batch with more bones and less

article discussing the details of making bone broth, and it includes a number of helpful suggestions (Bruno, 2022, February 26)³. For example, any types of bones can be used, but bones from larger animals such as pigs, sheep, and cattle, will typically produce bone broth with more fat and collagen than bones from poultry such as chicken or turkey. Poultry bones produce broth with a lighter consistency that some people prefer. Or, a mixture of bones from different animals, fish, and poultry may be preferred.

Obviously, when selecting bones, we have to use bones that come from animals, poultry, or fish that do not cause us to react. If we do not react to the meat from those creatures, then we should not react to their bones, either. And although various herbs, spices, and vegetables can be added to enhance the flavor, it's best to keep these recipes simple, at least early on, while we're still trying to reach remission. After we've been in remission for a while, and our intestines have had some time to heal, we can better afford to take a chance on spicing up the recipe a bit without risking a relapse.

Another reason for keeping the recipe simple is so that we can sip on bone broth during the day, if we're having a bad day. That said, even early on, the mixture should be flavored with plain salt. Apple cider vinegar should not be used unless we're absolutely sure that we can safely tolerate it before adding it to the mixture. Once we have the bone broth, we can also use it as stock to quickly make rich soups and stews, by adding vegetables, meat, rice, or whatever ingredients we prefer (as long as they're safe choices), and simmering until the additives are adequately cooked.

The Condé Nast site also suggests blanching and roasting bones before simmering them, in order to remove unwanted odors and impurities. Additionally, roasting caramelizes and intensifies the color, giving the broth an enhanced flavor that some people prefer. Although purists may disagree, the relatively long cooking time can be shortened by using a pressure cooker or Instant Pot. Most people prefer to use either a standard stockpot, or a slow cooker.

water.

If the smell of the bone broth cooking is too strong, you can use a grill or camping stove to do the cooking outdoors.

As soon as the broth is cool enough, transfer to freezer- safe containers. Skim off some of the fat, if desired. You can save the fat for roasting vegetables. Freeze broth in small portions enough for 1-2 days.

Following this process means minimal histamine.

What can I do with the bone broth?

You can simply drink it. Use it to make soups, stews and casseroles. Try cooking vegetables in it, or substitute some of the water when cooking rice.

Variations

There are lots of recipe ideas for bone broth that include other ingredients like herbs and vegetables. For those with MC, it best to make the broth bland. Then when making soups or stews, you can add other items like 'safe' vegetables or 'safe' herbs. This way if ever you have set back with the healing journey, the bone broth in your freezer is in safest form and can be used.

One variation that can be done is using apple cider vinegar to help draw the minerals out of the bones. However, please note that some people find that adding vinegar can change the flavor of bone broth so much that they find it totally unpalatable, so be cautious when experimenting with this option.

Remember: There are no failures – only learnings. The goal is "progress not perfection".

References

1. Intermill, B. (2023, December 23). On Nutrition: More on bone broth. [Web log message]. Retrieved from <https://medicalxpress.com/news/2022-12-nutrition-bone-broth.html>
2. Mar-Solís, L. M., Soto-Domínguez, A., Rodríguez-Tovar, L. E., Rodríguez-Rocha, H., García-García, A., Aguirre-Arzola, V. E., . . . Castillo-Velázquez, U. (2021). Analysis of the Anti-Inflammatory Capacity of Bone Broth in a Murine Model of Ulcerative Colitis.



Medicina, 57(11), 1138. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8618064/>

3. Bruno, A. (2022, February 26). How to Actually Make Bone Broth. [Web log message]. Retrieved from <https://www.self.com/story/bone-broth-recipe-tips>

Microscopic Colitis Foundation | 10242 Darrs Creek Rd, Bartlett, TX 76511

[Unsubscribe wayne@perskyfarms.com](#)

[Update Profile](#) | [Constant Contact Data Notice](#)

Sent by wayne@perskyfarms.com in collaboration
with



Try email marketing for free today!