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Dear Friends,

Thank you for coming to our Sourdough presentation at Mapleton Ready.

Hopefully, your sourdough starter has been in the fridge. Please follow these steps.

1) If you have not yet fed you sourdough – today is the day.

2) remove half of your starter and feed it with 1 cup of filtered water and a heaping cup of flour (white, whole wheat, rye – it doesn’t care – it just wants the carbs!)

3) move the rubberband around your jar to the level of the starter – it should be a stiff but very moist consistency – kind of like muffin batter – not runny like pancake batter.

If you are in need of a starter please have someone share who went to the class and got one.

**The Tender Loving Care of your**

**Sourdough Starter**

**Storing Your Starter**

1. **Refrigerator Method**  - this is the most common.  Take 1 TBS of wet starter and add it to a 1/4 cup flour and 1/4 cup of lukewarm water.  Feed the starter as described below every few days to once a week.

1. **Stiff Dough Method** – This dates back to life before refrigeration.  Mix 1/2 cup of starter with enough flour to make a stiff dough.  Store in a ceramic jar or crock surrounded by whole wheat flour, cover and seal.  In dry climates, like here in Utah, this will keep on the countertop for a week or so and much longer in the fridge.

1. **Air Dry Method** – This works great for making weekly bread or creating a start that you can tuck away in your storage so you always have a start to fall back on in case you lose your active starter.  After making bread dough, let the dough dry on the edges of your mixing bowl until it dries.  Air drying may take a few days in dry climates but may not dry in humidity.  This dried dough residue becomes a dried starter that can be reconstituted.

1. **Countertop Dailey Method** – Best if making daily bread.  Simply feed it every day as you use it to make bread, reserving more for the next day.  Keeping this at room temperature works just fine.

**Refreshing your Wet Starter**

Feeding Your Starter

* It’s Alive!  Your starter is teaming with live microorganisms.  These healthy probiotic bacteria need to eat regularly to grow and multiply.  That’s what leavening does.  If the starter is not fed regularly, they can become dormant and can eventually die.  Warmth makes them hungry and grow more.  Cold slows the process.  The byproduct of growth and probiotic metabolism is lactic acid.  This is what gives the delicious sourdough flavor.  The trick is stimulating enough growth to allow the bread to rise, but not so much that it is too sour and doesn’t rise well.

* There is not an exact ratio of flour to water needed to feed your starter.  You can vary the amounts of flour and water to fit your needs for a thin batter or a thick dough.

**Feed Daily** – if you keep your starter out on the counter.  If you make bread daily, this is ideal.

**Feed Weekly** – if you make bread weekly or bi-weekly.

* When making bread, you can use 2 Tablespoons of starter with 3 cups of flour and 2 cups of water.  Ideally, we like freshly ground whole wheat or rye flour and ALWAYS use pure water.  The chlorine in tap water is not good – chlorine kills bacteria.  Also do not use softened water as there is too much salt in it. There is no need to add sugar.  Large feedings will give the probiotics enough food to overcome any acid buildup and allow the bacteria to multiply quickly.

* If it has been too long since you used your starter was fed, or you didn’t feed it enough, you will find that the starter has begun to separate and a gray liquid has formed on top.  This is called “HOOCH” and is a mixture of alcohol and vinegar.  Gently pour or spoon off the hooch and feed your starter as described above.  When reviving my starter I will usually use a little to revive and the rest I will use for sourdough pancakes.

* Your starter should smell fresh and taste mildly sour.  If the aroma is pungently sour to smell and taste, your starter has become too acidic.  If this is the case, you must revive your starter by mixing a teaspoon of this starter with 1 cup of fresh flour and 3/4 cups of fresh water.  Leave on the counter overnight.  Taste in the morning.  If this revived start is still very sour and not bubbly.  Take a tablespoon of the revived start, mixing with more flour and water as above.

* Keep your starter in a glass jar or ceramic crock.  I like the jars with a gasket and bail-top lid.

* Good temperature for the growth of your starter is between 68 – 78 degrees.  Cooler temperature also works but slows down the process.  You can revive your starter and put it right back in the refrigerator for slow growth if you are not planning on using the start.

If you are new to sourdough – Please start with Pancakes.

**Sourdough Pancakes**

Like we had as kids

First of all, I'm going to assume that you have some starter in the fridge--just waiting to be taken out and fed. The night before, mix well (to incorporate some air) 1 cup of your sourdough starter with 1 1/2 cups of flour (or 3 cups)(all-purpose flour or whole wheat – whatever you like) and 1 cup of warm water (85°-90°) (or 2 cups). Leave at warm room temperature overnight, covered well with plastic wrap.

**The next morning, return 1 cup of the starter mixture to your crock/jar and put in the fridge for next time.** Often if my starter has been used for a while, I will empty the crock and begin the pancake batter as described above.  Then add flour and water mixing it into the crock (with the residue of the starter left in the jar) to replenish the starter for my next batch of bread. I typically will leave out the replenished starter overnight to start my bread the next day. That way I have a fresh lively, bubbly starter to begin with for my bread.

Then mix the remaining **1 1/2 cups of starter** with

1 egg, slightly beaten

1 Tablespoon of sugar, honey, any sweetener (or more if you like)

1 Tablespoon of melted butter, coconut oil or cooking oil.

3/4 teaspoon of salt

1/2 teaspoon (generous) of baking soda (the baking soda neutralizes the acidity of the sourdough and will cause the batter to be frothy allowing the pancakes to rise).  The more baking soda added the less sourdough flavor will carry through.

2 –4 Tablespoons of milk or water (the amount of liquid will determine the thickness of your pancakes).

For thicker pancakes I omit the milk/water.

Try to have your ingredients at room temperature. This will help to make more tender pancakes.  Bake on a 400° griddle. Enjoy!

We grew up with thin sourdough pancakes – not much thicker than a crepe.  We would butter them, sprinkle with cinnamon & sugar, powdered sugar or jam and roll them up and eat them as finger food. Sometimes after rolling them up, we’d pour maple syrup over them and eat them with a knife and fork. My brothers and I could really pack them away – it seemed there was always room for one more.

**For 3 cups of Pancake batter**

Then mix the remaining 3 cups of starter with

2 egg, slightly beaten

2 Tablespoon of sugar, honey, any sweetener (or more if you like)

2 Tablespoon of melted butter, coconut oil or cooking oil.

1 1/2 teaspoon of salt

1 teaspoon (generous) of baking soda (the baking soda neutralizes the acidity of the sourdough and will cause the batter to be frothy allowing the pancakes to rise).  The more baking soda added the less sourdough flavor will carry through.

4 Tablespoons of milk or water (the amount of liquid will determine the thickness of your pancakes).

For thicker pancakes I omit the milk/water.

Kyle Christensen January 2012

Another Pancake Recipe with or without Sourdough

**PANCAKE MIX RECIPE – from Russ and Becky Hatch**

6 Cups Wheat

1 Cup Barley

1 Cup Rye

1 Cup Oat Groats (I use oatmeal)

1 Cup Brown Rice

4 Cups Nonfat Dry Milk

1 Cup Baking Powder

¼ Sugar

4 Teaspoons Salt

Blend and then mill the grains together

Blend the other dry items together

Then blend the two parts together until completely blended.

Put the mix into a covered container and either freeze or keep in the refrigerator until needed.

Total mix will make 16 cups batter (4 quarts) if used all at once.

**TO USE: 1 cup of Pancake Mix. 1 Egg. 1 Tablespoon of Oil. ½ to ¾ Cup of Water.**

Note: You can use more water for thinner pancakes. Also, if you wait for a while to use the batter, it will thicken up and you may want to add a little more water to make the mix flow better.

We like to use fresh or frozen berries to go onto the pancakes after going on the griddle.

**Pancake Mix - Sourdough Version - modified by Kyle Christensen**

6 Cups Wheat

1 Cup Barley

1 Cup Rye

1 Cup Oat Groats (I use oatmeal)

1 Cup Brown Rice

4 Cups Nonfat Dry Milk

¼ Sugar

4 Teaspoons Salt

Blend and then mill the grains together

Blend the other dry items together

Then blend the two parts together until completely blended.

**TO USE: The night before or 6-8 hours before making pancakes, mix together:**

1 cup of Pancake Mix,

¼ cup sourdough starter,

 ¾ Cup of Water (depending how thick or thin you like your pancakes)

Just before cooking - add 1 Egg,  1 Tablespoon of Oil, ½ tsp baking soda. - the soda will react with the acid in the sourdough making the pancakes light and bubbly.

**Makes 7 - 5-6” pancakes**

*No Knead Artisan*

*Sourdough Bread*

There are many versions of this recipe floating around.  The concept is so simple and the results are so delicious.  There are endless variations you can play with such as adding fresh rosemary, asiago cheese, chopped Kalamata olives, garlic or walnuts. This recipe makes one loaf.

**15 ounces of flour (3 cups) – Use freshly ground whole wheat (you may mix in some Rye or white flour if you like).  For beginners you may want to try 50/50 whole wheat and white**

**1/4 cup sourdough starter – fresh, bubbly and lively**

**1 - 1/2 tsp sea salt – you can use most any kind of salt but why would you want to?**

**1 - 1/2 cups of warm water.**

* Whisk flour and salt mixing thoroughly.
* Add sourdough starter to warm water
* Fold liquid mix to dry mix to form a shaggy ball.
* Cover bowl with plastic wrap and let sit at room temperature for 12 to 18 hours.
* Lay a sheet of parchment paper inside a skillet.
* Turn out on to a well-floured surface and fold over twice. Remember this is NO KNEAD bread.
* Form into a ball and place on parchment in skillet seam side down.
* Lightly flour the top of the dough.
* Make a couple of slices into the dough with a serrated knife (optional).
* Cover loosely with plastic wrap.
* Let rise at room temperature until loaf doubles in size (1 to 2 hours)
* Preheat oven to 475 F with a cast iron Dutch oven pot with lid. Get a Dutch oven without legs that will easily fit into your oven.
* Remove Dutch oven and lid from oven.
* Pick up the dough by lifting the parchment and lower into the pot.  Let excess parchment hang over the pot.
* Cover the Dutch oven and return to oven for 30 minutes.
* For a deeper brown loaf, the lid of the Dutch oven may be removed and bread can be baked for an additional 15 to 30 minutes or until the center of the bread registers 200 degrees using a probe thermometer.
* Cool on a wire rack for two hours before eating, if you can wait that long.

The dough can be refrigerated for up to 2 weeks or until you are ready to bake.  Refrigerating will further develop the flavors.

Once you have the basic loaf mastered, begin experimenting with different varieties.

Dr. Kyle Christensen  2011

**Dr. Kyle’s**

**100%WHOLE WHEAT**

**SOURDOUGH SEEDY BREAD**

This is an awesome loaf of bread! If you’re looking for a seedy whole grain, soft sandwich bread with a wonderful, sweet nutty flavor, this is your bread!  And it is sourdough to boot.  It doesn’t get much better!

Note: This recipe is most easily made with a heavy-duty stand mixer.

**Sponge**

3 1/2 cups Whole Wheat Flour (403 grams)

1/2 cup organic raw Honey

1 cup Sourdough Starter – freshly raised to double its size – fed 6 to 10 hours earlier

3 cups Warm Water

2 TBSP Molasses

2 TBSP Coconut oil

1-2 Eggs

1 cup of Seed mix (sesame – black, white, brown, flax, sunflower, poppy – equal parts)

1/2 tsp Cinnamon powder

**Dough**

3 1/2 to 4 cups Whole Wheat Flour (403 grams) or more as needed for a slightly sticky dough

1/4 cup Vital Wheat Gluten (30 grams)

2 TBSP Dough Enhancer

1 TBSP Sea Salt

1/4 cup Seed mix to Roll loaves in before final rise and baking

1. Sponge: In a bowl of stand mixer fitted with the paddle attachment, combine 3 1/2 cups whole wheat flour, honey and sourdough starter, mixing until combined. Add the water, molasses, seeds and oil to the flour, mixing until incorporated. Mix by hand or beat dough for 3-5 minutes on low. Cover bowl and set aside for one hour.

2. Dough: Add the remaining flour, gluten, dough enhancer and salt to the sponge, beating until well mixed. If the dough is too dry, you can add another tablespoon or two of water. Using the dough hook, if possible, beat the dough on for 10 to 15 minutes, until a windowpane develops. You should have a nice, smooth dough.

3. Cover and let dough ferment, rise and do its sourdough magic for 8 to 12 hours.  It should easily have doubled in size.

4. Cut the dough into two equal pieces, roll in seed mix to cover the entire loaf. Place shaped dough into greased pans. Cut a slit or two into the dough with a serrated blade or razor. Cover with a slightly damp towel and set it aside for its final rise. Let proof about 60 to 90 minutes to double in size. Preheat the oven to 375°F while the bread is rising.

5. Bake loaves in a preheated oven for 40 to 55 minutes, or until the cooking thermometer probe reads 196°F. Copyright © 2013 Kyle Christensen

Pumpernickel Sourdough Bread

This is so delicious.  Great for grilled cheese and Reuben Sandwiches.  Who would know that chocolate or Cacao (pronounced Ka-kow) is what makes this delicious bread so dark. This recipe will make 4 regular sized loaves or you can be fancy and make different sizes or shapes.  We like using cast iron pots or frying pans to give variety to the size and shapes.  Make enough to share.

**1 cup Sourdough Start (Natural Yeast) – fed several hours before and doubled in size**

**4 cups Lukewarm filtered (chlorine-free) water**

**4 tsp. Sea Salt**

**¼ cup honey (raw is best)**

**¼ cup molasses (we like Grandma’s brand)**

**½ cup cacao powder (you can use cocoa is you haven’t discovered Cacao yet)**

**2 cup rye flour**

**¼ cup whole caraway seeds**

**6 to 8 cups whole wheat flour – we like white hard wheat or spelt) – you can also use some white flour if you choose.**

Dough: Mix sourdough start with water.  Add the honey and molasses.  Stir. Add cacao, rye flour, half of the wheat flour, caraway seeds and salt, and mix. Continue to add flour until the dough is the proper bread consistency (firm but a little bit tacky) If dough is too dry, you can add another tablespoon or two of water. Knead by hand or in a mixer using the dough hook. Knead or mix the dough on for 10 to 15 minutes, until a windowpane develops. (if you don’t know about “window panes” and bread look it up or ask someone in the know. You should have a nice, smooth dough.

Cover and let dough ferment, rise and do its sourdough magic for 8 to 12 hours.  It should easily double in size.

Cut the dough into 3 or 4 equal pieces. Place shaped dough into greased pans. Cut a slit or two into the dough with a serrated blade or razor. Cover with a slightly damp towel and set it aside for its final rise. Let proof about 60 to 90 minutes to double in size. Preheat the oven to 375°F while bread is rising.

Bake loaves in a preheated oven for 40 to 55 minutes, or until the cooking thermometer probe reads 196°F.

Remove from the oven and from pans and brush with butter, olive oil or coconut oil.  I also oil my cast iron pans at this time. Let cool.

Enjoy. Bon Appetit!

**Homemade Dough Enhancer**

Dough enhancer is just what you need to make whole grain [homemade bread](http://suzannemcminn.com/blog/2007/12/19/grandmother-bread/) light and wonderful, just like white bread, only better. You can buy dough enhancer, but it’s more frugal–and fun–to mix it yourself!

What goes into a dough enhancer? I use a combination of wheat gluten, lecithin, ascorbic acid crystals, pectin, gelatin, nonfat dry milk, and ginger. Wheat gluten improves the texture and rise of bread. Lecithin teams up with the gluten to make bread lighter. Ascorbic acid (Vitamin C) helps the yeast work better. Pectin adds moisture, as does the gelatin. The dry milk helps the dough relax (man, who needs uptight dough?), and the ginger is another yeast booster (you won’t taste it in the finished product). Most of these are also preservatives, so they help keep your bread fresh longer, and they are all natural.

**How to make Homemade Dough Enhancer:**

1 cup vital wheat gluten

2 tablespoons lecithin granules – can substitute an egg

1 teaspoon ascorbic acid crystals – can substitute apple cider vinegar (acetic acid)

2 tablespoons powdered pectin – can substitute apple pectin

2 tablespoons unflavored gelatin – We use Great Lakes brand

1/2 cup nonfat dry milk

1 teaspoon powdered ginger

(Double or triple if you want to store up more at one time.)

Mix together and store in an airtight container in the refrigerator. I used an old jelly jar. For 100% whole grain breads, use 3 tablespoons per loaf. You can even add a tablespoon per loaf in white bread recipes. Add to your recipe along with the flour.

***Edited to add: I love dough enhancer so much I make it in triple batches and keep it in a quart-size jar now.***

Happy whole grain bread baking!

***Dough Enhancing on the Fly***

**If I don’t have Dough Enhancer premade, I will usually add to my dough**

* **a large pinch of powdered ginger**
* **a tablespoon of Vital Wheat Gluten**
* **crack in a raw egg**
* **a drizzle of sunflower lecithin**

**Overcoming Gluten Intolerance**

By Kyle D. Christensen, DC

The problem of Gluten Intolerance and Celiac Disease is growing exponentially.  And as a result, the gluten-free market is booming.  Doctors, celebrities and the mom and herb kids next door are disavowing grains while preaching its evils with religious fervor.  Hint or suggest that wheat may not be quite the villain it is being portrayed as can bring quick and harsh judgment.

As is so common in our culture, we are so quick to come to a conclusion and often not even asking the right questions to the issue at hand.  One of the newer diets gaining in popularity is the Caveman or Paleolithic Diet, which espouses that we should *"eat like a predator - not like a prey"*.  Kind of catchy, isn't it. Or in other words, eat meat like a wolf or mountain lion, not grain and grasses like a cow. This approach of eliminating grains is somehow justified because early man did not begin farming and eating grains until about 12,000 years ago.  Therefore, according to their logic, before that time man was healthy and it wasn't until they started eating grains that our health became compromised.  Unfortunately, Gluten Intolerance really has not become a significant health problem until the last 10 maybe 15 years.  To me, it doesn't stand to reason that it took 11,985 years for the human body to begin suffering from the ill effects of grains.

I am not questioning the reality that people suffer and indeed suffer greatly from eating wheat or other grains that contain gluten.  What I am suggesting is that there is more to the picture of gluten intolerance than wheat being bad.  Certainly, there is a genetic component, but that is not the only factor to consider.  What I suggest is that wheat or grain is not so much the problem as the way it is prepared.

Modern methods of food manufacturing have changed the way, I believe, grains are prepared as compared to how they have been prepared over the past millennia.  Your typical manufacturer is interested primarily in profits.  To insure profitability, they focus on getting the product out as quickly as possible.  They are also interested in the shelf life of the product once it gets to market.  There are other factors of course, but these are the main two that have affected the digestibility of your bread.

Bread in times past, was not made with quick rising yeast.  (Red Star, SAF, or Fleischmann's).  Bread and grains in times past were not laden with preservatives and chemicals to lengthen the shelf life or enhance the texture, color or whatever else they do to increase sales.  Modern convenience dictates that we don't make "daily bread", but we buy our bread once a week and expect it to stay fresh and last at least a week.

Grains, as well as legumes and many other foods, contain what is known as anti-nutrients.  The purpose of these anti-nutrients (such as phytates, enzyme inhibitors, saponins) are genetically built into many plants to insure their survival.  If, for example, someone or something begins to eat too much of a bean or grain, after a while the body says hey that's enough of that food - move on to something else.  With these anti-nutrients, the tasty grain or bean would be entirely consumed and its survival would be in jeopardy.

Ancient man, however, was pretty clever.  Through trial and error (and without refrigeration), discovered how to preserve his food, make it more digestible as well as more nutritious.

If we ask the question, "What are we doing to the grains we eat today that people back in the day did differently?" We know as historical fact that people have been eating bread and grains for thousands of years without it causing problems.  In Christianity, we pray from our daily bread and Christ refers to himself as the Bread of Life - each example with very positive connotations.

Every culture prior to ours would soak or ferment their grains and bread dough prior to cooking.  Bread was not made with added yeast, but with a culture or sourdough starter.  This natural leavening (typically a lactobacillus bacteria) was acidic and would break down the phytic acid, deactivate the enzyme inhibitors as well as cause the bread to rise.  The resulting product was a fresh aromatic, easy to digest and healthy bread.  Genuine sourdough bread is made today as it was anciently with three ingredients - Grain, water and salt.  And if done properly delivers a light nutritious loaf that is exquisite.  This bread is not made in a day, but traditionally takes 2 to 3 days to make.  This is why the Hebrew people in their exodus from Egypt were instructed to make unleavened bread - bread that didn't require the time to culture, ferment and rise.  And the Jewish people today continue to make unleavened bread - but only once each year in celebration of the Passover.  The rest of the time, bread is made with leavening over time.

Because bread and grains (this includes pasta, pastry and anything else made from flour), prepared improperly, have been eaten as a dominant part of the diet in more recent history, these anti-nutrients cause irritation, inflammation and deplete minerals in the digestive tract.  Coupled with a genetic predisposition that many have inherited, the result can range from mild discomfort of gluten intolerance to the ravaging inflammation of Celiac Disease.

As a result of years of eating bread and grains that are milled too finely, risen too quickly and eaten too abundantly, these chronic and sometimes disabling digestive conditions are spreading as an epidemic across modern cultures. The consequence of gluten intolerance and celiac disease is an inflamed and damaged digestive tract.  The solution will not be found in simply eliminating gluten from the diet (although this is necessary and it does help with the symptoms).  Honestly, people suffering from gluten intolerance, even though they have completely eliminated gluten in all forms from the diet, still have digestive problems and are oh so sensitive to many foods and stress.  The digestive tract first needs to be healed.

There is hope.

Food and eating should be a wonderful experience that is discussed, planned, anticipated and savored.  Unfortunately, those suffering with digestive distress too often view mealtime with anxiety, frustration and trepidation.

In order for your body and digestive system to heal, you must first understand the cause behind gluten intolerance.  While there is a genetic component associated with celiac disease, that is only one factor – akin to someone having a genetic or family history of heart disease or certain types of cancer.  Typically, we find that the manifestation of disease results from a multitude of risk factors playing out and not only the genetic predisposition.  As alluded to early, Mother Nature puts anti-nutritional factors and toxins in grains, nuts, seeds and beans for a variety of reasons. Phytates, for example, block seeds from sprouting prematurely. Protease inhibitors, saponins, lectins and phytoestrogens harm insects, animals and other predators that would otherwise eat too many of them. If evolutionary theories are correct, wounded plants produce extra inhibitors and other anti-nutrients to save the plant species.

These foods when eating too abundantly act as irritants, resulting in inflammation, diminished absorption of minerals and nutrients and ultimately damage of the intestinal tissue.  Compound the naturally occurring anti-nutrients with chemicals added by the manufacturer such as preservatives, artificial colors/flavors/enhancers, etc. and you can create some pretty inhospitable foods.  The knee jerk reaction, exhibited by many popular doctors – usually pushing a diet plan, is to eliminate all grain from the diet, because it is obviously not meant to be eaten.  However, our ancestors were pretty clever, even if they didn’t drive cars, fly planes and entertain themselves with electronic gadgetry.  By soaking grains, seeds, nuts and beans, something magical happens.  Gluten is broken down, phytic acid is neutralized and enzyme inhibitors are deactivated.  The inhospitable food is now not only easily digestible but has transformed into something quite healthy and nutritious.

It appears that grains are not so much of the problem, but how they are prepared.  Breads made from wheat or other gluten-containing grains must be soaked or fermented with an acid (such as sourdough starter or apple cider vinegar) for a minimum of 8 hours before proceeding to cook.  This is how every indigenous culture prepared their grain (and nearly all of them ate grains – wheat, oats, corn, barley, etc.).  By the way, genuine sourdough bread is not made with yeast.  I once mistakenly bought Apple Cider “flavored” vinegar.  You don’t want sourdough “flavored” bread.  Which means that most likely, if bread is to be introduced back into your diet, you will need to learn how to make your own bread. Once you understand a few basic techniques, it is fun and easy.

But before we get into sourdough bread, you must heal your gut (the gut really is the scientific term for the entire digestive tract).  First and Foremost – YOU MUST NOT EAT ANY FOODS CONTAINING GLUTEN or other foods that cause you digestive upset or other symptoms.

Most people with Gluten Intolerance end up with what is known as a leaky gut.  The intestinal villi are damaged and the channels in the intestine for absorbing foods are larger than they should be.  The gut is too porous allowing food particles that are not broken down sufficiently to be absorbed into the bloodstream.  The result is often the development of food allergies.  So, compounded with the inflammation and irritation caused by gluten, you now are allergic to corn, sugar, nuts and many other non-gluten foods.  It is important to avoid all foods that act as irritants until the digestive tract is healed.  Only then should you begin to introduce other foods.

Another key to healing the digestive tract is Bone Broths.  This was how our great-grandmothers made soups and stews.  You cannot buy bone broths.  They must be made in your kitchen.  The great value in bone broths is that they are rich in minerals that are cooked out from the bones as well as very high in gelatin.  The minerals and the gelatin are so nourishing and healing as well as very easy to digest.  And as a bonus, soups, stews and sauces made from these broths are delicious.

**Recipe**

**Mineral-Rich Bone Broth (Beef & Garlic)**

This recipe makes approximately 64 oz of broth depending on how much water, how much you reduce the broth and how strong you like the flavor to be.

* 4 quarts of filtered water
* 1.5- 2 lbs of beef knuckle bones (or any other kinds of bones/meaty bones/marrow bones – chicken necks are inexpensive and work great)
* the cloves from 1 whole head of fresh garlic, peeled & smashed
* 2 Tbsp apple cider vinegar (organic, unfiltered- We like Bragg’s brand)
* 1Tsp unrefined sea salt - or more/less to taste (I like Celtic Sea Salt or Real Salt)

Preparation

* If you choose, you may brown or roast the bones/meaty bones first in a separate pan/pot if using a crock pot but this isn’t a necessary step. I don’t normally do it because it saves time/dishes not to and the purpose is just for more flavor which I don’t find necessary in this recipe. If you choose to, brown them in bacon fat or coconut oil before putting them into the water in the next step. Often we will bake or roast the bones in a 400 degree oven for an hour before throwing them in the pot of water to simmer.
* Place all ingredients in a 6 quart crock pot and set the heat to HIGH.
* Bring the stock to a boil, then reduce the heat setting to LOW.
* Allow the stock to cook for a minimum of 8 hours and up to 24 hours. The longer it cooks the better!
* Turn off the crock pot and allow the stock to cool.
* Strain the stock through a fine mesh metal strainer and throw away what you skim off.
* Place the cooled stock into glass jars for storage in the fridge (for up to a few days) or freezer for later use.  Ideally, once cooled your broth will gel up due to the high amount of gelatin.

You can use stock to drink any time of day or before a meal or as the base for soups, stews and in any recipe that calls for it!

Use any other kind of animal bones you like, chicken especially will take less time due to smaller pieces.

Add chopped veggies like carrots, celery and onions for more flavor or variety.

A crockpot makes this recipe super-simple, but you can also use a large stock pot (hence the name) or an enameled cast-iron dutch oven type of pot.

I will often recommend taking in 5 cups of bone broth per day. – at least for the first week.  You will notice an improvement usually within a day or two of starting this.

Many of you who have probably been advised (by those who may have been very well meaning) that you need to eat a raw food or mostly raw diet.  You discovered that raw foods can tear you up inside.  What you need is just the opposite – easy to digest foods.

**Congee** is the foremost of the “easy-to-digest” foods in Oriental medicine, used for all types of imbalanced digestion.  Congee is a thin porridge, which is often used as breakfast in parts of China.  There are many congee recipes available online, but I will give you the basic formula here:

I typically like to use brown rice, millet, quinoa or buckwheat (or a combo of any of these) as these are easy to digest and, usually, the least allergenic. Use a ratio of 1 part whole grain to 5 or 6 parts water.  To this, you can add various fruits, vegetables, spices or herbs. Then cook on low for several hours. (In a crock pot overnight on the “low” setting works well.)

Examples of ingredients to add to the congee would be ginger, cardamom, cinnamon, raisins, chopped carrots and apples. (These will add a touch of flavor and texture to the congee, but will still be well-cooked for easy digestion.)

You can also put cooked congee through a blender to feed to infants and toddlers with “tummy problems”.

**Warm Cooked Foods:**

When your system can handle more solid foods, you can add cooked potato, sweet potato (skin the potatoes initially if you need to), cooked winter squash (such as pumpkin), cooked summer squash (like yellow squash or zucchini), cooked root veggies (such as carrots, beets, daikon radish), whole grains like rice, quinoa, millet and buckwheat, and warm veggie soups with your bone broth or miso broth.

You may also add to your diet stewed fruits such as apples, pears, prunes, and figs, particularly if you are constipated.

**Warm Teas:**

Most people do well with chamomile tea, licorice tea,  rooibos (redbush) tea, or fennel tea.  Western Botanicals’ Tummy Tea is also a good choice.

Also sip on warm, clear bone broths or warm miso broth. Use a pinch of sea salt or Real salt – **never, never use table salt** – as this results in mineral imbalance.  These healthy broths are very nourishing and very satisfying to the taste.

**Foods to Avoid:**

With nausea, vomiting, stomachache and/or diarrhea, avoid raw veggies, frozen, iced and chilled foods, as well as acidic fruits (like citrus and raw tomato) until your digestion is feeling normal again. It is best to avoid the cruciferous tribe for quite a while. Cabbage, broccoli, cauliflower, radish, etc., are all wonderful foods, but they are hard to digest for anyone with a sensitive digestion. Spinach, beet tops, Swiss chard and rhubarb all contain abundant oxalic acid, which irritates the lining of the gut, and which the body neutralizes with calcium from the diet. Eating these vegetables will restrict calcium absorption, and they won't be good choices for the healing period. Depending on how weak your digestion is, you may need to eliminate all raw fruits initially as well, even bananas until you are feeling a little stronger.

Other foods to avoid with weak digestion are dairy products, which are very difficult for most people to digest and create excess mucus in the digestive system, as do wheat products, animal meats, sugars, artificial sweeteners, and fried or greasy/fatty foods and oils.  This means no fast foods, no processed foods, no candy, etc.

Beans, nuts and seeds are healthy foods, but should be avoided until the digestion feels normal again. People usually do okay with sprouted beans, lentils and seeds, but don’t push your luck.  One miscalculated indiscretion can bring on a week or more of digestive upset.

I generally recommend that you enjoy several weeks of digestive happiness before you begin to add any sourdough breads, soaked and fermented oats, or beans, nuts or seeds.

The question always comes up, when can I eat bread again?  If you are talking about commercially made breads the answer is NEVER.  But there is a lot of research coming forward showing that genuine sourdough bread is tolerated very well by those with celiacs or gluten intolerance.

While some people who suffer from Gluten Intolerance are looking for a panacea that will take their pain away and allow them to go back and “eat like everyone else”.  I am sad to say (that’s just an expression because I’m really not too broken up that you will be forced to eat a diet that is so much healthier than what “everyone else eats” – meaning you will be cutting risks of cancers, heart disease, diabetes, to name just a few), there is no pill you can take that will restore your health allowing you to consume unhealthy, un-nutritious foods and enjoy all the benefits as if you were eating healthy nourishing foods.

Recommendations in summary

1. Avoid all grains containing gluten and any other foods that cause symptoms
2. Bone Broths (with added sea salt) – 5 cups daily
3. Warm cooked foods including Congee, root vegetables
4. Do not introduce soaked or fermented grains or breads until your digestive tract has healed and settled down for several weeks.
5. Commit to a life of preparing and eating only healthy foods.

**Treating Food Allergies**

Did you know that if your body has created a food allergy or sensitivity, it also has the ability to uncreate that allergy or sensitivity. If you have a leaky gut and digestive issue, it is very likely that your body has created some allergies. I invite you to learn about and learn how to eliminate your allergies. Not simply to manage your symptoms, but to make those symptoms go away.  Learn about Allergy Elimination from our YouTube Channel

<https://www.youtube.com/watch?v=b3uk7ao8LY8&list=PLMd_D1aRKTEkTuDhZI6lq-isL4jHItonQ>

<https://www.youtube.com/watch?v=S4YbLLvGhaw&t=199s>

All Disease begins in the Gut

**Gut and Psychology Syndrome**

By Dr. Kyle Christensen

I feel at times the world is spinning hopelessly out of control.  I wish we could make everyone and everything stop so we could take a few deep breaths and reason together.  Can’t we see that we are poisoning our earth and with it those we love.  There are too many casualties in too many battles.  We are repeatedly told that technology is advancing.  We are able to dissect the genome and gaze at infinitesimal molecules, but as leaders (the USA) in the technological world we have one of the poorer records for health.  Research from the United States indicates that over the past 20 years childhood diseases and disorders have skyrocketed with Allergies up 700%, ADHD up 500%, Asthma up 300% and Autism up 1500%!  Ten years ago 1 in 10,000 children were diagnosed as autistic.  Today 1 in between 120 and 1 in 250 (depending on the study and region looked at) children are diagnosed with autism.  In California there has been a 10-fold increase in newly diagnosed cases in the last 10 years and the trend is rising.  It is estimated that today in California rates of autism are increasing by 1 child every 3 hours.  About 10% of the children in the United States are diagnosed with ADHD/ADD or learning disabled.  As these children move from childhood to adulthood they are more prone to be diagnosed with schizophrenia, obsessive-compulsive disorder (OCD), bipolar disorder, depression or other mental illness.

This rising trend is not simply because we are better at diagnosing or we have broadened the parameters of these conditions to include more children.  As I see it, we have a full-blown crisis on our hands and the tools that have created the problem are not likely to be the ones that fix it.  Yet this is where the lion's share of all research dollars are being spent in our country namely pharmaceutical cures.  Let me offer another solution or scenario that may help explain what is going on and how we may turn many of these conditions around giving children a normal healthy life.

It is the current thought among researchers and doctors who are not being funded or manipulated by the pharmaceutical or chemical industries that repeated exposures to unnatural drugs and toxins are poisoning and damaging our bodies.  The father of medicine, Hippocrates, cautioned (back before drugs ruled the day) that, “ALL Disease begins in the Gut”.  Could the words of a wizened sage still hold true today.  Let’s unfold what some of the current research is revealing.

It has been found that bottle fed babies develop a completely different and less healthy gut flora than breast fed babies.  The compromised gut flora in a bottle-fed baby later on predisposes her to many health problems.  Having acquired a weakened gut flora from the start, the typical modern mom had quite a few courses of antibiotics in her childhood and youth for various infections, earaches or acne.  It is a well-known fact that antibiotics have a serious damaging effect on the gut flora, because they wipe out the beneficial strains of bacteria in the gut as well as the harmful ones.

Many modern moms had been on birth control pills for many years before getting pregnant.  Birth control pills have a devastating effect on the beneficial (good) bacteria in the gut.  One of the major functions of the good bacteria in the gut flora is controlling and managing over 500 different species of pathogenic (bad) and opportunistic microbes.  When the good bacteria are destroyed the opportunistic microbes multiply in large colonies and occupy large areas of the digestive tract.  A modern diet of processed and fast foods provides the perfect nourishment for these colonies of bad microbes.  As a result of all these factors, a modern mom has a seriously compromised gut flora by the time she is ready to have children.

Why are we talking about the mother gut flora?  Because her baby is born with a sterile gut.  In the first 20 days or so after the birth of the child, the baby’s sterile gut surface gets populated by a mixture of microbes, which comes from the mother.  So whatever microbial flora the mother has, she will pass to her newborn child.

If the child does not acquire a normal balanced gut flora, then the child will not digest and absorb foods properly, developing multiple nutritional deficiencies.  Malnourished patients demonstrate learning disabilities, psychiatric problems and allergies.  The properly balanced gut flora actively synthesizes various nutrients such as vitamin K and many of the B-vitamins.  Clinical experience shows that the best way to treat these deficiencies is to restore the beneficial bacteria in the gut.  Remember, there must be a symbiotic balance of the good as well as the bad microbes in the gut.  You must supply the good as the bad microbes are ever present.

In addition to nourishing the body, the beneficial bacteria in the gut act as the housekeepers of the digestive tract.  They coat the entire surface of the gut protecting it from invaders and toxins by providing a natural barrier and producing a lot of anti-bacterial, antiviral and antifungal substances.  It is no surprise that when the gut flora is out of balance, digestion cannot be healthy.  Again, there is a direct connection between digestive problems and learning disabilities, psychiatric disorders, allergies and a weakened immune system.

If a baby does not acquire appropriate gut flora, then the baby is left with a compromised or weakened immune system.  The result is a history of infections followed by courses of antibiotics, which damage the child’s gut flora and immune system even further.  Infections such as ear infections, chest infections, fevers, sore throats and skin rashes are common.  Many children that I see in my practice have had antibiotic therapy 4 and 5 times per year for several years.    Vaccinations given to a child with a compromised immune system can further weaken the immune system and provide a source of chronic persistent viral infections and autoimmune problems in children.

So the modern child, who we are talking about, did not get normal gut flora from the start and then damaged it further with repeated courses of antibiotics and vaccinations.  Is it any surprise that digestive problems, allergies, asthma, eczema, and a variety of neurological and psychological disorders are so common today.  I think it is inaccurate to look for a single causative factor for these conditions, when in fact; there appears to be a multiplicity of causes that have culminated into the epidemic we now face.

The average adult has about 4 pounds of bacteria in the gut.  In fact the number of microbial cells in the gut outnumber the number of cells in your entire body.  Good microbes aid in the digestion of food.  They synthesize various nutrients, they protect the gut from toxins and pathogenic bacteria, yeast and fungi that can affect brain function and they support production of different immune supporting cells.  Without control of the beneficial bacteria, the person’s digestive system instead of being a source of nourishment becomes a major source of toxicity in the body.

Powerful neurotoxins created from yeast such as Candida and Clostridia can get absorbed through the damaged gut lining and then cross the blood-brain barrier affecting the patients mental functioning.    Broad-spectrum antibiotics do not touch them while killing the beneficial bacteria in the gut, which are supposed to control and manage the yeasts and clostridia. So after a course of antibiotics these two pathogenic groups get even more out of control and grow stronger.  Clostridia overgrowth in the gut has also been associated with obesity.  Which may explain why it can be so difficult for some to lose weight.

Because of these imbalances in normal gut flora, children and adults as well are unable to properly break down and digest some common foods. Poor digestive health is also behind the growing trend towards gluten and dairy-free diets.  Many have learned simply by listening to their bodies that they do not do very well if they eat grains or dairy.  When the gut flora is out of balance, large proteins such as gluten and casein are difficult to break down and digest.  Gluten is a protein present in grains, mainly wheat, rye, and barley.  Casein is a milk protein present in milk products of all animals.  In gut dysbiosis (which literally means a bad condition of life), these proteins do not have a chance to be digested properly before they get absorbed into the bloodstream.  They are absorbed into the bloodstream in a form with a similar chemical structure to opiates, like morphine and heroin. These substances called gluteomorphin and casomorphin get through the blood-brain-barrier and block certain areas of the brain just like morphine or heroin would do, causing various neurological and psychological symptoms. These substances, gluteomorphin and casomorphin, are routinely found in the urine of patients with schizophrenia, autism, ADHD, depression as well as rheumatoid arthritis.

Autism, ADHD, dyslexia, dyspraxia (poor coordination), schizophrenia and many other learning and mental problems are not incurable.  There are hundreds of documented cases of recovery from autism, ADHD/ADD and schizophrenia when the child was given the right treatment.  Again, the solution many parents are finding is not as simple as taking a new drug or a super supplement.  There often must be a comprehensive approach.  But while there will be some effort and inconvenience involved, the benefits can be transforming and life-giving.

Dr. Kenneth Bock, a New York-based physician and author of Healing The New Childhood Epidemics: Autism, ADHD, Allergies & Asthma explains; “we are in the midst of a group of new childhood epidemics, which are directly related to industrialism, and to its associated pollution, environmental degradation, and toxicity.”  Included in the list of offenders are pollutants as well as chemicals in foods that the body is not able to metabolize.  An overload of toxins leads to chemical stress in the body that in turn creates chronic inflammation in the lungs (asthma), in the immune system (allergies), in the brain (attention deficit), and in the skin (eczema). There appears to be a direct correlation relating specific digestive disorders to conditions such as schizophrenia, autism, attention deficit disorder, attention deficit hyperactivity disorder, bipolar disorder.

A comprehensive treatment approach focuses on treating each individual on the cellular level, ensuring that each cell has proper nutrition and is not over-burdened by toxins.  By repairing the digestive tract, adopting the right diet, taking nutritional supplements and detoxifying, the cells become more effective at supporting all organ and body systems.

Again the father of medicine, Hippocrates, cautioned, “ALL Diseases begin in the Gut”.  For this reason, it is important that we work to restore digestive health rather than just treating symptoms. Medication protocols focus primarily on modifying symptoms rather than addressing the underlying causes. Re-establishing normal gut flora can address a myriad of health issues. The treatment described in Dr. Natasha Campbell-McBride’s book Gut and Psychology syndrome is not drug based. Her treatment is a natural nutritional approach, which changes the child’s diet, supplementation and lifestyle.

A major part of recovery is modifying the diet to eliminate or reduce dietary stress.  The appropriate diet is key to allowing the digestive tract to heal and allow for the re-establishment of the good bacteria.  One of the great challenges for introducing any diet into a child’s life is the fact that the majority of children with learning disabilities are extremely ‘picky’ eaters.  Part of their problem is that their diet is limited to a handful of foods, which only perpetuates their biochemical and physiological abnormalities.

The rapid industrialization of food, medication, communication and lifestyle has challenged our bodies, which have not been able to adapt as quickly.  A focus on nutrition, non-toxic home and personal care products and a low stress lifestyle can facilitate the healing and recovery of those affected with GAPS (Gut and Psychology Syndrome) as Dr. Campbell-McBride has coined it.  We all need clean air, clear water, clean soil, wholesome food and fun.

The GAPS children and adults can present with symptoms of autism, ADHA, ADD, OCD, dyslexia, dyspraxia, schizophrenia, depression, bipolar disorder, sleep disorders, allergies, asthma and eczema in any possible combination.  Any child or adult with a learning disability, neurological or psychological problems and allergies should be thoroughly examined for gut dysbiosis.  Re-establishing normal gut flora and treating the digestive system of the person should be the number one treatment for these disorders, before considering treatment with drugs or otherwise.

Please take a moment to evaluate yourself and your children for any symptoms of gut dysbiosis.  Constipation (less than 2 to 3 bowel movements daily), diarrhea, eczema, asthma, allergies, indigestion, excessive gas or burping, tummy aches or pains.

Often the first step is to eliminate foods that are potentially risky.  Eliminating gluten and milk products, which may seem dramatic or difficult can be easily done with a little planning.  Most large grocery stores have a gluten-free section.  Use rice or almond milk instead of cow, goat or soy milk.  Avoid foods with chemical additives or preservatives.  Eat foods that are abundant in good bacteria such as sauerkraut (homemade or in the refrigerated section of the health food store).  I have found that even picky eaters can develop a taste for mildly fermented vegetables or natural homemade sodas.  A good probiotic supplement is recommended.  Digestive enzymes can also be beneficial.

If constipation is an issue take our Colon Cleanse formula adjusting the amount you take until you are stable with 2 to 3 bowel movements daily.  If your bowels are too loose, give our Colon Comfort a try.  Colon Comfort has benefited many who have suffered from Irritable Bowel Syndrome, Colitis and even Crohn’s Disease. Building the immune system will be important if you are prone to getting ill.  Take our Immune Boost Formula (teen and adults) or Syrup (for infants and children) for 6 to 8 weeks.  Getting away from the repeated cycles of antibiotics is important.

Remember, symptoms are the body’s way to letting you know something is wrong.  Please take stock of your current level of health and of those you love.  I urge you to take pen to paper and draft a plan.  As you know, a goal not written, is only a wish.  Getting healthy can be as simple as putting the good things into the body and removing the bad.  Nourish and detoxify.  To that end, we can assist you.

With Infinite Love and Gratitude,

Kyle D. Christensen, DC, ND, MH