

Soul2Soul Educare presents:

“Get Cultured with Fermented Foods”

Slide 2: Fermented foods have been around for thousands of years, before fridges even existed. Human beings are known to have made fermented foods since Neolithic times. 7000 BC The earliest types were wine, and leavened bread (made primarily by yeasts)

Click: Then in 3000 BC came the cheeses (made by bacteria and molds).

Click: These were soon followed in 1000 BC by Asian fermented Soy and Milk products, eg yogurt, miso, soy sauce

Click: Then in 500 BC all over the world the birth of pickles and preservation of food

Click: Then in 1700’s came preserving with vinegar, and soured wine

Click: In 1800’s was the birth of beer – of course in Germany

Click: 1857, Louis Pasteur, a French scientist, did his first study on fermentation and how heating could kill the microbes - hence the birth of pasteurization.

Click: 1945-50 molds have been used in industrial fermentation to make vitamins B-2 (riboflavin) and B-12, Antibiotics (such as penicillin)

Click: 1960-Present Bacteria are now used to make the amino acids lysine and glutamic acid. And Single-celled protein foods such as nutritional yeast and microalgae (spirulina, chlorella) are also made in modern industrial fermentations.

Slide 3: For early societies, the transformation of basic food materials into fermented foods was a mystery and a miracle, for they had no idea what caused the usually sudden, dramatic, and welcomed transformation. Some societies attributed this to divine intervention; the Egyptians praised Osiris for the brewing of beer and the Greeks established Bacchus as the god of wine. Likewise, at many early Japanese miso and shoyu breweries, a small shrine occupied a central place and was bowed to daily.

Slide 4 Why Do We Think That Eating Fermented Foods is so Important?

Most people, including many physicians, do not realize that 80 percent of your immune system is located in your digestive system, making a healthy gut a major focal point if you want to maintain optimal health.

Slide 5: Your Gut is Your Second Brain

According to a Russian Neurologist, Dr. Natasha Campbell-McBride, “your gut is quite literally your second brain, as it originates from the same type of tissue as your brain!”

Slide 6: During fetal development, **Click:** one part turns into your central nervous system, while the other develops into **Click:** your enteric nervous system. These two systems are connected via the vagus nerve, the tenth cranial nerve that runs from your brain stem down to your abdomen. Hence your gut and your brain work in tandem, each influencing the other. And this is why your intestinal health can have such a profound influence on your mental health, and vice versa.

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Slide 7: What Do Fermented Foods Do?

- Fermented foods exist where we take a food and pre-digest it, outside of the body.
- It is a process where foods are exposed to bacteria that cause them to start to break down. That makes them easier to digest, and easier for our bodies to absorb their nutrients.

Slide 8: Good bacteria vs Bad Bacteria

Slide 9: As we said earlier, 80% of our immune system is in our gut. As adults we have around 400 different species and strains of friendly bacteria in our digestive tract.

When we are healthy, we should have 80-85% good or friendly bacteria. When there is an overbalance of bad bacteria in our system, and the percentage of good bacteria diminishes, it creates a condition known as dysbiosis.

Slide 10: What Leads to Dysbiosis (How do we end up with more bad bacteria?)

- By putrefying, rotting proteins in our intestine, e.g. foods that sit in our gut and take longer to digest, meat, dairy etc. - These create a breeding ground for harmful bacteria, and kill off friendly bacteria, and contribute to intestinal toxemia.
- **Slide 11:** Excessive antibiotic consumption (both directly and indirectly from consuming non-organic meat and dairy which contain antibiotics).
- **Slide 12:** Consuming too many artificial chemicals and preservatives
- **Slide 13:** Eating too much sugar especially white sugar - Eating sugar actually nourishes the bad or pathogenic bacteria yeast and fungi in your gut,
- **Slide 14:** Eating too many refined grains
- **Slide 15:** Taking too much medication
- **Slide 16:** Drinking unfiltered water - especially water at public drinking fountains
- **Slide 17:** Poor digestion and constipation
- **Slide 18:** Living a stress filled lifestyle (mention acidic lifestyle)
- **Slide 19:** Living in a dirty polluted environment
- **Slide 20:** Washing hands w/antibacterial hand soap or using antibacterial cleansers eg Purell etc. - chemical goes into bloodstream and destroys bacteria in your gut

Slide 21: Having more bad renters than good renters leads to many health problems

- Digestive Disorders: Celiac disease, Food & Wheat Allergies, Leaky gut, Diarrhea and Irritable bowel syndrome
- **Slide 22:** Brain Disorders: Mood Swings, Psychological Health and Behavior, Depression, Anxiety
- **Slide 23:** Immunity Disorders: Common cold, Influenza, and Pneumonia

- **Slide 24:** Skin Disorders: Acne, Eczema and Atopic Dermatitis
- **Slide 25:** Cardiovascular Disorders: High cholesterol, Hypertension, Heart Disease
- **Slide 26:** Autoimmune Disorders: Crohn's Colitis, Chronic fatigue syndrome Arthritis, Hormonal imbalance.
- **Slide 27:** Metabolic syndrome: Insulin resistance, obesity, diabetes
- **Slide 28:** Liver diseases: Cirrhosis, Herpes, Cancer

Slide 29: These are some of the tell tale signs that unhealthy bacteria have taken over too much real estate in your gut, and that you probably need to add some healthy probiotics to your diet:

1. Gas and bloating
2. Constipation or diarrhea
3. Fatigue
4. Nausea
5. Headaches
6. Sugar cravings, and cravings for refined carb foods
7. Depression
8. Lowered immunity
9. State of bowel movement
10. Lifeless hair and skin - colon health is connected with beauty

Slide 30: What are the health benefits of fermented foods?

Fermented foods are packed with Probiotics, which are essential for a health promoting bacterial balance. This helps with better digestion and strong immune function. Probiotics can help restore our internal balance and will increase our vibrancy and overall health by:

1. Improving digestive functions - thus helping to eliminate constipation or diarrhea
2. Improving our liver function
3. Improving resistance to allergies
4. Improving vitamin synthesis, specifically the manufacturing of B vitamins
5. Increasing energy
6. Improving the absorption of nutrients
7. Helping to eliminate bloating
8. Improving heartburn
9. Improving metabolism and change the amount of fat the body absorbs
10. Improving your mood - Probiotics appear to increase levels of tryptophan in the brain, a chemical that "helps people feel better." In turn, tryptophan helps produce the calming neurotransmitter serotonin. (check this fact - 90% of serotonin is produced from gut)
11. Improving our immune system - healthy bacteria create omega-3 fatty acids
12. Helping patients recover from chemo and radiation after effects. (bacteria colony restoration)

Slide 31: Some people choose to take a probiotic supplement and this works, but you must keep in mind that there are many Probiotics in the marketplace and not all of them are as effective as they should be. What we do is we take a probiotic supplement first thing in the morning on an empty stomach, and then at dinnertime we should eat fermented vegetables. Hence we get the best of both worlds.

Probiotics are living organisms and are thus susceptible to death. The benefits of Probiotics are only seen when the live probiotic organisms make their way into our gut. Our stomach environment is pretty harsh and can kill a good portion of the live organisms before they reach our intestine so that they can benefit us.

So when you look for a good probiotic, make sure it covers these 5 criteria:

1. **Click:** The bacteria strains in the product must be able to survive your stomach acid and bile, so that they reach your intestines alive in adequate numbers.
2. **Click:** The bacteria strains must have health-promoting features.
3. **Click:** The probiotic activity must be guaranteed throughout the entire production process, storage period and shelf life of the product.
4. **Click:** There is a high culture count of a variety of highly beneficial strains. E.g. Lactobacillus Acidophilus is a common strain and is useful to get Candida under control, Bifidobacterium Bifidum assists with promoting general immunity.
5. **Click:** with supplements - look for "intestinal delivery system" - encapsulates the bacteria in a sheath that survives the stomach acid. The sheath is broken down further in the digestive tract and the bacteria are released into the gut.

Slide 32: Some reputable brands from probiotics.org:

1. Garden of Life Primal Defense Ultra Probiotics
2. Dr Mercola's Complete Probiotics
3. Renew-Life
4. Dr. Ohhira Probiotics
5. Culturelle
6. Yakult - a drinkable probiotic
7. Jarrow
8. Bio-K+ Probiotics
9. Udo's Choice Probiotics
10. GT's Kombucha

Slide 33: Easy Ways to introduce fermented foods into your every day diet:

It's always better to do our healing with food rather than a pill. A diet rich in fermented foods can help us achieve this balance for optimal immune function and better digestion.

Yeast Ferments:

Eat Sour dough breads - try to find ones that do not have other preservatives and sugars, Dekalb sells good sour dough breads, They also sell the Ethiopian sponge bread "Injera" which is gluten free and full of probiotics.

Slide 34: Dairy Ferments

Eat Organic yogurt or if you are vegan cultured coconut milk or soymilk. Try to eat the non-flavored kind though without added sweeteners and flavors.

Eat Yoghurt sauces like raita and tsatsiki.

Drink fermented drinks like kefir (show them kefir starter) or if you are vegan fermented coconut milk, but NOT commercial versions, which typically do not have live cultures and are loaded with sugars that feed pathogenic or bad bacteria

Drink Lassi (an Indian yogurt drink, traditionally enjoyed before dinner)

Drink Organic Buttermilk

Eat farmer cheese

Eat Organic Raw cheese

Eat Organic Sour Cream or Vegan Sour Cream (make sure it's organic - tofutti brand is made with genetically modified Organisms)

If you are doing dairy ferments, just make sure to steer clear of pasteurized versions, as pasteurization will destroy many of the naturally occurring probiotics. (Check the label to say "contains live cultures). For example, most of the "probiotic" yogurts you find in every grocery store these days are usually NOT good choices. Since they're pasteurized. They also typically if they are flavored contain added sugars, high fructose corn syrup, dyes, or artificial sweeteners; all of which will only worsen your health. Also make sure the dairy products are organic otherwise you are getting the antibiotics, hormones, and pesticides from the non-organic milk.

Slide 35: Bean Ferments

Miso

Tempeh

Natto

Tamari Sauce (gluten free)

Shoyu Sauce (contains gluten) - Braggs is made from unfermented soybeans

A little bit about soy here:

Reasons soy is not healthy: contains trypsin inhibitors, contain isoflavones which depress our thyroid function, and is filled with phytoestrogens which can cause hormonal imbalance, plus most soy is genetically modified unless it specifically says non-GMO soy. Thus soy is not that healthy for you unless it is fermented. Fermented soy like miso, tempeh, natto and shoyu or tamari sauce.

The process of fermentation deactivates the trypsin inhibitors in soy in a way that cooking cannot and makes these products more easily digestible. Trypsin inhibitors may reduce protein digestion and amino acid uptake.

Dosas

Idlis

Slide 36: Vegetable Ferments

Sauerkraut

Kimchi

Fermented vegetables eg turnips, cucumbers, beets, onions, squash, and carrots,

If you just avoid processed foods and eat only organic fruits and vegetables, That change alone will dramatically reduce the amount of sugar and fructose you consume, as well as automatically limit your exposure to antibiotics and agricultural chemicals.

I hope this information helped you, and I hope you will now get cultured and introduce fermented foods to your diet and get back your health!

Slide 37: Before we demonstrate how to make your own raw sauerkraut at home, we'd like to emphasize its benefits.

1. **Click:** By consuming this, you are getting the beneficial lactobacilli and enzymes that are naturally present in the vegetables, giving you a food that is rich in Probiotics, enzymes and minerals.
2. **Click:** Commercial sauerkraut is loaded with refined salt and pasteurized at high temperatures which destroys its important benefits. Homemade Sauerkraut can be made with Himalayan pink salt is not heated.
3. **Click:** When you eat grains or a dish high in protein or starches, the raw sauerkraut actually helps you digest the other food better, giving you more energy!
4. **Click:** Loaded with enzymes, helps maintain our body's enzyme reserves. The more enzymes we have the more our bodies have energy to rebuild our skin, our hair and help us lose excess weight.
5. **Click:** They good bacteria attack toxic sludge and loosen hard and encrusted fecal matter. Hence, during this process you might experience more gas and bloating as you detox and the sludge becomes dislodged. This is temporary and it will pass.
6. **Click:**. Replenish the good flora in our digestive tract
7. **Click:** Help us feel full and reduce the cravings for sweets.
8. **Click:** Give you healthy radiant looking skin

Raw sauerkraut that you make at home, can be used on your salads - when you eat it with healthy greens, the greens actually feed the healthy bacteria, so that they can flourish and build more colonies - With raw sauerkraut or other fermented veggies in your salad you don't even need salad dressing! For maximum benefits eat 1/2 to 1 cup with dinner at least 5 nights a week.

Slide 38: *Raw Organic Sauerkraut*

Yields enough to go into 2 (64 oz) half gallon glass Mason® jars

What You Will Need:

- 2 Small Head Organic Green Cabbages **or**
- 1 Large Head Organic Green Cabbage
- shredded in a food processor
(pull off 2-4 of the larger outer leaves and set aside the whole leaves)
- 2 TB Himalayan Pink Salt
- 2 Jalapeno Peppers (finely chopped) - Optional

To Make Sauerkraut:

1. Run the glass jars and the lids and rings in your dishwasher. Use heat dry, and Leave in the clean dishwasher until ready for use.
2. Using your food processor shred your cabbage and place in a large mixing bowl.
3. Sprinkle the salt all over the shredded cabbage as you go. *The salt pulls water out of the cabbage (through osmosis), and this creates the brine in which the cabbage can ferment and sour without rotting. The salt also has the effect of keeping the cabbage crunchy, by inhibiting organisms and enzymes that soften it.*
4. Using your hands knead the cabbage to squeeze out as much water as you can.
5. Once the cabbage is all slushy looking, stir in the sliced jalapenos with a wooden spoon.
6. Remove the glass jars from your dishwasher and place on kitchen counter
7. Using a pair of tongs fill the wide-mouthed jars with your cabbage mixture, tamping and packing down as much as you can allow the water to submerge the cabbage. The tamping packs the kraut tight in the jar and helps force water out of the cabbage.
8. Fold the larger outer leaves into a tight roll or a wad, and place them on top of the mixture to fill that 2-inch space.
9. Loosely close the lid. (*Note: don't tighten lid or your kraut will explode!*)
10. Place on paper towel (*since the liquid bubbles over and makes a mess on your counter*) in a dark unobtrusive spot in your kitchen for one week - making sure to cover the jars with a towel so that gnats won't get to them. You could also store it in a cool basement if you want a slower fermentation that will preserve for longer - here the kraut can keep improving for months.
11. Check the kraut every day or two. The volume reduces as the fermentation proceeds.
12. You will see the fermentation process in 1-2 days as you see the mixture bubbling (*good sign*) means the healthy Probiotics are teeming. Sometimes mold appears on the surface. This is called "scum". Skim what you can off of the surface; it will break up and you will probably not be able to remove all of it. Don't worry about this. It's just a surface phenomenon, a result of contact with the air. The kraut itself is under the anaerobic protection of the brine. Rinse off the lid. Taste the kraut. Generally it starts to be tangy after a few days, and the taste gets stronger as time passes.
13. I like it best after a week. Open the jars, remove the outer cabbage leaves, and discard.
14. Tighten your lids, and place sauerkraut in the refrigerator (this slows down the fermentation process).
15. The sauerkraut will keep in your refrigerator for up to 1 month.

Our Recommendation:

For your next batch:

We try to start a new batch before the previous batch runs out. You can remove the remaining kraut, pack the jars with fresh salted cabbage, and then pour the old kraut and its juices over the new kraut. This gives the new batch a boost with an active culture starter.

Other Options: Add other vegetables to your sauerkraut. Grate carrots for a coleslaw-like kraut.

Other vegetables e.g. onions, garlic, seaweed, bell peppers, Brussels sprouts, turnips, beets, and burdock roots all do well.

My mother in law says that if you put pieces of horseradish in your vegetable ferments they keep the vegetables crunchy

Slide 39: Recommended Reads

Wild Fermentation and The Art of Fermentation by Sandor Katz

Slide 40: References