

## Probiotics: A Serious Examination

Did you know that the bacteria in your body outnumber your body's cells **10 to 1**? It's true, and most of them reside in your gut. But there really is no need to panic, most bacteria are quite harmless. Having the *right* bacteria in there has even been linked to numerous health benefits.

This includes weight loss, improved digestion, enhanced immune function, better skin and a reduced risk of many diseases. This leads us to the topic at hand, probiotics. Probiotics are foods or supplements that contain these friendly bacteria, and are supposed to help colonize our guts with health-boosting microorganisms. The importance of this **cannot be overstated**.

Taking care of your gut, and the friendly bacteria that reside there, may be one of the *single* most important things you can do for your health.

### What Are Probiotics?

According to the official definition, probiotics are "live microorganisms that, when administered in adequate amounts, confer a health benefit on the host". Probiotics are usually bacteria, but there is also a type of yeast that can function as a probiotic. You can get probiotics from supplements, as well as foods that are prepared by bacterial fermentation. Probiotic foods include yogurt, kefir, sauerkraut, tempeh, kimchi and others.



Probiotics should not be confused with prebiotics (note the "e"), which are dietary fibers that help feed the friendly bacteria that are already in the gut. There are actually dozens of different probiotic bacteria that have been shown to have health benefits. The most common groups include *Lactobacillus* and *Bifidobacterium*. Then there are many different species within each group, and each species has many strains.

Interestingly, different probiotics seem to work for different health conditions. Therefore, choosing the **right** type (or types) of probiotic is essential. Many probiotic supplements combine different species together in the same supplement. These are known as broad-spectrum probiotics, or multi-probiotics. Keep in mind that this is a new but rapidly expanding area of research. Although the evidence is promising, it is not conclusively proven that probiotics help with all the health conditions mentioned in this article.

**Conclusion:** Probiotics are live microorganisms that cause health benefits when consumed in adequate amounts. There are many different types, and you can get them from foods or supplements.

## The Importance of Microorganisms in The Gut

The complex community of microorganisms in your gut is called the gut flora.

Your gut actually contains hundreds of different types of microorganisms, with some numbers going as high as **1000**. This includes bacteria, yeasts and viruses. The great majority is bacteria. Most of the gut flora is found in the colon, or large intestine, the last part of the digestive tract. The metabolic activities of the gut flora actually resemble those of an organ. For this reason, some scientists refer to the gut flora as the “forgotten organ”.

The gut flora actually performs many functions that are important for health. It manufactures vitamins, including vitamin K and some of the B vitamins. It also turns fibers into short-chain fatty acids like butyrate, propionate and acetate, which feed the gut wall and perform many metabolic functions.

They also stimulate the immune system, and regulate the integrity of the gut. This can help prevent unwanted substances from “leaking” into the body and provoking an immune response. However, not all organisms in the gut are friendly. Some are good, others are bad. The gut flora is actually highly sensitive to modern insults, and studies show that an “unbalanced” gut flora is linked to numerous diseases. This includes obesity, type 2 diabetes, metabolic syndrome, heart disease, colorectal cancer, Alzheimer’s, depression and many, many more. Probiotics (and prebiotic fibers) can help correct this balance, making sure that our “forgotten organ” is functioning optimally.



**Conclusion:** Your gut flora consists of hundreds of different types of microorganisms. Probiotics help your gut flora perform optimally.

## Probiotics and Digestive Health

Probiotics have been studied most in regard to digestive health. The strongest evidence has to do with antibiotic-associated diarrhea. When people take antibiotics, especially for long periods of time, they often suffer from diarrhea for a long time after the infection has been eradicated. This is because the antibiotics kill many of the natural bacteria in the gut, which shifts the balance and allows the “bad” bacteria to thrive. Dozens of studies have provided strong evidence that probiotic supplements can help cure antibiotic-associated diarrhea.

Probiotics have also been shown to be beneficial against irritable bowel syndrome, a very common digestive disorder. They can help reduce gas, bloating, constipation, diarrhea and other symptoms.

Some studies also show that probiotics may be beneficial against inflammatory bowel diseases such as Crohn’s disease and ulcerative colitis. Probiotics may also be useful against *Helicobacter pylori* infections, the main driver of ulcers and stomach cancer. If you currently have

digestive problems that you can't seem to get rid of, then perhaps a probiotic supplement is something you should consider.

**Conclusion:** Probiotics have been shown to be effective against various digestive problems. This includes antibiotic-associated diarrhea and irritable bowel syndrome.

## Probiotics and Weight Loss



Obese individuals have different gut bacteria than lean people. Animal studies have also shown that fecal transplants from lean animals can make obese animals lose weight. For this reason, many scientists now believe that our gut bacteria are important in determining body fatness.

Although this needs to be studied a lot more, some probiotic strains have been shown to help with weight loss.

The most impressive study on this was published in 2013. It was a study of 210 individuals with central obesity (lots of belly fat). In this study, taking the probiotic *Lactobacillus gasseri* caused people to lose **8.5% of their belly fat mass** over a period of 12 weeks. When they stopped taking the probiotic, they gained the belly fat back within 4 weeks. There is also some evidence that *Lactobacillus rhamnosus* and *Bifidobacterium lactis* can help with weight loss and obesity prevention. However, this needs to be studied more before any recommendations can be made. There are also some animal studies showing that other probiotic strains could even lead

to weight *gain*, not loss.

**Conclusion:** There is some evidence that the probiotic *Lactobacillus gasseri* can help people lose belly fat. This needs to be studied a lot more.

## Other Health Benefits of Probiotics

Getting into all the incredible benefits of probiotics is beyond the scope of this article. However, there are a few that are definitely worth highlighting here:

- **Inflammation:** Probiotics have been shown to reduce systemic inflammation, a leading driver of many diseases.
- **Depression and anxiety:** The probiotic strains *Lactobacillus helveticus* and *Bifidobacterium longum* have been shown to reduce symptoms of anxiety and depression in people with clinical depression.
- **Blood cholesterol:** Several probiotics have been shown to lower total and LDL cholesterol levels.
- **Blood pressure:** Probiotics have also been shown to cause modest reductions in blood pressure.

- **Immune function:** Several different probiotic strains can enhance immune function and lead to reduced risk of infections, including the common cold.
- **Skin health:** There is some evidence that probiotics can be useful for acne, rosacea and eczema, as well as other skin disorders.

This is just the tip of the iceberg. Probiotics have been studied, and shown to be beneficial, for a wide range of other health problems.

**Conclusion:** Probiotics have been shown to have numerous health benefits. They may reduce depression and anxiety, improve heart health and enhance immune function, to name a few.

## Are There Any Side Effects?

Probiotics are generally well tolerated and considered safe for most people.



However, in the first few days, you may experience side effects related to digestion. This includes gas and mild abdominal discomfort. After this initial adaptation period is over, your digestion should be better than it was before. Probiotics can be dangerous, and even lead to infections, in people with compromised immune systems. This includes people with HIV, AIDS and several other health conditions.

If you have a medical condition, definitely consult with your doctor before taking a probiotic supplement.

**Conclusion:** Probiotic supplements may cause digestive symptoms, but this should subside within a few days. They may be dangerous for people with certain medical conditions.

## What Everyone Needs to Understand

Maintaining a healthy gut goes way beyond just taking a probiotic supplement. What you do from day to day is just as important. All sorts of lifestyle factors, especially the foods you eat, have been shown to affect the gut bacteria. Living a healthy lifestyle, getting good sleep, and eating real food with lots of fiber is the key. In many cases, probiotic foods and supplement can be helpful as well

I now consider probiotics to be an essential component of my own personal health strategy.

## 11 Probiotic Foods That Are Super Healthy

Probiotics are live microorganisms that have health benefits when consumed. These are usually beneficial bacteria that serve some function in the body. Probiotics have all sorts of

powerful benefits for your body and brain. They may improve digestive health, reduce depression and promote heart health. Some evidence even suggests that they may give you better looking skin. Getting probiotics from supplements is popular, but you can also get them from foods that are prepared by bacterial fermentation (fermented foods).

Here is a list of 11 super healthy fermented foods that contain live probiotics.

## 1. Yogurt

Yogurt is a highly nutritious dairy product made from fermented milk. The milk is fermented with friendly bacteria, mainly lactic acid bacteria and bifidobacteria. Eating yogurt has been associated with many health benefits, including improved bone health. It is also beneficial for people with high blood pressure. In children, yogurt may help reduce the diarrhea caused by antibiotics. It can even help relieve the symptoms of irritable bowel syndrome.

Additionally, yogurt may be better than milk for people with lactose intolerance. This is because the bacteria turn some of the lactose into lactic acid, which is also why yogurt tastes sour. However, keep in mind that not all yogurt contains live probiotics. In some cases, the live bacteria have been killed during processing. For this reason, make sure to choose yogurt with active or live cultures. Also, make sure to always read the label on yogurt before you buy it. Even if it is labeled low-fat or fat-free, it may still be loaded with high amounts of added sugar.

**Conclusion:** Probiotic yogurt is linked to a number of health benefits. It may also be more suitable than milk for people with lactose intolerance. Make sure to choose yogurt that has active or live cultures.

## 2. Kefir – What the heck is this?

Kefir is a fermented milk drink. It is made by adding kefir grains to cow or goat milk. Kefir grains are not cereal grains, but rather cultures of lactic acid bacteria and yeast that look a bit like cauliflower. The word kefir allegedly comes from the Turkish word *keyif*, which means “feeling good” after eating. In fact, kefir has been linked to various health benefits.

It may improve bone health, help with some digestive problems and protect against infections. While yogurt is probably the best known probiotic food in the Western diet, kefir is actually a better source. Kefir contains several major strains of friendly bacteria and yeast, making it a diverse and potent probiotic. Like yogurt, kefir is generally well-tolerated by people who are lactose intolerant.

**Conclusion:** Kefir is a fermented milk drink. It is a better source of probiotics than yogurt, and people with lactose intolerance can often eat kefir with no problems.



### 3. Sauerkraut

Sauerkraut is finely shredded cabbage that has been fermented by lactic acid bacteria. It is one of the oldest traditional foods and is popular in many countries, especially in Europe. Sauerkraut is often used on top of sausages or as a side dish. It has a sour, salty taste and can be stored for months in an airtight container. In addition to its probiotic qualities, sauerkraut is rich in fiber, as well as vitamins C, B and K. It is also high in sodium and contains iron and manganese.

Sauerkraut also contains the antioxidants lutein and zeaxanthin, which are important for eye health. However, make sure to choose unpasteurized sauerkraut. Pasteurization kills the live and active bacteria.

**Conclusion:** Sauerkraut is finely cut, fermented cabbage. It is rich in vitamins, minerals and antioxidants. Make sure to choose unpasteurized brands that contain live bacteria.

### 4. Tempeh – And what is this?



Tempeh is a fermented soybean product. It forms a firm patty, and people have described the flavor as nutty, earthy or similar to a mushroom. Tempeh is originally from Indonesia, but has become popular all over the world as a high-protein meat substitute. The fermentation process actually has some surprising effects on its nutritional profile. Soybeans are typically high in phytic acid, a plant compound that impairs the absorption of minerals like iron and zinc.

However, the fermentation process lowers the amount of phytic acid, which may increase the amount of minerals the body is able to absorb from tempeh. Another interesting byproduct of this process is that the bacteria produce some vitamin B12, a nutrient that soybeans do not contain. Vitamin B12 is mainly found in animal foods, such as meat, fish, dairy products and eggs. This makes tempeh an overall great choice for vegetarians, as well as anyone looking to add a nutritious probiotic to their diet.

**Conclusion:** Tempeh is a fermented soybean product. It is a popular, high-protein substitute for meat. It also contains a decent amount of vitamin B12, a nutrient found mainly in animal products.

### 5. Kimchi

Kimchi is a fermented, spicy Korean side dish. Cabbage is usually the main ingredient, but it can also be made from other vegetables. A mix of seasonings is used for flavor, such as red chili pepper flakes, garlic, ginger, scallion and salt. Kimchi contains the lactic acid bacteria

*Lactobacillus kimchii*, as well as other lactic acid bacteria that may benefit digestive health. Kimchi made from cabbage is high in some vitamins and minerals, including vitamin K, riboflavin (vitamin B2) and iron.

**Conclusion:** Kimchi is a spicy Korean side dish, usually made from fermented cabbage. It contains lactic acid bacteria, which may benefit digestive health.

## 6. Miso

Miso is a Japanese seasoning. It is traditionally made by fermenting soybeans with salt and a type of fungus called koji. Miso can also be made by mixing soybeans with other ingredients, like barley, rice and rye. This paste is most often used in miso soup, a popular breakfast food in Japan. Miso is typically salty, and you can buy it in many varieties, such as white, yellow, red and brown.



Miso is a good source of protein and fiber. It is also high in various vitamins, minerals and phytonutrients, including vitamin K, manganese and copper. Miso has also been linked to some health benefits. One study reported that frequent miso soup consumption was associated with a lower risk of breast cancer in middle-aged Japanese women. Another study found that women who ate a lot of miso soup had a reduced risk of stroke.

**Bottom Line:** Miso is a fermented soybean paste and a popular Japanese seasoning. It is rich in several important nutrients and may reduce the risk of cancer and stroke, especially in women.

## 7. Kombucha

Kombucha is a fermented black or green tea drink. This popular tea is fermented by a friendly colony of bacteria and yeast. It is consumed in many parts of the world, especially Asia. On the internet, there are many claims about the potential health effects of kombucha tea. However, high-quality evidence on kombucha is lacking. The studies that exist are animal and test tube studies, and the results may not apply to humans. Yet, because kombucha is fermented with bacteria and yeast, it does probably have health benefits related to its probiotic properties.



**Conclusion:** Kombucha is a fermented tea drink. It is claimed to have a wide range of health benefits, but human evidence for these claims is currently lacking.

## 8. Pickles

Pickles (also known as gherkins) are cucumbers that have been pickled in a solution of salt and water.

They are left to ferment for some time, using their own naturally present lactic acid bacteria. This process is what makes them sour. Pickled cucumbers are a great source of healthy probiotic bacteria, which may improve digestive health. They are low in calories and a good source of vitamin K, an essential nutrient for blood clotting. Pickles also tend to be high in sodium. It is important to note that pickles made with vinegar do not contain live probiotics.

**Conclusion:** Pickles are cucumbers that have been pickled in salty water and fermented. They are low in calories and high in vitamin K. However, pickles made using vinegar do not have probiotic effects.

### 9. Traditional Buttermilk – Got Buttermilk?

The term buttermilk actually refers to a range of fermented dairy drinks. However, there are two main types of buttermilk: traditional and cultured.

Traditional buttermilk is simply the leftover liquid from making butter. Only this version contains probiotics, and it is sometimes called Grandma's probiotic. Traditional buttermilk is mainly consumed in India, Nepal and Pakistan. Cultured buttermilk, commonly found in American supermarkets, generally does not have any probiotic benefits. Buttermilk is low in fat and calories, but contains several important vitamins and minerals, such as vitamin B12, riboflavin, calcium and phosphorus.



**Bottom Line:** Traditional buttermilk is a fermented dairy drink mainly consumed in India, Nepal and Pakistan. Cultured buttermilk, found in American supermarkets, does not have any probiotic benefits.

### 10. Natto – Whatto?

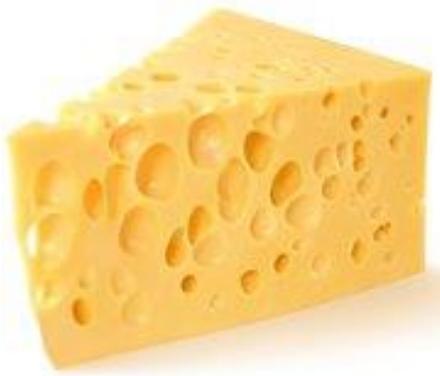
Natto is another fermented soybean product, like tempeh and miso. It contains a bacterial strain called *Bacillus subtilis*. Natto is a staple in Japanese kitchens. It is typically mixed with rice and served with breakfast. It has a distinctive smell, slimy texture and strong flavor. Natto is rich in protein and vitamin K2, which is important for bone health and cardiovascular health.

A study in older Japanese men found that consuming natto on a regular basis was associated with higher bone mineral density. This is attributed to the high vitamin K2 content of natto. Other studies suggest that natto may help prevent osteoporosis in women.



**Conclusion:** Natto is a fermented soy product that is a staple in Japanese kitchens. It contains a high amount of vitamin K2, which may help prevent osteoporosis and heart attacks.

## 11. Some Types of Cheese



disease and osteoporosis.

Although most types of cheese are fermented, that does not mean that all of them contain probiotics.

Therefore, it is important to look for live and active cultures on the food labels. The good bacteria survive the aging process in some cheeses, including Gouda, mozzarella, cheddar and cottage cheese. Cheese is highly nutritious, and is a very good source of protein. It is also rich in important vitamins and minerals, including calcium, vitamin B12, phosphorus and selenium. Moderate consumption of dairy products, such as cheese, may even lower the risk of heart

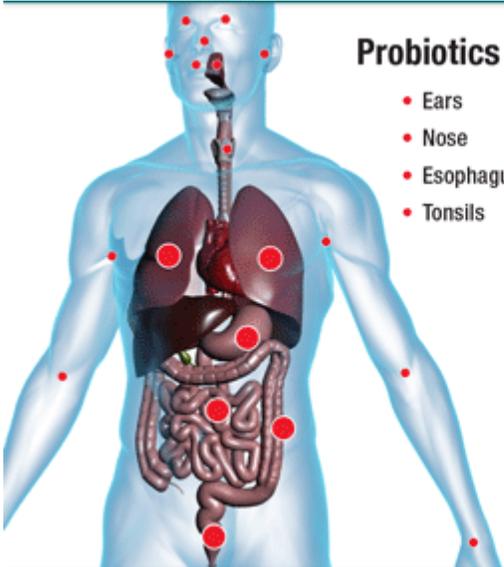
**Conclusion:** Only some types of cheese contain probiotics, including cheddar, mozzarella and gouda. Cheese is very nutritious, and may benefit heart and bone health.

## The Final Message - Probiotic Foods Are Incredibly Healthy

There are many super healthy probiotic foods you can eat. This includes numerous varieties of fermented soybeans, dairy and vegetables. Eleven of those are mentioned here, but there are many more out there. If you can't or won't eat any of these foods, then you can also take a probiotic supplement. There are many types available on the internet or at health food stores.

Probiotics, from both foods and supplements, can have powerful effects on health.

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**Probiotics Live Throughout the Entire Body**

- Ears
- Mouth
- Intestines
- Joints
- Nose
- Gums
- Eyes
- Colon
- Esophagus
- Lungs
- Stomach
- Vagina
- Tonsils
- Appendix
- Armpits
- Urinary Tract

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*There are 10 times more probiotics than cells in our body.*

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