

COVID-19

A Plant-Based Macrobiotic
Approach to Prevention and
Recovery

BERKSHIRE HOLISTIC
ASSOCIATES



Berkshire Holistic Associates

PLANT BASED NUTRITION & LIFESTYLE

Covid-19: A Plant-Based Macrobiotic Approach to Prevention and Recovery

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Note to the Reader

The guidelines and suggestions presented in this book are for educational purposes. They are not a substitute for qualified medical attention. Those who suspect serious illness in themselves or family members are advised to seek prompt medical attention. If, on the other hand, you need guidance in adopting a plant-based diet and lifestyle, feel free to consult a qualified macrobiotic counselor.

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The coronavirus (COVID-19) is a respiratory illness that can spread from person to person. The Centers for Disease Control and Prevention states that the virus that causes COVID-19 spreads mainly between people who are in close contact with one another. The virus can be contracted from respiratory droplets produced when an infected person coughs or sneezes or by touching a surface that has the virus on it and then touching their face.

PHYSICIANS COMMITTEE FOR RESPONSIBLE
MEDICINE

Introduction

COVID-19 is spreading around the globe. The *Washington Post* reports that 80 percent or more of the cases are mild, even though many people have died.

In this time of heightened awareness and fear, it is most helpful to stay calm: you are likely aware that feeling fearful and stressed is creating elevated cortisol levels in the body, which suppress the immune function and derails many healthy bodily functions and thus make us vulnerable to the virus and other diseases.

On the other hand feeling joyful, having fun is boosting every defense and healing mechanism in our body.

Also, exposure to sunlight, regular exercise (especially outside in nature) and a healthy diet are boosting all systems in the body, as well accelerating any healing processes that may be needed.

We carry within us virus and other detrimental pathogens all the time. Communication flashes between virus, microbes and body cells and they can change in the wink of an eye. Ideas and feelings of the most optimistic nature are ultimately our best protection.

As divine beings manifested in physical bodies we have all the power of creation: we get what we focus on. When we focus on fear for any prolonged time we will create exactly what we fear the most.

Focusing on love and fun and joy for a large part of the day regularly will result in much more pleasant experiences. So: let's spend time feeling joy and love and raise our vibration!

Modern health research as well as ancient healing traditions suggest that eating a healthy diet, taking time to relax and enjoy, exercise, spending time outside, avoiding constipation, engaging in meditation and/or prayer support the immune system to fight off infections like COVID-19. Along with simple hygiene these measures are the number one way we can all protect ourselves and prevent the spread of disease.

Peace, Love, and Joy,
Bettina Zumdick
March 2020

The gut is the seat of all feeling. Polluting the gut not only cripples your immune system, but also destroys your sense of empathy, the ability to identify with other humans.

SUZY KASSEM

All disease begins in the gut.

HIPPOCRATES

DEFINITIONS*

Yin

The primary expansive force of the universe producing upward movement, lightness, an outside position, water and air, the colors green, blue, and purple, and the world of plants.

Yang

The primary contractive force of the universe producing downward movement, heaviness, an inside position, solid matter, the colors yellow, brown, and red, and the world of animals.

*Note: The terms “yin” and “yang” are Chinese in origin. Any terms that describe complementary/opposites may be used in their place.

Understanding Coronavirus

Edward Esko

In this chapter we examine the novel coronavirus from a holistic point of view. That is, we look at it from the view of its environmental and behavioral origins, as viewing any problem from that perspective offers a clear path to a more complete understanding, leading to long-term solutions. Viruses are part of the natural environment. They have been on Earth for several billions of years. Humans have coexisted with viruses and bacteria from the beginning. When humans are living, and especially eating, with respect for the natural order, there is no need to fear viruses, bacteria, or any other part of the natural environment. Coronaviruses come in many varieties. They are named after the crown-like spikes on their surface. According to the World Health Organization:

Coronaviruses (CoV) are a large family of viruses that cause illness ranging from the common cold to more severe diseases such as Middle East Respiratory Syndrome (MERS-CoV) and Severe Acute Respiratory Syndrome (SARS-CoV). Coronavirus disease

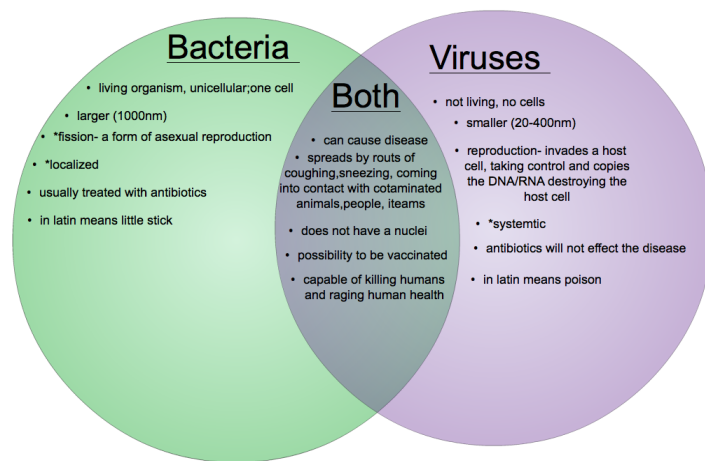
(COVID-19) is a new strain that was discovered in 2019 and has not been previously identified in humans.

Coronaviruses are zoonotic, meaning they are transmitted between animals and people. Detailed investigations found that SARS-CoV was transmitted from civet cats to humans and MERS-CoV from dromedary camels to humans. Several known coronaviruses are circulating in animals that have not yet infected humans. Common signs of infection include respiratory symptoms, fever, cough, shortness of breath and breathing difficulties. In more severe cases, infection can cause pneumonia, severe acute respiratory syndrome, kidney failure and even death.

Standard recommendations to prevent infection spread include regular hand washing, covering mouth and nose when coughing and sneezing, thoroughly cooking meat and eggs. Avoid close contact with anyone showing symptoms of respiratory illness such as coughing and sneezing.

To understand what viruses are, and why they have such potentially negative effects, and also how to avoid these effects, let us consider the relationship of viruses to the other major class of microorganism, bacteria. The illustration below summarizes the similarities and differences between the two. These differences are a perfect illustration of the complementary/opposites, known in macrobiotic and oriental medicine, as yin and yang. Yin

represents primary expansive force; yang the primary force of contraction. The two forces animate all aspects of our environment. Therefore plants are more expansive or yin; animals are more contracted or yang. The cell nucleus is yang, while the cell membrane is yin. Plants that grow in a cold northern climate are more contracted, and thus yang; while those growing the tropics are more expansive or yin. In the Far North, there is little vegetation. The tropical rainforest is lush and expansive. A diamond is yang; oxygen is yin. Gallstones and kidney stones are yang; hepatitis and fatty liver are yin. Pneumonia, which affects the deeper, more compact regions of the lung, is yang; while bronchitis, which affects the hollow and expanded bronchial tubes, is yin.



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Bacteria are yang compared to viruses, which are classified as yin

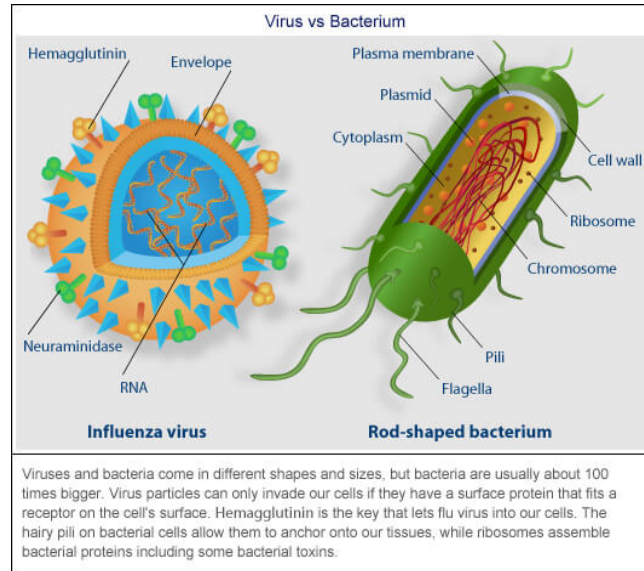
Clearly virus and bacteria have opposite characteristics. Bacteria are more highly organized and developed than bacteria. They are single-celled organisms, while viruses are non-living. Bacteria tend to produce localized infection, while viruses are systemic. And, perhaps most importantly, bacteria respond to antibiotics, while viruses do not. Antibiotics, originally the product of rapidly growing mold, are strongly yin. They are used in the food industry to control infection, and also to promote the rapid growth of livestock. In nature, opposites attract and react. Similar things do not interact nor do they react. Thus bacteria, which attract and subsequently neutralized by antibiotics, are yang. Viruses, which are not affected by antibiotics, are therefore yin.



Ocean mine (left) and COVID-19 virus (right). Note the similarities

The coronavirus bears a striking resemblance to a World War II ocean mine. Both inflict damage if engaged. If left alone, they remain harmless. The outer shell of the ocean mine is made of metal, which is yang. The inner core is packed with nitrogen-based explosives, which are highly volatile or yin. Virus particles contain the viral genome packaged in a protein coat called the capsid. Like ocean mines, the explosive or yin portion,

the genetic material, is located at the center, and the solid outer protein coat (capsid), is located at the surface. Bacteria are the opposite: yang at the center and yin at the surface. Their outer coat, or capsule, is made up of more yin polysaccharide. Delicate projections extend from surface, in contrast to the thick spikes extending from the outer coat of a virus. The inner portion of the bacteria is comprised of a thick cell wall, cytoplasm, and chromosomes, all of which are more densely packed, or yang.



A virus is yin or hollow inside, while bacteria are more yang or dense in the inner region

The spikes that penetrate from the outer coat of the virus easily bond with yin receptors on the outer membrane of body cells. Once inside, the genetic material of

the virus overwhelms the native genetic material of the cell. Rather than serve the needs of the cell, the alien genetic material causes the cell to begin reproducing new viruses. This yin, or expansive process continues until the cell explodes, releasing many new viruses that go on to infect other cells, in a continually expanding process.

As we have seen, we can divide infectious agents into two opposite types: viruses and bacteria. However, each of these types divides into opposite subtypes. In the case of bacteria, there are gram-negative and gram-positive varieties. Among viruses, some are milder, others more severe; some last several days, while others persist; some affect the upper respiratory passages, while others move downward and attach to cells in the lungs. The cold and flu viruses offer a perfect example of these opposite tendencies. The differences between the cold and flu viruses are apparent: colds are milder; the flu is more severe. The flu lasts longer, while a cold goes away more rapidly. Colds affect the upper respiratory tract; the flu goes deeper, producing a dry cough. A cold is inconvenient; the flu can be fatal for those with compromised immunity. So, as we see, colds are yin; the flu is yang. Together with the behavior of a virus, the origin of the virus also offers a clue as to its yin or yang nature. According to PubMed:

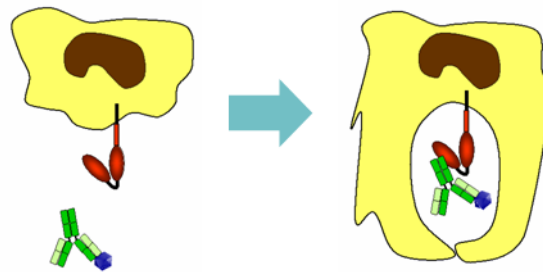
Severe acute respiratory syndrome coronavirus (SARS-CoV) and Middle East respiratory syndrome coronavirus (MERS-CoV) are two highly transmissi-

ble and pathogenic viruses that emerged in humans at the beginning of the 21st century. Both viruses likely originated in bats, and genetically diverse coronaviruses that are related to SARS-CoV and MERS-CoV were discovered in bats worldwide.

The animals associated with corona infection share a number of characteristics. Bats, for example, come in two varieties; more yang insect eating bats and more yin fruit eating bats. Civet cats, raccoon-like creatures, are carnivores but also consume fruit. The pangolin, a form of spiny anteater, eats ants and termites. Pangolins have been suspected in transmitting the COVID-19 virus to humans. All three creatures consume a yang diet—insects and animals—and are nocturnal. This combination—a carnivorous diet plus nocturnal activity—may prove to be a breeding ground for a variety of corona viruses that penetrate deep within the lungs yet spread rapidly from human to human. It may also help explain why these viral outbreaks tend to be more severe in the cold and dark weather characteristic of autumn and winter.

The body has a number of immune responses to viruses. Viruses are neutralized by specialized cells of the immune system, including cytotoxic T cells and natural killer cells (NK cells) that destroy infected cells, and through the production of antibodies. In one process, yang antibodies cause virus particles to stick together, making them easier targets for immune cells than single particles. In another process, known as phagocytosis,

phagocyte cells are activated by antibodies, triggering a process by which the phagocyte cell engulfs and destroys the virus.



**Antibody mediated
triggering of phagocytosis**

The antibody activates the phagocyte cell (top) to engulf the virus (bottom)

As we can see, the health of the immune system is vital in protecting the body from potentially harmful viruses. According to some estimates, the gut wall is home to 70 to 80 percent of the cells that comprise the immune system. Together with breaking down food and absorbing and producing nutrients, the digestive tract plays a vital role in the body's immune response. According to Andrew M. Platt of the University of Glasgow:

The large intestine (colon) has a large resident population of microbes, consisting of at least 10^{12} organisms per gram of luminal contents. These organisms, together with the antigenic load provided by the

diet and the constant threat of potential pathogens, means the intestinal immune system encounters more antigen than any other part of the body.

The fact that a large proportion of coronavirus infections begin with digestive symptoms suggests that the intestinal immune system plays an important role in the development of the disease. In a study published in March 2020 in the *American Journal of Gastroenterology*, Chinese researchers examined data from 204 patients in Hubei province, believed to be the geographical center of the 2019 outbreak. Of these patients, 99 (48.5 percent) went to the hospital with one or more digestive symptoms as their major complaint. Symptoms included diarrhea, vomiting, and abdominal pain. According to the researchers, “Of these 99 patients, 92 developed respiratory symptoms along with digestive symptoms, and 7 presented with only digestive symptoms in the absence of respiratory symptoms. Among the 105 patients without digestive symptoms, 85 presented only with respiratory symptoms, and 20 neither had respiratory nor digestive symptoms as their chief complaint.” Digestive issues were not only a first sign of illness, but also those who reported them tended to become sicker than those who did not. “Moreover, as the severity of the disease increased, digestive symptoms became more pronounced. Patients without digestive symptoms were more likely to be cured and discharged at the time of this study than patients with digestive symptoms.” The researchers noted

that 60 percent of patients with no digestive symptoms recovered, compared to 34 percent of those suffering from digestive symptoms. They further stated that, “Clinicians must bear in mind that digestive symptoms, such as diarrhea, may be a presenting feature of COVID-19 that arise before respiratory symptoms, and on rare occasions are the only presenting symptom of COVID-19.”

Researchers at the Renmin Hospital of Wuhan University and the Wuhan Institute of Virology of the Chinese Academy of Science reported in February 2020 that the coronavirus might be transmitted through the digestive tract. They found genetic material of the virus in stool samples from patients, leading them to propose that the novel corona virus may be spread through the fecal-oral route, as well as through droplets inhaled by the respiratory system.

This is one among many findings linking the condition of the condition of the lower digestive tract, especially the large intestine, with the lung and respiratory system. This relationship is mediated by the microbiome, the vast colonies of bacteria, most of which are beneficial, that inhabit the digestive tract. An article by Helen Fields published by Johns Hopkins in March 2020, entitled, “The Gut: Where Bacteria and Immune System Meet,” describes that relationship as follows:

Until recently, if most people thought about those bacteria at all, we tend to think of them as fairly separate from us. They help with digestion, but otherwise

they stay on their side of the intestinal lining, and we stay on our side. But, in fact, there is a lot of interaction between the body's immune system and bacteria in the gut. Researchers at John's Hopkins are now in the early stages of figuring out how the composition of the gut changes in different diseases, how the body's immune system interacts with these tiny hitchhikers and particularly how that relations may function in disease. "A huge proportion of your immune system is actually in your G.I. tract," says Dan Peterson, assistant professor of pathology at the Johns Hopkins University School of medicine. "The immune system is insider your body, and the bacteria are outside your body." And yet they interact. For example, certain cells in the lining of the gut spend their lives excreting massive quantities of antibodies into the gut. "That's what we're trying to understand—what are the types of antibodies being made, and how is the body trying to control the interaction between ourselves and bacteria on the outside?"

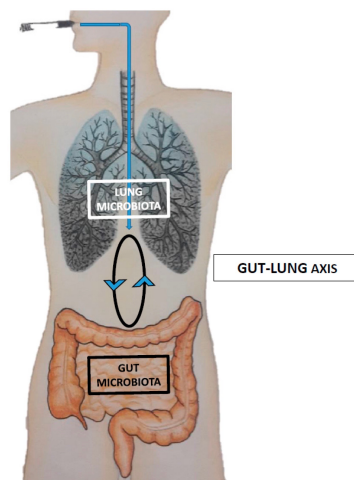
Although gut bacteria influence the body's overall immune response, their relationship to the immune response in the lung is especially relevant to COVID-19. That connection is now referred to as the "gut-lung" axis. In a paper by researchers Anh Thu Dang and Benjamin J. Marsland, appearing in the journal *Mucosal Immunology* in April 2019, the gut-lung axis explained as follows:

The microbiota plays an essential role in the education, development, and function of the immune system, both locally and systemically. Emerging experimental and epidemiological evidence highlights a crucial cross-talk between the intestinal microbiota and the lungs, termed the ‘gut-lung axis.’ Changes in the constituents of the gut microbiome, through diet, disease or medical interventions (such as antibiotics) is linked with altered immune responses and homeostasis in the airways. The importance of the gut-lung axis has become more evident following the identification of several gut-microbe derived components and metabolites, such as short-chain fatty acids (SCFAs), as key mediators for setting the tone of the immune system.

The researchers go on to link changes in the gut microbiome, and the immune response, to diet:

The identification of microbial communities that dictate health and disease across individuals and populations is an active area of research. Diverse exogenous and endogenous factors such as genetics, age, and diet are known to impact on the composition of the gut microbiota. Diet plays one of the most determinant roles in shaping the gut microbiome and represents one of the easiest and most attractive options for therapeutic interventions. In a comparative study between African and European diets in children, the

African diet, which is high in fiber and low in animal protein and fat, was linked with an enrichment of the genus *Prevotella* in the gut, while *Bacteroides* dominated in the high-protein and high-fat diet. The African high-fiber diet supported the expansion of bacteria such as *Prevotella* and *Xylanibacter* that carry genes capable of fermenting fiber leading to the production of SCFA (e.g. acetate, butyrate, and propionate), known for their anti-inflammatory activity.



Further reinforcing the connection between the lung and large intestine, researchers at the Francis Crick Institute discovered that disruptions in the intestinal microbiome resulting from antibiotics leave the lungs vulnerable to flu viruses and lead to more severe infections. As reported in *Science Daily*, in studies on mice, investiga-

tors found that signals from intestinal bacteria help to maintain a first line of defense in the lining of the lung. Eighty percent of mice with a healthy intestinal microbiome survived flu infection, while only third given antibiotics prior to infection survived.

We found that antibiotics can wipe out early flu resistance, adding further evidence that they should not be taken or prescribed lightly,” explains Dr. Andreas Wack, who led the research at the Francis Crick Institute. “Inappropriate use not only promotes antibiotic resistance and kills helpful gut bacteria, but may also leave us more vulnerable to viruses. “We were surprised to discover that the cells lining the lung, rather than immune cells, were responsible for early flu resistance induced by macrobiotics,” says Andreas. “Previous studies have focused on immune cells, but we found that the lining cells are more important for the crucial early stages of infection. They are the only place that the virus can multiply, so they are the key battleground in the fight against flu. Gut bacteria send a signal that keeps the cells lining the lung prepared, preventing the virus from multiplying so quickly.

A quick Google search on “diet, microbiome, and immunity” yielded many results, summarized in the publication *Science Daily*. Below is just a small sampling.

1. Microbes help to battle infection: Gut microbes help develop immune cells, study finds. Summary: “Beneficial gut bacteria are necessary for the development of innate immune cells—specialized types of white blood cells that serve as the body’s first line of defense against invading pathogens—new research has found. The research suggests that a healthy population of gut microbes can actually provide a preventative alternative to antibiotics. Although there are types of bacteria that can make us sick, Caltech professor of biology and biological engineering Sarkis Mazmanian and his team are most interested in the thousands of other bacteria—many already living inside our bodies—that actually keep us healthy. His past work in mice has shown that restoring populations of beneficial bacterial can help alleviate the symptoms of inflammatory bowel disease, multiple sclerosis, and even autism. Now, he and his team have found that these good bugs might also prepare the immune cells in our body to fight infections from harmful bacteria.” – *Science Daily*, March 12, 2014

2. Battle in the gut: immune cells help ‘good bacteria’ triumph over ‘bad bacteria.’ Summary: “The body’s immune system may be the keeper of a healthy gut microbiota, report University of Chicago scientists on April 21 in the journal *Immunity*. They found that a single binding protein on white blood cells could affect whether or not mice produced a balanced gut microbiota. Without the

protein, harmful bacteria were more easily able to cause infection. Why this happens is unclear, but it may be that the immune system has a way to sense the presence of invading intestinal bacteria. Fu [Yang-Xin Fu, the lead researcher] notes that the human body and its microbiota evolved to live in harmony over millions of years. ‘This mutually beneficial relationship provides us with the ability to properly receive all of the nutrients from our food, and as shown with this study, the ability to limit harmful bacterial infections,’ he says.” —*Science Daily*, April 21, 2015

3. *High-fiber diet keeps gut microbes from eating the colon’s lining, protects against infection, animal study shows.* Summary: “When microbes inside the digestive system don’t get the natural fiber that they rely on for food, they begin to munch on the natural layer of mucus that lines the gut, eroding it to the point where dangerous invading bacteria can infect the colon wall, new research in mice shows. Using a special gnotobiotic, or germ-free, mouse facility, and advanced genetic techniques that allowed them to determine which bacteria were present and active under different conditions, they studied the impact of diets with different fiber content—and those with no fiber. They also infected some of the mice with a bacterial strain that does to mice what certain strains of *Escherichia coli* can do to humans—cause gut infections that lead to irritation, inflammation, diarrhea, and more. The result: the mucus layer stayed thick, and the infection

didn't take full hold, in mice that received a diet that was about 15 percent fiber from minimally processed grains and plants. But when the researchers substituted a diet with no fiber in it, even for a few days, some of the microbes in their guts began to munch on the mucus. 'While this work was in mice, the take-home message from this work for humans amplifies everything that doctors and nutritionists have been telling us for decades: Eat a lot of fiber from diverse natural sources,' says [lead researcher] Martens. 'Your diet directly influences your microbiota, and from there it may influence the status of your gut's mucus layer and the tendency toward disease.'" –*Science Daily*, November 17, 2016

4. *The effect of dietary supplements, acids and animal protein on gastrointestinal disorders.* Summary: "For the first time, in a large prospective study, researchers have identified an association between high protein intake a significantly increased risk of inflammatory bowel disease (IBD). While doctors have long suspected that diet contributes to IBD, little has been assessed, and the studies conducted have been retrospective, which are less informative because they rely on the study participants' ability to recall what they have consumed in the past. This study examined the effects of different sources and amounts of protein. When examining the effects of specific types of protein, [lead researcher] Jantcho found that animal protein represented a threefold risk of developing IBD in the highest group compared to the lowest

group. Specifically animal protein from meat and fish, not dairy, created an increased risk, while vegetable protein created no increased risk of developing IBD. Researchers found that increased risk from animal protein intake were the same for Crohn's disease and ulcerative colitis." —*Science Daily*, May 3, 2010

5. *Switching to hunter-gatherer lifestyle may increase diversity in children's gut microbes.* Summary: "An international team of researchers has shown that immersing city dwellers in the traditional lifestyle and diet of a rain-forest village for two weeks increases the diversity of the visiting children's—but not the adult's gut microbiota. In a small pilot study, researchers show that the immersion visit did little to shift the adults' skin, oral, nasal, and fecal microbiota. Typical fare includes cassava (a starchy, high-fiber tuber), corn, various wild fruits, including plantains, pineapples, and berries, fish, and small amounts of game meat and eggs gathered from wild birds. 'The diet contains very little animal protein and it's very, very high in fiber and very low in fat,' compared to Western diets, says Dominguez-Bello [the lead researcher.] While it is known that people with traditional diets have higher gut microbiota diversity compared to those with urban diets, it was unknown if urban-dwellers could shift the diversity of their microbiota higher simply by following a traditional lifestyle and diet. In the gut, a high diversity of microbes is considered a sign of good health. Traditional people eat diets rich in unprocessed

plant material, which are much more chemically complex compared to processed foods. The smorgasbord of chemicals acts as fuel for a higher variety of microbes.” – *Science Daily*, August 29, 2018

Note that even though the adults in this study showed little change in the composition of their gut microbiome, this may be due to the short period of time in which the study was conducted. Children are biologically more active than adults and thus adapt more rapidly to changes in diet and environment. Adults require a longer period to adapt. Other research has shown that adults experience significant improvement in the composition of their microbiome after three to four months on a plant-based diet.

6. *High dietary fiber intake linked to health promoting short chain fatty acids.* Summary: Eating a lot of fiber-rich foods, such as fruit, vegetables, and legumes—typical of a Mediterranean diet—is link to a rise in health promoting short chain fatty acids, finds research published online in the journal *Gut*. Short chain fatty acids (SCFAs), which include acetate, propionate, and butyrate, are produced by bacteria in the gut during fermentation of insoluble fiber from dietary plant matter. SCFAs have been lined to health promoting effects, including a reduced risk of inflammatory diseases, diabetes, and cardiovascular disease...higher levels of SCFAs were found in vegans, vegetarians, and those who consistently followed a Mediterranean diet. Levels of SCFAs were also strongly associated with the quantity of fruit, vegetables,

legumes, and fiber habitually consumed, irrespective of the type of diet normally eaten.” —*Science Daily*, September 29, 2015

7. *Food's transit time through body is a key factor in digestive health.* Summary: “The time it takes for ingested food to travel through the human gut—also called transit time—affects the amount of harmful degradation products along the way. This means that transit time is a key factor in a health digestive system. Food has to travel through eight meters of intestine from the time it enters the mouth of an adult person until it comes out the other end. Intestinal bacteria prefer to digest dietary carbohydrates, but when these are depleted the bacteria start to break down other nutrients such as proteins. Researchers have previously observed correlations between some of the bacterial degradation products that are produced in the colon and the development of various diseases, including colorectal cancer, chronic renal disease and autism. ‘In short, our study shows that the longer food takes to pass through the colon, the more harmful bacterial degradation products are produced. Conversely, when the transit time is shorter, we find a higher amount of the substances that are produced when the colon renews its inner surface, which may be a sign of a healthier intestinal wall,’ professor Tine Rask Licht [the research supervisor] explains. Tine Rask Licht emphasizes that people’s dietary habits can influence transit time: ‘You can help food pass through the colon by eating a diet rich in fiber

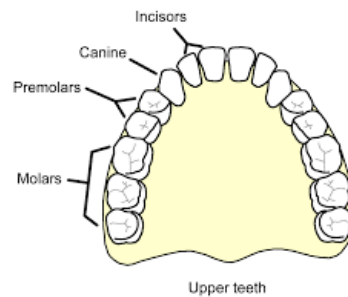
and drinking plenty of water. It may also be worth trying to limit for example meat, which slows down the transit time and provides the gut bacteria with lots of protein to digest.”” –*Science Daily*, June 27, 2016

Antibiotics and meat, the extremes of yin and yang, characterize the modern world. Both damage digestive health, the composition and function of the gut microbiome, and the body’s immune response. Over reliance on these extremes makes individuals more prone to serious infection by COVID-19 and other contagious viruses. The digestive system itself offers the necessary clues as to what to eat and what to avoid in order to maintain optimal digestive, microbiome, and immune health. It offers clues as to the optimal diet to build natural resistance to viruses and harmful bacteria. We see that a certain order becomes apparent both at the beginning of the digestive tract, in the mouth, and at the end of the digestive tract, in the colon. The pattern of the teeth is reflected in the ratio of “good” to “bad” bacteria in the colon.

An astonishing 100 trillion bacteria inhabit the large intestine. Here the ratio of “good” to “bad” bacteria is approximately 85% to 15%, or roughly seven to one. So-called “good” bacteria, such as *Lactobacillus* and *Lactobacillus bifidus*, are strengthened and augmented by the intake of prebiotics and probiotics. Prebiotics are undigested plant fibers and resistant starches. These serve as food for the bacteria in the digestive tract. Probiotics are the living organisms in fermented foods like miso, natto,

amasake, and sauerkraut. These foods augment and strengthen the “good” bacteria in the colon. On the other hand, animal proteins decompose into a variety of harmful substances, including gram-negative bacteria, toxic metabolites, and ammonia.

A high-meat diet overwhelms the body’s ability to digest the high volume of protein, so that as much as 12 grams of protein go undigested and unabsorbed, and enter the colon. Here the protein begins to decompose and produce harmful bacteria and other toxic substances. These bad actors are responsible for a variety of pathological, and potentially life threatening conditions, originating with a decline in natural immunity. Like the teeth, the structure and composition of the colon suggests an evolutionary advantage to a diet based on grains and other plant foods.



The majority of the teeth indicate that evolutionarily, plant foods comprised the bulk of the human diet. The four canine teeth suggest that animal foods played a far less important role

The teeth offer further clues as to the human diet. Of the plant processing teeth, the majority (20) are molars and premolars suited for crushing and grinding whole grains, beans, seeds, and other tough plant fibers. The minority (8) are the front incisors, which are well suited for cutting vegetables. Here we see that the ratio of harder, dryer foods such as whole grains and beans to softer and more watery vegetables is 20 to 8, or about 2 to 1.

Maintaining a 2 to 1 ratio between grains to vegetables conveys a number of advantages. Emphasis on the solid proteins in whole grains and beans helps ensure that one's diet provides a sustainable source of both carbohydrate and protein. Diets that de-emphasize whole grains and beans in favor of raw fruits and vegetables are often deficient in protein. Furthermore, emphasizing grains and beans necessitates cooking. These plant fibers are hard and tough in their raw state and require softening to make them edible. Cooking (as well as soaking, sprouting, and fermenting) softens the tough plant fibers and facilitates smooth digestion, thorough absorption, and the efficient release of energy. Cooking is a form of pre-digestion that makes additional energy available to the body. It is also part of our heritage. Humans have been cooking food for at least two million years.

The nitrogen in protein increases the growth of bacteria, including harmful varieties in the digestive tract. Eating less animal food, thus less protein, reduces the growth of harmful bacteria. On the other hand, carbon,

such as that in plants, limits such bacterial overgrowth. Studies show that plant eaters have the highest levels of carbon and lowest levels of nitrogen in the colon. Meat eaters have higher levels of nitrogen and lower levels of carbon. According to Katrine Whiteson, a microbiome researcher at the University of California, “Generally eating lots of plants and getting a lot of fiber is likely to be a healthy diet, and that by nature would mean eating less nitrogen.”

The implications for COVID-19 are obvious, in terms of the origin of the virus, its mode of transmission, and the susceptibility of individuals to either serious, mild, or no infection. All indications point to the protective value of a plant-based diet, and the necessity of ending our dependence upon animals as a source of food. First, the mishandling of wild and exotic animals is suspected as the origin of the virus and its jump from animals to humans. Secondly, the risk of infection increases with the level of immune dysfunction. Risk goes up as immune function goes down, in direct proportion. Stronger immunity equals less risk of infection. The evidence implicating a high meat diet in disruption of the gut biome, and thus the body’s immune function, is clear. A diet dependent upon animal foods weakens natural immunity while providing a breeding ground for COVID-19 and other virus infections. Let us hope that the COVID-19 pandemic shakes humanity loose from its dependence on animal food and toward a sustainable plant-based future.

Dietary Protection from Coronavirus

Alex Jack and Bettina Zumdick

As the world mobilizes to contain the coronavirus pandemic, a fundamental dimension of the crisis remains largely unrecognized: diet and environment. Global warming and climate change are major factors in the spread of infectious disease. In South America, herbicides introduced into the pampas altered the ecology, leading to the creation of a new mouse that was the carrier of a deadly virus that produced Argentine hemorrhagic fever, a disease similar to Ebola.

In Africa, AIDS, Ebola, and other deadly new viral diseases emerged in areas characterized by banana plantations and other monocultures, the extraction of conflict metals, and uranium mining—all of which involve chemicals and toxins that can disrupt ecosystems and give rise to virulent new strains of viruses.

The worldwide decline of songbirds and frogs, to take another example, is leading to the catastrophic increase in mosquitoes, fleas, and other insects that spread viral and

bacterial diseases. Global warming, the thinning of the protective ozone layer around the earth, and other environmental changes are key factors in the decline of biodiversity and rise of new diseases.

The origin and vector of COVID-19 in China remains uncertain. The toxins leading to the virulent new strain of coronavirus could be agricultural or connected with the manufacture of smartphones, plastic toys, or any number of other products. To prevent future epidemics from spreading from the soil to animal carriers and then to humans, it is imperative to transition to a natural and organic agriculture and food system.

Similarly, to prevent or treat corona and other viral diseases, it is important to maintain strong healthy blood, lymph, and other body fluids. These are the body's primary line of defense against contagious diseases and immune deficiency disorders. Along with known risk factors such as age, sex, and exposure to the microbe, they help determine whether any given individual will symptomize and the mildness or severity of their infection.

The best way to build up natural immunity to contagious disease is to eat a strong, balanced, mineral rich diet, beginning with whole cereal grains, beans and bean products, miso soup; leafy green, round, and root vegetables; arame, wakame, nori, or other sea vegetables; homemade pickles or sauerkraut; fruit, seeds, nuts, mild grain-based sweeteners, spring or well water, and nonaromatic, non-stimulant beverages.

On the minus side of the dietary ledger, natural resistance to infection is compromised by eating animal-quality foods (with the exception of small amounts of white-meat fish), polished grains, cane sugar and other simple sugars, coffee and other stimulants, hot spices, alcohol, and foods grown with or containing chemicals, preservatives, and GMOs. Ultra-processed foods, which now make up about half the modern diet, should also be strictly avoided, including both the red-meat Big Mac and the vegan Impossible Burger.

We support the current worldwide mobilization to stem the coronavirus epidemic, including proper hygiene, quarantine, and development of a safe, effective vaccine. In our experience as dietary and way of life counselors dealing with patients with AIDS and other viral conditions over the years, we have found that Ume-Sho-Kuzu Drink to be highly beneficial for strengthening digestion, reducing inflammation, relieving infection, and helping the body discharge acidity. Miso soup, a traditional soup made with fermented soybean paste, wakame sea vegetables, and several seasonal vegetables, is also protective.

Ume-Sho-Kuzu Drink

1. Dissolve 1 heaping teaspoon of kuzu in 2-3 teaspoons of cold water.
2. Add 1 cup of cold water to the dissolved kuzu.
3. Bring to a boil over a medium flame, stirring constantly to avoid lumping, until the liquid becomes translucent. Reduce the flame to low.

4. Add the pulp of ½ to 1 umeboshi plum.
5. Add several drops to 1 teaspoon of shoyu/natural soy sauce and stir gently.
6. Simmer for 2-3 minutes. Drink hot.

Ume refers to umeboshi plum; *sho* to shoyu or natural soy sauce, and *kuzu* to kuzu (kudzu) root thickener. If kuzu is not available in the natural foods store or supermarket, use *kukicha* (bancha twig tea). If this is not available, just use water. The three ingredients in this traditional home remedy have been found to be beneficial to help relieve other potentially lethal viral conditions, as well as other serious disorders:

- Japanese medical researchers found that umeboshi contains a substance that can suppress the growth of the H1N1 virus that sparked the Swine Flu epidemic. When applied to affected cells, scientists reported, the growth of the virus was suppressed by nearly 90% after seven hours.^[1]

- Kuzu, the creeping vine known as kudzu in the West, is a potent suppressor of HIV-1 cells, according to the journal *Retrovirology*. “Specifically, kudzu inhibits the initial attachment of the viral particle to the cell surface,” the researchers reported. More than 90% inhibition was observed in the experiments. “Given kudzu’s low cost, safety, oral bioavailability, tissue distribution, activity with ART [anti-retroviral therapy] and potent activity

against HIV...it should be considered as a promising supplement to current HIV therapeutic strategies.”^[2]

- The *British Medical Journal* reported early this that miso and natto, fermented soy products originally from the Far East that are now produced in Europe, America, and other modern societies, were inversely associated with all causes of mortality, including respiratory diseases, in both sexes^[3]

- Scientists at the National University of Singapore report that shoyu has antioxidant properties that are 10 times more potent than red wine, and 150 times more effective than vitamin C. It's the high concentration of brown pigment in shoyu that is thought to contribute to its strong antioxidant and anticancer properties. Shoyu aids in digestion and is rich in minerals.^[4]

Miso Soup

2-inch piece of dried wakame sea vegetable

1 cup onions, sliced thinly

1 quart water

barley miso

Soak the wakame (about ¼-½-inch piece per person) for 5 minutes and cut into small pieces. Add the wakame to fresh, cold water and bring to a boil. Meanwhile, cut onions into small pieces. Add the vegetables to the boiling broth and boil all together for 3-5 minutes until the vegetables are soft and edible. Reduce flame to low. Dilute miso (½ to 1 level teaspoon per cup of broth) in a

little water, add to soup, and simmer for 3-4 minutes on a low flame. Once the miso is added, don't boil the soup. Just let it simmer. Garnish with finely chopped scallions or parsley before serving.

- Be sure to simmer the soup for 3-4 minutes *after* miso paste is added to the broth. This is a very simple soup to make, but not letting the miso cook properly will reduce its effects

- For variety or a gluten-free miso, use brown rice miso or all soybean (hatcho). As a rule, misos for daily soup should be aged a minimum of 2 years. Misos may also be combined for a unique taste and flavor. Lighter red, yellow, and white misos make great dressings and sauces

- Vary the vegetables daily. Nice combinations include onions and tofu; onions and sweet autumn or winter squash; cabbage and carrots; and daikon and daikon greens

- Include leafy greens often in miso soup, including kale, collards, watercress, etc. Add them toward the end of cooking since they don't need to cook as long

- A small volume of shiitake mushrooms (soaked and finely chopped beforehand) may be added and cooked with the other vegetables from time to time

- For the most beneficial effect, miso soup should be cooked fresh each time and not stored overnight

Miso is well known for preventing cancer, heart disease, radiation sickness, and other chronic conditions and

disorders. It is also effective to neutralize microbial afflictions:

- The *International Journal of Medical Sciences* reports that miso extracts are effective to “work as antivirals” against Hepatitis A Virus.^[5]
- Several years ago, when the Ebola epidemic broke out in West Africa, we launched a web site with dietary advice for Ebola: www.ebolaanddiet.com. These guidelines were circulated widely, and we received a note of thanks from a major international airline with routes between West Africa and Europe and America that distributed the suggestions to their very alarmed staff and pilots.
- Dr. David W. Denning, Professor of Infectious Diseases in Global Health, University Hospital of South Manchester, UK, endorsed these recommendations: “Sensible and nutritious dietary advice and real behavior change is needed across the Western world. Red meat eating ... contributes big time to water shortages and global warming as meat is an inefficient source of protein compared with fruit and vegetables ... I suspect that even 2 days of macrobiotic food would be a great improvement on many people’s diets ... There is much your advocacy can offer the world.”^[6]

There are many healthful foods and safe, effective remedies that can promote natural immunity and, as part of an integrative medical campaign, help relieve the spreading coronavirus pandemic. Please see your physi-

cian if you suspect you have corona, first seek immediate medical attention while also visiting the websites listed in the Resource section at the back of the book.

The coronavirus crisis offers an opportunity for integrative medicine, combining the best allopathic and holistic approaches, to help resolve a global health emergency. If the focus remains only on suppressing the virus and eliminating its vectors, it may serve to intensify xenophobia, prejudice, and other polarizing tendencies. As a society, we must self-reflect and take responsibility for creating deadly epidemics through destructive agricultural, industrial, and environmental policies. By uniting together and reorienting in a more natural, organic, and sustainable direction, there is an excellent chance we can stem the contagion and make future outbreaks more unlikely.

[1] “Umeboshi Have H1N1 Suppressant,” *Japan Times*, June 3, 2010.

[2] S. Mediouni et al. “Potent suppression of HIV-1 cell attachment by Kudzu root extract,” *Retrovirology* 2018:15:64.

[3] R. Katagiri et al., “Association of soy and fermented soy product intake with total and cause specific mortality: prospective cohort study,” *British Medical Journal* Jan 29, 2020:368m34.

[4] Wang, Huansong et al., “The identification of antioxidants in dark soy sauce,” *Free radical research*, 2007:41. 479-88.

[5] Nan New Win et al., “Inhibitory effect of Japanese rice-koji miso extracts on hepatitis A virus replication in association with the elevation of glucose-regulated protein 78 expression,” *International Journal of Medical Sciences*, July 30, 2018.

[6] Personal email communication to Alex Jack from David W. Denning, Autumn 2013.

When necessary, we will begin to limit the amount of people in the store. Please be prepared to wait outside or in your car if you arrive in a high volume moment. There are a few things you can do to help maintain social distancing in the stores: Whenever possible, please have only one family member do the shopping. Please give staff members (especially those who are stocking the shelves or produce section), extra space.

GUIDO'S FRESH MARKET, MARCH 2020

Macrobiotic

Dietary and Way of Life Suggestions

For persons living in a temperate climate

Daily Dietary Recommendations

WHOLE CEREAL GRAINS. Between 40 and 50% by weight of every meal is recommended to include cooked, organically grown, whole cereal grains prepared in a variety of ways. Whole cereal grains include brown rice, barley, millet, whole wheat, rye, oats, corn, and buckwheat. Please note that a portion of this amount may consist of noodles or pasta, unyeasted whole grain breads, and other partially processed whole cereal grains.

SOUPS. 1-2 cups or bowls (about 5-10%) of your daily food intake may include soup made with vegetables, sea vegetables (wakame or kombu) grains, or beans. Seasonings are usually miso or shoyu (organic soy sauce.) The flavor should not be too salty.

VEGETABLES. About 25-30% of daily intake may include local and organically grown vegetables. Preferably, the majority is cooked in various styles (e.g. sautéed with a small amount of vegetable oil, steamed, boiled,

and sometimes as raw salad or naturally fermented or pickled vegetables.

Vegetables for daily use include green cabbage, kale, broccoli, cauliflower, collards, pumpkin, watercress, Chinese cabbage, bok choy, dandelion, mustard greens, daikon greens, scallion, onion, daikon, turnip, various fall and summer squashes, burdock, carrot, varieties.

Avoid or limit the intake of potato (including sweet potato and yam), tomato, eggplant, pepper, spinach, asparagus, beet, zucchini, and avocado. Mayonnaise and other oily, fatty, or artificial dressings are best avoided.

BEANS AND SEA VEGETABLES. $\frac{1}{4}$ to $\frac{1}{2}$ cup (about 5-10%) of the daily diet may include cooked beans and sea vegetables. Beans for regular use include azuki, chickpea, lentil, and black soybean, as well as kidney, navy, black bean, white beans, pinto, non-GMO soybean, and others. Bean products such as tofu, tempeh, and natto can also be used. Sea vegetables such as wakame, nori, kombu, hiziki, arame, dulse, agar, and others may be prepared in a variety of ways. They can be cooked with beans or vegetables, used in soups, or served separately as side dishes or salads, moderately flavored with brown rice vinegar, sea salt, shoyu, ume plum, and other natural seasonings.

OCCASIONAL FOODS. Animal quality food is optional. If needed or desired, 1-3 times a week, approximately 10% of the daily consumption of food can include

fresh wild caught flaky white meat fish. Non-farm raised salmon and sea scallops can be included several times per month if your condition permits.

Fruit or fruit desserts, including fresh, dried, and cooked fruits, may also be served three or four times per week on average. Local and organically grown fruits are preferred. If you live in a temperate climate, avoid tropical and semi-tropical fruit and eat, instead, temperate climate fruits such as apples, pears, plums, peaches, nectarines, apricots, berries, and melons. Local organic fruit juice may also be consumed if your condition permits.

Lightly roasted nuts and seeds such as pumpkin, sesame, and sunflower may be enjoyed as snacks, together with peanuts, walnuts, almonds, and pecans.

Rice syrup, barley malt, amasake, and mirin may be used as sweeteners, together with occasional maple syrup. Brown rice vinegar, lemon, or umeboshi vinegar may be used for a sour taste.

BEVERAGES. Recommended daily beverages include bancha (kukicha) twig tea, stem tea, roasted brown rice and barley tea, and occasional dandelion and corn silk tea. Any traditional tea that does not have an aromatic fragrance or a stimulating effect can be used. You may also drink a comfortable amount of water (preferably spring or well water of good quality) but not iced.

FOODS TO REDUCE OR AVOID. Meat, animal fat, eggs, poultry, dairy products (including butter, yogurt, ice

cream, milk, and cheese), fatty fish and seafood, refined sugars, chocolate, molasses, honey, other simple sugars like stevia, agave, evaporated cane juice, etc., and foods treated with them.

Tropical or semi-tropical fruits and fruit juices, including banana and pineapple, soda, artificial drinks and beverages, coffee, colored tea, and all aromatic stimulating teas such as mint or peppermint.

All artificially colored, preserved, sprayed, or chemically treated foods, including foods with GMO ingredients. All refined and polished grains, flours, and their derivatives. Mass-produced industrialized food including canned, frozen, and irradiated foods.

Hot spices, any aromatic stimulating food or food accessory, artificial vinegar, and strong alcoholic beverages, especially those produced from sugar or mixed with sugared beverages.

ADDITIONAL SUGGESTIONS

Cooking oil should be vegetable quality only, with natural cold pressed olive and sesame as preferred varieties.

Salt should be naturally processed sea salt. Traditional, non-chemical shoyu or tamari soy sauce and miso may be used as seasonings.

Recommended condiments include:

—Gomashio (sesame salt made from approx. 20 parts roasted sesame seeds to one part sea salt)

—Sea vegetable powder or flakes, including green nori, dulse, kelp, wakame and others, as well as combinations or blends

—Sesame seed wakame powder

—Umeboshi plum

—Tekka

—Roasted seeds such as sunflower or pumpkin

Pickled vegetables made without sugar or strong spice, including non-pasteurized organic sauerkraut, pickled Chinese cabbage, and others may be eaten on a daily basis.

You may have meals regularly, 2-3 times per day, as much as you want, provided the proportion is correct and the chewing is thorough. Avoid eating for approximately 3 hours before sleeping.

THE IMPORTANCE OF COOKING. Proper cooking is very important for health. Everyone should learn to cook either by attending classes or under the guidance of an experienced macrobiotic cook. The recipes included in macrobiotic cookbooks may also be used in planning meals.

SPECIAL ADVICE

The guidelines present above are general suggestions. These suggestions may require modification depending on your individual condition. Of course, any serious condition should be closely monitored by the appropriate medical, nutritional, and health professional.

Together with beginning to change your diet, we invite you to attend regular seminars, cooking classes, and study programs and to meet with a qualified macrobiotic counselor or educator.

Way of Life Suggestions

- Live each day happily without being preoccupied with your health; try to keep mentally and physically active.
- View everything and everyone you meet with gratitude, particularly offering thanks before and after each meal.
- Chew your food very well, at least 50 times per mouthful, or until it becomes liquid.
- It is best to retire before midnight and get up early every morning.
- It is best to avoid wearing synthetic or woolen clothing directly on the skin. As much as possible, wear cotton, especially for undergarments. Avoid excessive metallic accessories on the fingers, wrists, or neck. Keep such ornaments simple and graceful.
- Take a ½ hour walk each day. When safe and appropriate, walk barefoot on grass, beach, or soil. Keep your home in good order, from the kitchen, bathroom, bedroom, and living quarters, to every corner of the house.

- Initiate and maintain an active correspondence, extending your best wishes to parents, children, brothers and sisters, teachers, and friends.
- Avoid taking long hot showers or baths unless you have been consuming too much salt or animal food.
- To increase circulation, scrub your entire body with a hot, damp towel very morning or every night. If that is not possible, at least scrub your hands, feet, fingers and toes.
- Avoid chemically perfumed cosmetics. For care of the teeth, brush with natural, fluoride-free preparations.
- If your condition permits, exercise regularly as part of daily life, including activities like walking, scrubbing floors, cleaning windows, washing clothes and working in the garden. You may also participate in exercise programs such as yoga, martial arts, dance, or sports.
- Avoid using electric cooking devices (stoves, ovens, ranges) or microwave ovens. Convert to gas cooking at the earliest opportunity.
- It is best to minimize the use of color television, computer monitors, cellphones, tablets, smartphones, and other mobile devices.
- Include large green plants in your house to freshen and enrich the oxygen content of the air in your home. Open windows frequently to permit air to circulate freely.
- Sing a happy song every day.

What is the most fundamental way to restore natural immunity? Our blood, including the immune cells, is made from what we eat. By changing our food, we change the plasma, or liquid portion of the blood, and also the red blood cells and lymphocytes, including T-cells and B-cells.

MICHIO KUSHI

Special Remedies

LOTUS ROOT TEA

Lotus root tea is a standard macrobiotic remedy for eliminating mucus in the respiratory system and to ease coughing. This tea is most effective when prepared from fresh lotus root. However, if fresh lotus is not available, you may use dried lotus root or lotus root powder.

With fresh lotus root:

Wash the root and grate one-half cup. Place the pulp in a piece of cheesecloth and squeeze the juice into a bowl or cup. You may also place the gratings in your palm and squeeze the juice with your fingers. Place the juice in a saucepan with an equal amount of water. Add a pinch of sea salt or a few drops of shoyu/soy sauce. Bring to a boil, and let simmer gently on a low flame for 2-3 minutes. Drink this tea, which should be thick and creamy, while hot. You may also add a few drops of grated ginger juice toward the end if your condition permits to warm the body and loosen stagnation.

With dried lotus root:

Place one-third ounce (about 1/4 cup) of dried lotus root in one cup of water. Let it sit for a few minutes until soft,

then chop finely. Return the finely chopped lotus root to the soaking water. Add a pinch of sea salt or a few drops of shoyu/soy sauce. Bring to a boil and simmer gently for approximately 15 minutes. Strain the liquid and drink while hot. You may also add a few drops of grated ginger juice at the end if your condition permits.

With lotus root powder:

Use one teaspoon of lotus powder per person and per serving. Add one cup of cold water per teaspoon of powder and stir to dissolve. Add a pinch of sea salt or a few drops of shoyu/soy sauce. You may also add a couple of drops of grated ginger juice if your condition permits. Heat on a low flame but don't bring to a boil. Turn off the heat when the liquid begins to simmer. Drink hot.

DAIKON DRINK

This variation of grated daikon tea helps lower fever by inducing sweat. It can also bring relief from poisoning caused by meat, fish, or shellfish.

Grate about three tablespoons of fresh daikon. Mix the daikon with one-quarter teaspoon grated ginger and a few drops of shoyu/soy sauce. Pour one cup of hot ban-cha twig or stem tea over the mixed ingredients. Drink as much of the tea as possible while hot. After drinking this tea, go to bed and wrap yourself in a blanket to induce perspiration. Since this tea is very strong, do not take more than twice a day for one or two days. To reduce fever in children, it is best to give apple juice, grated apple,

or a kuzu drink with rice syrup (dissolve one teaspoon of kuzu in two teaspoons of cold water. Add one teaspoon of rice syrup. Bring to a gentle boil over a medium flame while stirring and turn off the flame as soon as the drink has thickened and become translucent.

TOFU PLASTER

Traditionally known to help with concussions, hemorrhoid, fever, and burns, in many cases, more effectively than ice.

Squeeze out the liquid from a block of tofu and mash tofu in a suribachi, or traditional clay grinding bowl. Add 2-3 tbsp. unbleached white flour and 1 tsp. grated ginger (optional.) Mix well. Apply the mixture directly to the skin and cover with a towel. You may want to secure it with a bandage, or tie with a cotton strip. Change the plaster when it becomes hot.

UME SHO KUZU

Medical researchers in Japan have found that umeboshi plums, a traditional salted, aged, pickled plum and a staple in the macrobiotic way of eating, contain a substance that can suppress the growth of the H1N1 virus that led to the Swine Flu epidemic several years ago. When applied to affected cells, researchers reported, the growth of the virus was suppressed by near 90 percent after seven hours. –“Umeboshi have H1N1 Suppressant,” *Japan Times*, June 3, 2010

Umeboshi help the body neutralize strong acids. When used in combination with kuzu root, a deep root with strengthening and fortifying properties, umeboshi helps neutralize toxins, restore energy, and cancel the digestive disorders that accompany virus infection. (For further information, see *How the Umeboshi Works*, by Edward Esko, IMI Press, 2019.)

Dissolve one heaping teaspoon (for children) and one heaping tablespoon (for adults) of kuzu in two to three tablespoons of cold water. Add one cup of water to the dissolved kuzu. Heat over a medium flame. Stir to prevent lumping. When the liquid approaches a boil, it will become translucent and thicken. At that point reduce the heat to low. Add the pulp of one-half to one umeboshi plum. Add several drops to one teaspoon of shoyu/soy sauce and stir gently. Simmer for two to three minutes, pour into a mug or bowl, and drink hot.

SUMMARY RECOMMENDATIONS

- Boil or pressure-cook short grain brown rice daily, preferably on a gas stove, with a small pinch of sea salt
- Make soft rice kayu (porridge) for breakfast. Eat with condiments such as umeboshi plum and nori
- Include foods such as small white or yellow beans, root vegetables like burdock, lotus, and carrot, hiziki sea vegetable, hard autumn fruits like apple and pear, and beverages such as roasted brown rice tea
- Balance with foods such as raw scallion and chive (as garnish), barley, dandelion and other leafy greens, brown rice vinegar, and sour apple and lemon
- Include naturally fermented foods to strengthen the microbiome and immune system on a daily basis, for example miso soup, sauerkraut, natto, tempeh, pickles, etc.
- Eat wakame, nori, dulse, arame, and other sea vegetables daily in soup, side dishes, and as dried condiments
- Cook every day and keep your meals as fresh as possible
- Chew well and don't eat before bed
- Minimize exposure to electronic or wireless devices, including smart phones, laptops, and others

GUIDELINES FOR SHOPPING AND FOOD STORAGE

The staple foods in a macrobiotic diet are perfect for storing at room temperature in a clean dry pantry, cellar, or spare room. Make sure they are properly packaged and sealed. The dry goods listed below can be purchased in bulk and put aside for use during the current pandemic. It is recommended that individuals and families purchase a six-week supply at minimum. The guidelines below represent only a sample of the healthful naturally storable foods that are recommended for individuals and families to pass through the current crisis. Certified organic products are of course preferred.

GRAINS

Brown rice (short-, medium-, long-grain)
Barley (both un-hulled and lightly pearled)
Millet
Oats
Quinoa
Wheat, rye, spelt
Dried and popping corn
Oatmeal, corn meal, whole grits, and other whole grain breakfast cereals
Sourdough bread (can be frozen for future use)

BEANS

Azuki

Chickpea

Lentil

Kidney

Other dried or canned (no-salt, BPH-free) beans

Items such as organic tofu, tempeh, and natto are recommended, but need to be bought fresh and locally as they are perishable

SEASONING

Miso

Shoyu (soy sauce)

Brown rice vinegar

Sea salt

Umeboshi plum, paste, vinegar

DRIED VEGETABLES

Shiitake mushroom

Dried daikon radish

Dried burdock root

Kuzu root powder

SEA VEGETABLES

Wakame

Nori

Dulse

Kombu

Arame

Kelp and digitata (Atlantic kombu)

Alaria (Atlantic wakame)

Bladderwrack

CONDIMENTS

Maine Coast dulse and vegetable powders

Gomashio (sesame salt)

Edenshake (furikake)

Homemade sea vegetable and sesame seed condiments

Umeboshi plum and paste

Tekka, dried shiso, and other specialty condiments

BEVERAGE

Kukicha twig tea (bancha)

Roasted barley tea

Organic green tea

Dandelion tea

Burdock root tea

Corn silk tea

PICKLES

Sauerkraut

Kimchee (mild)

Traditional non-spicy, non-sweetened vegetable pickles

SWEETENERS

Apple cider

Dried apple, apricot, raisin, and other local fruit

Amasake

Brown rice syrup

Maple syrup

COOKING OIL

Olive, sesame, sunflower, and other naturally cold-pressed vegetable oils

PRODUCE

Fresh vegetables, fruits, seeds and nuts, and other perishable items can be purchased as needed from local organic, conventional, and natural food markets, as well as directly from farmers and farmer's markets. Specialty rations, such as canned or frozen vegetables and other foods, may also be necessary to supplement one's diet during a pandemic or other emergency.

MAIL ORDER SUPPLIERS

Many of the above high-quality organic staples are available online, both in small quantities or in bulk from:

Eden Foods

Clinton, MI
Edenfoods.com

Natural Import Company

Asheville, NC
Naturalimport.com

Goldmine Natural Foods

San Diego, CA
Goldminenaturalfoods.com

Berkshire Holistic Associates

Maine Seaweed

Steuben, ME

TheSeaweedMan.com

Maine Coast Sea Vegetables

Hancock, ME

SeaVeg.com

Resources

Berkshire Holistic Associates (BHA) is a division of the non-profit Planetary Health, Inc, a Berkshire-based 501(c)(3) educational organization. Founded by Edward Esko, Alex Jack, and Bettina Zumdick, BHA is dedicated to providing quality and affordable education for the on the benefits of a plant-based diet. BHA also supports adoption of complementary healthcare approaches such as acupuncture, massage, Asian bodywork, and yoga, and serves as a referral for these services in Berkshire County. BerkshireHolistic.com.

Planetary Health/Amberwaves, PO Box 487, Becket MA 01223, 413-623- 0012, email: shenwa@bcn.net, www.macrobioticsummerconference.com. A grassroots network devoted to preserving amber waves of grain and keeping America and the planet beautiful through macrobiotic education and research. PH is a 501(c)(3) non-profit organization. It publishes books and articles by macrobiotic authors, educators, and Planetary Health co-founders, Alex Jack and Edward Esko, and sponsors the annual Macrobiotic Summer Conference and research on the macrobiotic way of life.

International Macrobiotic Institute. Macrobiotic education with Edward Esko and associates, featuring the Macrobiotic Online Course, an online certificate course with three levels of study. Based in Massachusetts, with affiliates in New York, Dubai, Abu Dhabi, Barcelona, Vietnam, Australia, and Kuala Lumpur. Visit: InternationalMacrobioticInstitute.com.

Macrobiotics Today/George Ohsawa Macrobiotic Foundation (GOMF), 1277 Marian Ave., Chico CA 95928, 800-232-2372, OhsawaMacrobiotics.com. A macrobiotic publisher and educational center on the West Coast.

The Barnard Medical Center combines medical care with the latest advances in prevention and nutrition to create a health care plan designed for each client. If you need to treat and reverse diabetes, heart disease, high blood pressure, or other chronic conditions, the Barnard Medical Center will help you revolutionize your health. Visit: www.BarnardMedicalCenter.com.

The Culinary Medicine School is a center for healing, transformation, and awareness in Lee, Mass. Founded and directed by Bettina Zumdick the CMS offers studies and workshops in culinary medicine, self-care, and private chef services. CulinaryMedicineSchool.com or contact Bettina at 413-429-5610 for information.

Sommer White, M.D. Vitality Medical Center, 125 Belle Forest Circle, Suite 100, Nashville, TN 37221. Tel: 615-891-7500, www.sommerwhitemd.com. Holistic, macrobiotic, and integrative medicine and nutrition presented by a Kushi Institute graduate.

Macrobiotics America. Online education with David and Cindy Briscoe. Certificate courses, special workshops, products, and recipes. Located in Oroville, CA. Visit: www.MacroAmerica.com.

Christina Cooks. Cooking classes, books, products, travel, and info from a leading macrobiotic and vegan teacher, author, and chef. Located in Philadelphia, PA. Visit: ChristinaCooks.com.

Strengthening Health Institute. Online and in-person education with Denny and Susan Waxman. Certificate courses, special workshops, recipes, blog and more. Located in Philadelphia, PA. Visit: shimacrobiotics.org.

MacroVegan. Online and in-person workshops with Bill Tara and Marlene Watson-Tara. Courses, workshops, cooking classes, videos, books, and counseling with leading macrobiotic vegan authors and teachers. Located near London, England. Visit: MacroVegan.org.

Recommended Reading

Esko, Edward. *Alzheimer's: The Macrobiotic Approach*, IMI Press, Lenox, Mass., 2019.

Esko, Edward. *How the Umeboshi Works*, IMI Press, Lenox, Mass., 2019.

Esko, Edward. *Macrobiotic Nutrition: A Guide to Sustainable Plant-based Eating*, IMI Press, Lenox, Mass., 2018.

Esko, Edward. With Alex Jack and Bettina Zumdick. *Crohn's and Colitis: A Whole Food Plant Based Approach*. Berkshire Holistic Associates, Becket, Mass., 2019.

Esko, Edward. With Alex Jack and Bettina Zumdick. *Diabetes: A Whole Food Plant Based Approach*. Berkshire Holistic Associates, Becket, Mass., 2019.

Jack, Alex and Sachi Kato, *The One Peaceful World Cookbook*. BenBella Books, Dallas, Texas, 2017.

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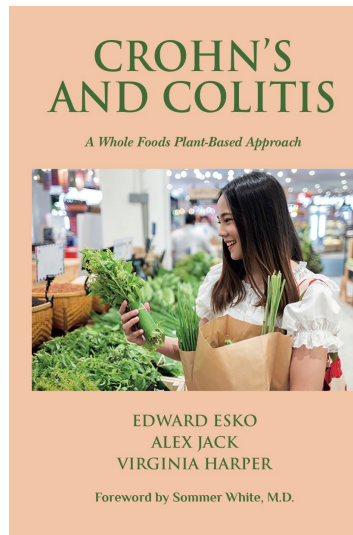
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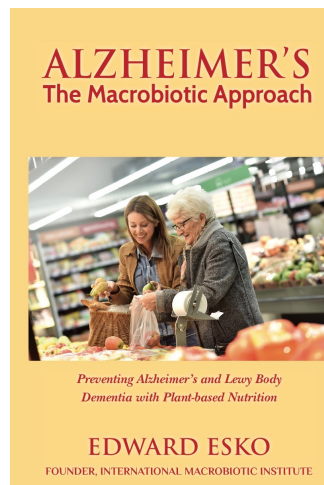
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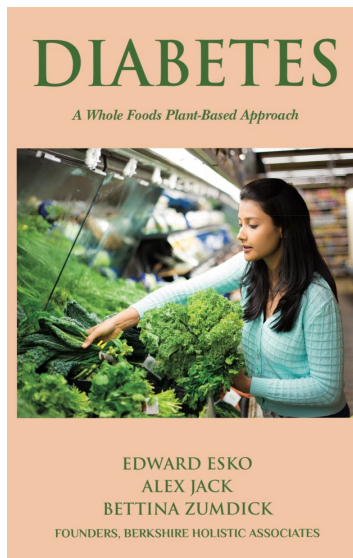
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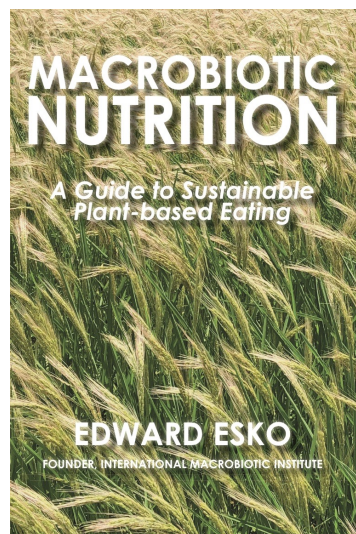
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