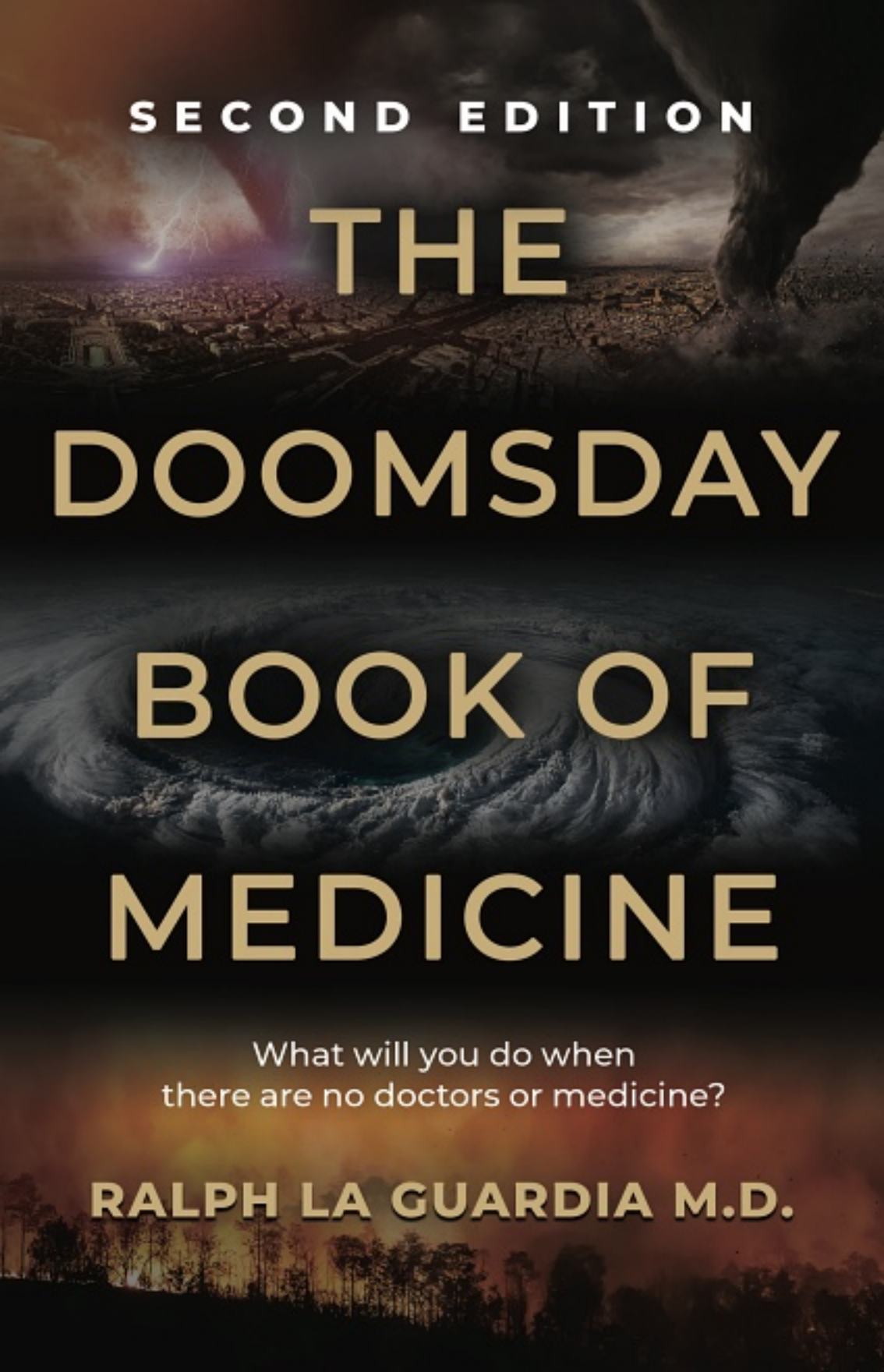


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SECOND EDITION

THE DOOMSDAY BOOK OF MEDICINE

What will you do when
there are no doctors or medicine?

RALPH LA GUARDIA M.D.

Doomsday Book of Medicine
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INTRODUCTION

I think I should explain to you, my reader, what compelled me to write this book. In retrospect, I think I have had the mindset of a Prepper my entire life. As a child I grew up in Fairview, New Jersey, a lower-middle-class suburb of New York City with over ten thousand people packed into a square mile of land, half of which was occupied by two large cemeteries. As an adult I often look back at these years with nothing other than fond memories and consider them my "Wonder Years". However, even during those years I always had an "apocalyptic scenario" playing in my head, usually involving all the adults disappearing and kids inheriting the planet. Not that I didn't love my parents and the other adults, but I think it was more of a fantasy of kids taking things over. Sometimes it involved Cold War nightmares of invading Russians and a "Red Dawn" scenario with us kids organized into military units to fight "the Commies". Certainly, this obsession of mine was not helped by our grammar school's occasional nuclear war drill, where we would have to get under our desks and not face the windows, as if this would have done anything to save us from a nuclear blast. The Cuban Missile Crisis was also occurring simultaneously; as I overheard my parents and other relatives speaking about it, I only became more convinced that my days were numbered.

I was also friends with an older kid named Raymond Von Holland. Since he was older, he was the de facto head of our little merry band of neighborhood kids. Since open land was nonexistent, we played behind the local embroidery factories that seemed to be endlessly churning out their bobbins. Raymond seemed to have all the answers to whatever world crisis was current, he also was a mesmerizing speaker, describing our impending doom to us younger kids in great detail. I have lost track of him since those days, but wherever he is, if he is still alive today, I can guarantee you he is a Prepper.

As the years went on, I graduated college from Fairleigh Dickinson University with a degree in biology and ultimately went on to attend medical school in Padua, Italy. I lived in Italy for eight years where I learned Italian and got a rock-solid education that included everything from nutrition to how to build a medical clinic in the field. Our professors were not our friends and were demanding taskmasters, there to make us into outstanding doctors or flunk us out in the process. The examinations were oral in Italian in front of a large audience and were grueling to say the least. I was fortunate to be there

with several hundred other Americans and we all became a "band of brothers".

After graduating Italy I spent a year in McKeesport, Pennsylvania, at McKeesport Hospital as a surgical resident. There my education was put to good use in 110-hour weeks. I learned everything from performing "open heart surgery" to taking out an appendix. Surgery was not my thing and I left to go into a more cognitive field of medicine and did an internal medicine internship at St. Peter's Hospital in New Brunswick, New Jersey, and then I finished up my internal medicine training at St. Vincent's Hospital in Worcester, Massachusetts.

After my residency I moved to Connecticut and opened up a general internal medicine practice in a small town. In Connecticut, I have worked in prisons, emergency rooms, have been the town doctor for two different towns, and an assistant state medical examiner, as well as being a consultant in a school for the mentally disabled for several years. In Connecticut I also was finally able to buy some land and honed one of my true passions, gardening. I learned to build stone walls and orchards, I taught myself everything about gardening from the soil up, delving into it with my usual combination of passion and scientific curiosity. I eventually learned the art of Permaculture and organic gardening and built myself a magnificent orchard with all types of wonderful fruit. I grow everything from apples to blueberries, Asian pears, apricots, cherries, pawpaws, peaches, plums, nectarines, blackberries, tayberries, jostaberries, strawberries, snowberries, cranberries, and even vines covered with clusters of kiwi. It was all done naturally without any chemical input of any kind, organically. I added large amounts of organic material to the soil and also liberally sprinkled it with mycorrhizal fungi. I added Azomite and rock dust to my gardens and orchard. The soil in my orchard became a rich, deep-brown color, teeming with microbial life and earthworms, bursting with fertility. The fruit on my fruit trees is never sprayed or treated in any way and is so heavy that branches break from their weight; it is also disease free and rarely bothered by insects.

I have spent the last thirty years since I graduated medical school reading incessantly on the subjects of health and human nutrition, learning all I could on the subject. My interest in the subject began in high school when I read Linus Pauling's *Cancer and Vitamin C*. It was an eye opener for me and started me on a lifelong journey of alternative treatments for disease. I perused used bookstores and bought old books on health and alternative medical theories and treatments. I taught myself everything about human nutrition and its relationship to health and disease. I watched countless

patients in my medical practice suffer the ravages of chronic diseases such as diabetes, hypertension, heart disease, arthritis, and others, due to the lack of adequate vitamins, minerals, and trace elements in their typical American diets. I treated many patients with minerals such as zinc, magnesium, selenium, and others and watched their illnesses heal. Sadly, I also watched as the average medical condition of all the patient demographics in my practice deteriorated progressively, with skyrocketing levels of obesity, diabetes, hypertension, asthma, allergies, ADHD, autism, depression, and mental illness of all types, and wondered why. At the same time I was studying gardening techniques and how to improve plant health and yields, and the answers to these medical mysteries simultaneously emerged. Providing plants with all the proper nutrients via healthy soil made them grow disease free and able to resist plant pathogens and pests of all types without "medication" such as pesticides, fungicides, and other chemical poisons.

Humans who practiced proper nutrition and ate foods grown on healthy organic soils also seemed to be healthy well into their eighties and nineties and appeared to be impervious to the chronic diseases ravaging others who were half their ages. I read books about the Hunzas in the Himalaya mountains who lived not only disease free, but robustly healthy, able to hike up mountains in their eighties, all from drinking water and growing their crops irrigated with water from their local rivers, known as glacial milk, since it was tinted a white color due to its incredibly high mineral content from its glacial origins. The Hunza had no mental illness, no depression, autism, anxiety, panic attacks, ADD, ADHD, OCD -- in fact, they didn't even have words for those conditions in their language. Despite their poverty, they were happy, robustly healthy, and disease free. Could it be a coincidence, some odd genetic aberration that bestowed unusually good health upon these remote people? Could it be a further coincidence that our own soil perhaps was lacking in these minerals and trace elements, and getting more and more depleted annually? I eventually came across the work of Weston Price, a dentist from the Midwest who became interested in the rapidly deteriorating state of his patients' teeth. At his own expense he travelled the world, studying indigenous peoples and tribes and their eating habits. He found them to be oddly healthy, strong, and robust, eating local diets of raw and fermented foods, foods grown on organic soils without chemicals. The same as the Hunza, they were without depression, and mental illness, diabetes, hypertension, and arthritis were virtually unknown to them. Yet we Americans were going in the exact opposite direction, eating processed foods

devoid of enzymes, vitamins, minerals, and trace elements. He sounded the alarm but was too far ahead of his time and nobody listened. He took photos of the broad facial features of these "primitive" peoples, their uncrowded teeth and wide smiles, time and time again proving the Hunzas were not a genetic aberration of some type, but rather the result of the combination of good nutrition and a healthy environment.

We are systematically poisoning some of the greatest topsoils on the planet, every year increasing the levels of chemical fertilizers, pesticides, and fungicides, killing the microbial life of this once amazingly fertile soil, rendering it not only dead but devoid of all the minerals and trace elements that make life and good health possible. There are men in hazmat suits in the same fields that we are growing our foods, spraying our food and soil with these toxins that are so dangerous that they have to be fully covered from head to toe and breathing thru respirators, so they won't become sick or develop various cancers. Congressional studies as far back as 1930 began sounding alarms about the drop in nutritional content of our foods, worried at the time about its eventual effect upon the health of Americans, and that was before large-scale farming and the use of chemical fertilizers and pesticides became widespread after World War II, when the munitions industries needed new markets and turned from bomb making to industrial farming. Since that time, the nutritional content of all of our foods has plummeted; it takes thirty heads of broccoli to get the same nutritional content as one head from forty years ago, and that is across the board. Our foods are pretty to look at, many times dyed colors to make them appealing, but they lack both taste and vitamin and mineral content. At the same time our diets have changed in other fundamental ways; our milk is pasteurized, our eating of traditional fermented foods has plummeted, raw and fresh fruit and vegetable content in our diets is rapidly disappearing, while our ingestion of industrially prepared processed food and fast food has become the norm. The chemical additives we are exposed to are in all these processed foods, while at the same time they are devoid of enzymes, minerals, essential fats, and essential amino acids, and are brimming with high fructose corn syrup. Is it any surprise at all that our health is in such a precipitous decline?

WHY BECOME A PREPPER

I have had a lifelong interest in politics and world events. While that is endlessly fascinating, it also leaves one with a pronounced feeling of dread. It appears that world events are rapidly spinning out of control. The old threat

of the cold war unfortunately has not gone away, but rather has been joined by an entire new host of potential apocalyptic scenarios. Since 9-11 the war on terrorism has taken center stage, but rather than making progress, we seem to be fighting multiple groups now, both foreign and domestic. We have a Democratic Party that seems intent on not only disarming us but is tripping over itself to prevent any effective surveillance of Muslim groups in the United States and has allowed their infiltration into our own intelligence communities here as well. The FBI can no longer make any reference to Jihad or Muslim or Islamic terrorists, as if eliminating these terms will somehow win the war. Political correctness rules our every utterance, while the thought police on the left accuse anyone who questions them as being Islamophobic and racist. At the same time, the Islamic terrorists are very open about their desire to destroy both the United States and Israel, in any way possible, including biological, nuclear, and chemical attacks. The very real threat of Iran obtaining nuclear weapons grows stronger daily as a weak Obama administration looks for any deal, even a bad one, as a feather in their cap. Iran continues to declare openly on one hand their intention to eradicate Israel and destroy the great Satan (the United States), while on the other hand they say they only want nuclear reactors for peaceful purposes and Islam is a religion of peace. North Korea continues to test their nuclear missiles and improve their range and accuracy. China becomes increasingly confident as their economy becomes the second largest in the world and their military grows daily. The Chinese and the Russians continuously wage cyber warfare and industrial espionage against private American companies as well as the government, hacking into the Pentagon's computers as well as the White House. Putin becomes bolder by the day, seizing the Crimea and surrounding Ukraine. Putin and the Chinese have no respect for a weak Obama, who is completely in over his head running a world superpower, to their amazement he unilaterally is dismantling our nuclear and conventional military forces, even in the face of growing international threats. Putin now routinely sends Russian bombers to our borders in a game of cat and mouse, and Obama has no response! The Chinese and the Russians also both have large cyber forces that seem to be probing the command and control of our three electric grids (East and West of the Mississippi, and Texas). Couple these threats with the possibility of a rogue nuclear weapon being detonated by terrorists, or a belligerent Iran launching a nuclear missile high into the atmosphere to create an EMP pulse, then you have some sleepless nights. Add to these the very real possibility of an economic meltdown, especially considering the fact that the United States currently owes more money than is even in

circulation in the entire world economy and is accelerating their borrowing and spending!

Even nature seems to be adding to the lineup of possible apocalyptic scenarios, with solar flares being at an all-time high as the sun enters into a new cycle. A large solar flare or a CME (Coronal Mass Ejection) is capable of doing the same as an EMP, destroying the electric grid of the part of Earth that it strikes; just recently a very large one just missed the Earth. The weather worldwide seems to be increasingly dangerous. In Connecticut we have had many power outages that have not lasted hours but rather days on end, leaving us without electricity, running generators (if you were lucky to have one), leaving people scared and in the dark. In the last few months Ebola has taken hold in West Africa, and seems to be spreading daily, with several cases coming to American soil. Once again, our leaders embrace political correctness and unlike over thirty other countries we refuse to block admittance of West Africans to American soil, leaving our people with the real threat of a truly horrific epidemic. Tsunamis off the coast of Japan have left the Fukushima reactors melting down and spewing deadly radiation not only into the Pacific Ocean but also into the atmosphere. If the unstable fourth reactor explodes it could put enough radiation into the Northern Hemisphere to render it uninhabitable for centuries. Yet our politicians do nothing and the media remain silent over these very real threats, while they obsess about nonsense like the events in Ferguson, Missouri.

I do consider myself an optimist, yet I am not insane, wearing blinders to all of these possible threats, hoping against hope that all will be well. It is painfully evident to me that the United States government is incapable of helping its citizens, or worse, unwilling to do so, which leaves Prepping as the only sane alternative. There is only a three-day supply of food in our supermarkets, then what?

Any prolonged disaster will require us to have stockpiled long-term supplies of food and water, and the capability of growing our own food once those supplies are depleted. You will need weapons to protect you and your family from the inevitable chaos that will ensue. Most Preppers thankfully have planned for most scenarios and are ready with large supplies of food, water, guns, and ammunition.

I have spent the last several years studying the Prepper movement. These are wonderful people, sane people who, faced with the multiplicity of today's threats, have made the rational decision to prepare and prepare themselves for any eventuality. The American people have always been a hard-working and practical people, and Preppers are the very best examples of this.

However, when I began to read all the different medical books on Prepping, I found some glaring problems. All of the texts were well-written, but usually were merely advanced first aid texts, with limited other medical knowledge provided. All of them seemed to ignore some very real problems, such as medications. Most gave a rather quick review of the medications needed for certain medical emergencies; they usually admonish their readers to stockpile their meds for future use. Anyone currently practicing medicine knows very well the stranglehold that insurance companies have on prescription medications; usually you cannot get them even a

day before they are due and there is no way to stockpile them. Even if you were able to stockpile your meds, eventually either you will run out of them or they will be stolen or destroyed, then what? Other problems were similarly dealt with in an unrealistic fashion. Several popular Prepper medical guides describe things like venomous snake bites. Can you guess what their advice was? You need to get to a poison control center and get some antivenom! HELLO...are you kidding me? Where are you going to find a poison control center? How are you going to contact them? How will they have electricity when nobody else does? Even if they have all of this stuff, do you think there will be a staff that is so dedicated that even after the apocalypse they are still manning their stations, waiting for a snakebite victim to come along; how impractical could they be? Yet, that is the current state of Prepper medical manuals and the reason why I felt compelled to write this book.

In the first part of *The Doomsday Book of Medicine* I will teach you everything you need to know to grow your own nutritious food, teaching you the essentials of survival nutrition and gardening. I will teach you how to build good soil and how that in turn leads to healthy plants that will nourish you and your family, keeping you robustly healthy and impervious to infections and chronic diseases. I will teach you all about vitamins, enzymes, minerals, and trace elements and why they are so essential to maintaining good health.

In the second part, I will teach you how to use over-the-counter items such as vinegar, honey, DMSO, Epsom salts, and others to treat many medical conditions that may arise. These all have multiple uses and are fully described in the text; they are all very inexpensive and can be stockpiled for future use for little money.

The third part is called *What's your Problem?* It covers the many types of medical problems both acute and chronic that could possibly happen to you and your family and how to treat them without using any pharmaceuticals, but rather with alternative and nutritional remedies. I also list multiple treatments for every condition, recognizing the fact that you might not be able to obtain many of the items in a post-collapse scenario. The text is very informative and easy to understand for any nonmedical person and is written in a very clear prose. I also teach you how to make everything you need from bug spray to sunblock and toothpaste; like medicines, these too will eventually run out and will need to be replaced.

The final section is a very long list of everything you will possibly need to build your own survival medicine chest. The beauty of this is that it too can be supplemented from time to time with new home-made ingredients.

Even if your survival group has one or more physicians in it, it is very unlikely they will know what to do once their supply of pharmaceuticals is exhausted. Doctors are very well trained but these days most are dependent upon both diagnostic technologies as well as modern pharmaceuticals and are not versed at all or very little in nutrition and/or alternative treatments. That is why I needed to write this book, to provide that information not only for lay people but also for physicians, to help bring them up to speed in an end-time scenario.

Ralph La Guardia M.D.

In conclusion, I have written a text that is a very practical medical manual for the nonmedical layman, teaching you all the essentials needed to keep you and your family healthy in any prolonged crisis. What good is all your Prepping if you get sick or injured and have no way to treat yourself? You will need a practical guide such as this. I hope you all enjoy reading it as much as I enjoyed writing it for you.

Thank you for buying the Doomsday Book of Medicine and may God bless you all.

Dr. Ralph La Guardia

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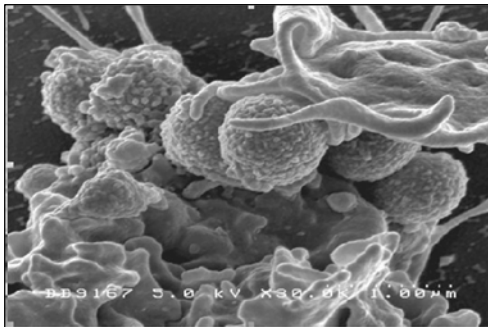
CHAPTER 1

ESSENTIAL HEALTH PRACTICES

As a Prepper you automatically are someone who is realistic by nature and as such a person you surely will come to the realization that no matter how big a supply of antibiotics you have stockpiled currently, they will either run out or be compromised in some way. That being said, you will need alternative means of treating any infection that may arise, thus the impetus for this chapter. I will teach you all the current methods for nonantibiotic treatment of infections; some are very well known and accepted, others are controversial and/or relatively unknown to both physicians and the general public. I would stockpile as many of these as you can afford. Most are relatively inexpensive. Once your survival medicine chest is fully loaded with these you will be able to treat almost any infection that may arise. I have spent decades reading obscure medical books and journals to find many of these incredibly effective treatments. I have been a practicing physician “in the trenches” with sick patients for more than twenty- five years. During that time I have been guilty, along with the vast majority of my colleagues, for the overtreatment of patients with antibiotics. Despite my awareness of antibiotic resistance as a growing problem, I am guilty of prescribing a Z Pak (Zithromax) for a patient calling up with cold symptoms who does not want to come in to be seen. More than likely this patient has a viral infection (viruses are not affected by antibiotics, only bacteria are) and the Z Pak will do nothing for them, but patients push physicians for antibiotics and all too often we give in. This is a major problem in the United States, but a much larger problem internationally, where too often patients do not even need a prescription but can go into any local pharmacy and buy antibiotics that they ask for or the local pharmacist suggests to them. This is compounded by patients who frequently stop taking their antibiotics when they feel better, not for the prescribed length of time. What this in effect is doing is selecting out the weak bacteria by quickly killing them and leaving bacteria that are resistant. Now these strong resistant bacteria that remain flourish and rapidly take over the infected area. This very quickly leads to bacterial resistance to the antibiotic in question and problems like MRSA (Methicillin Resistant Staphylococcus Aureus). MRSA (pronounced Murse-ah) is a growing problem in US hospitals as well as internationally. It is very difficult to eradicate and has led to many serious infections and deaths of patients. It is made worse by inadequate hygiene on the part of doctors and nurses, who

are not washing their hands and are thus spreading the infection. It has also been estimated that up to 4 percent of the health care workers are carriers of MRSA, usually in their noses, thus also contributing to its transmission to others. Ironically, this has created a situation in which hospitals are one of the most dangerous places for patients in terms of contracting infectious diseases.

All of the above misuses of antibiotics on the part of patients and doctors pale in comparison to the abuse of antibiotics on the part of farmers and ranchers. Big Agribusiness is by far the greatest consumer of antibiotics in the United States; currently they are using over 70 percent of all antibiotics to feed their livestock. This misuse of antibiotics to protect their livestock is insane, and leading to antibiotic resistance on a huge scale, pouring these resistant bugs into contaminated waterways and sending out contaminated meat to consumers nationwide. MRSA-contaminated pork has been routinely found in various studies from samples taken all over the United States. Whether this contamination is originally from the meat or from human handlers is unclear, but either way, we are being exposed to this on a routine basis. MRSA currently kills more than 18,000 Americans annually; this is more than the AIDS virus. One study at the University of Minnesota found that from 25 to 39 percent of the hogs carry MRSA, although as of yet there are no proven cases of humans getting MRSA from contaminated meat. It has been known to enter the ground water adjacent to hog farms and contaminate it with MRSA. There is also a new strain called ST398 that recently emerged that has been found on hog farms.



The photo above shows the interaction between a white blood cell and MRSA bacteria.

This all paints a very ominous picture of antibiotic-resistant bacteria emerging much faster than new antibiotics can be developed. What does this mean for Preppers? It means that we have to learn other methods for treating infections that do not involve the use of antibiotics. We have to be smarter and use all the means at our disposal, thus this chapter. In this chapter I will teach you all the methods currently available for the treatment of any infection that may rear its ugly head. Historically and continuing right up to present day, the major thrust by medicine for the treatment of infections has been purely offensive. We attack infections with antibiotics and hope to eradicate them. This has worked since World War II when the first antibiotics were released for use by the public after a horrific fire in a night club in Boston called the Coconut Grove. A candle caught the curtains and the fake palm trees on fire and the crowd stampeded for the exits. Unfortunately, in those days the exit doors opened inward; the crowd pressed against the doors and kept anyone from opening the doors. The victims piled up like firewood against the doors and died in droves. The survivors were severely burned and required antibiotics to prevent overwhelming infections from killing them. Penicillin was released to the local hospitals and was hailed as a miracle drug. That began our war with the bacterial world, a world that includes the oldest living organisms on earth, and by far the most numerous. There is no niche on the planet not inhabited by some form of bacteria, from the coldest ice to the saltiest water, to volcanic vents on the ocean floor. They all reproduce the same way, by dividing themselves in two, thus one could make the argument that these current bacteria are descendants of the original organisms! They have outsmarted our every effort to eradicate them and will continue to do so. Eradication of bacteria is an unobtainable goal and one that would be suicidal for mankind. We humans have coevolved with bacteria and require them to survive. They cover our entire skin and every orifice of our bodies. They live in our guts and are responsible for much of our immunity, our digestion, and our assimilation of foods. They produce vitamins for us and in a limited way they help make minerals organic and thus we are able to absorb them. We could not live without bacteria, and our bodies harbor 100x more bacteria than human cells. Even our DNA includes many bacterial genes! We have to fight bacteria more intelligently than we currently are attempting. Our battle with bacteria has been going on for about seventy years and we are starting to lose the war quite badly.

THE ARGUMENT FOR PREVENTION

In a postapocalyptic scenario, diseases of all types will flourish, and our immunity will be compromised by starvation and inadequate nutrition. Our only chance for survival will mean our mastering of prevention, not our waging war on infections. We will still get infections, and we will have to deal with the ones we contract, but in the meantime a strategy that will best serve us is prevention. We have been purely on the offensive for almost seventy years and it is not working! It is time we add a defensive strategy to our game plan. Benjamin Franklin was right, “an ounce of prevention is worth a pound of cure”. That is just as true today as it was in Ben’s time and believe me it will be just as true tomorrow.



Prevention starts with good personal hygiene; hand washing, and isolation of infected patients to prevent transmission. That also means boosting our immune system with excellent nutrition, minerals, trace elements and vitamins all included with fresh clean water and lots of sunlight. The cornerstone to prevention is the immune system; anything that boosts the immune system is health-enhancing. Here I am going to give you an entire menu of ways to do just that! Always keep this in mind, infection is only caused by a compromised immune system. A healthy individual with a robust immune system and a positive attitude will be impervious to even the most virulent infection. Diseases are the result of two processes going on simultaneously, depression of your immune system and cellular malfunction. Cells are dysfunctional (do not function like they should) as a consequence of several possible problems or a combination of several problems. For example, cells need adequate oxygen intake, hydration, and the proper pH. They also need a wide variety of vitamins, minerals, and trace elements. We have evolved from the ancient oceans where we were literally immersed in a sea of nutrients that provided every mineral and trace element. Consequently our blood contains all of the same minerals and trace elements.

This is not a weird coincidence, it is by design. To ensure proper health and cellular function you need to provide your body with the same broad spectrum of those same minerals and trace elements. Think of it as arming your defense!

In this section I will teach you all the methods currently known to boost your immunity and augment your immune system's fight against any possible invaders. I will also teach you all of the methods available other than antibiotics for the treatment of any infections you might contract in this brave new world.

ESSENTIAL PRACTICES FOR GOOD HEALTH

There are several good health practices that if followed will always enhance your immunity and promote good health. These should be universally followed by Preppers, especially in any survival situation. These will enhance the health of the group and lower the transmission rate of any infections that they might be exposed to. If you want to be vigorously healthy follow as many of these as you can, all would be outstanding. In the following section are all the fundamental ways for you to stay healthy. Some, like vitamins, I did not repeat in the section under what to do if you think you are coming down with an infection, assuming you will max out all of these suggestions such as hydration and vitamins, etc.

PERSONAL HYGIENE

Bathing a minimum of once a week should be mandatory, and this should involve scrubbing any dirt or grime off of your body with soap and a brush or a face cloth. It also involves cleaning yourself from head to toe and washing your hair with soap or a shampoo. That is a minimum; more often will be helpful. Daily bathing is a luxury and not a necessity. If water is an issue, use grey water from rain spouts and rain barrels, not sterile water, which is a waste of resources and unnecessary. Stream or lake water can also be used. Remember, this is not for drinking, only bathing.

Your group will need a good supply of soap in bars and also shampoo. As far as shampoos go, studies show the expensive ones are no different, just packaged nicer. Even dish detergent works just fine for shampoo. The once-a-week minimum should be enforced, but that does not preclude washing your hands frequently, which is very important in prevention of many types of infections, especially among any medics, doctors, or nurses among you. Health care personnel who do not frequently wash their hands are carriers for

many infections. Even physicians' stethoscopes should be cleaned several times a day with rubbing alcohol or peroxide if you have it available, because a stethoscope's surface is exposed to countless pathogens (germs). Bathing of your face and anus and genital areas more often is ideal, and should be done daily if you have the luxury of enough grey water and time, etc. This will keep many infections at bay and make you much more comfortable. Your body entrances such as your mouth and your anus are possible points of entry of bacterial, fungal, and viral infectious agents. Water and soap are highly underrated for cleansing the human body. Water also works to dissolve many toxins and dilute them as well as wash them away. Antiseptics, on the other hand, may help prevent infections but may delay adequate wound healing. Your first line should be old-fashioned soap and water, lathering up your skin from head to toe and rinsing it off thoroughly.



As far as antibiotic soaps go, they will not be much use, are more expensive, and are doing the same thing as injudicious use of antibiotics; they are selecting out for bacterial resistance. Stay away from them, they are not only unnecessary but are harmful and dangerous. Mothers who are busy sterilizing every surface with antiseptic sprays, using antibacterial hand soaps, and keeping their children impeccably clean and off the “dirty” floor are not only wreaking havoc with the local bacteria, selecting out for resistance, but even more importantly they are harming the very children they are trying so hard to protect. What we have learned from studies of children worldwide with allergies is that children brought up with more siblings, pets, and especially farm animals, and in less than hygienic conditions had significantly less problems with allergies and asthma. The reason is that their immune systems were challenged from birth with allergens and antigens and bacteria, viruses, fungi, and parasites....exactly what your immune system was designed to handle, and guess what happened? They handled it wonderfully without problems and developed a robust immune system that

was better able to determine self from foreign invader and had less of an allergic response.

HAND WASHING

Frequent hand washing with soap is essential in any survival situation for the prevention of disease transmission as well as personal health. After every bowel movement a patient should wash their hands. Many diseases are transmitted via the fecal to oral route. Also, before any food preparation, you should wash your hands thoroughly. Studies show that a good hand washing with soap will reduce diseases due to diarrhea by 50 percent, respiratory illness by 25 percent. Hand washing with soap will also significantly reduce the incidence of skin infections, eye infections, and the transmission of parasites. Many diseases are transmitted by infected food handlers, and this is vital to the protection of your group. Hand washing for just these two situations will go a long way towards maintaining the health of your group. Also remember to have your group's members keep their nails relatively short and to clean beneath their nails routinely; this is often a hot spot for microbial growth.

DENTAL CARE

There are no people with bad teeth in good health, the two just do not go together. There is a reason for that, if your mouth is full of rotten teeth, which means they are being colonized by pathogenic or disease causing bacteria, viruses, and even fungal infections such as thrush. Now instead of a mouth full of healthy, disease-preventing bacteria that are acting as your body's first line of defense, you have a mouth full of rotten teeth and bad bacteria. Disease-causing bacteria and viruses find a nice acidic home in mouths with poor dentition and will flourish there. Those same disease-causing pathogens, in turn, seed throughout your body and have to be dealt with by your immune system.



This constant barrage of bacteria and other pathogens on your immune system preoccupies it and squanders its scarce resources to fight off these infections. Your immune system will also be constantly attacking the infected mouth and attempting to regain that lost territory. Eventually the bacteria begin to win and gain other footholds in your body and disease spreads as your body weakens further. This can all easily be prevented by brushing your teeth vigorously at least once a day; more is even better. Rinsing your mouth out with a 50 percent solution of hydrogen peroxide and water and then flossing and brushing your teeth is the best method for cleansing your mouth. The hydrogen peroxide also helps prevent plaque formation on your teeth and will keep them nice and white. I just recently watched the movie *Papillon* with Steve Mc Queen. There is one scene where he is put in solitary for two years for his first escape attempt. Upon being put in his cell, he immediately paces it off to figure out his exercise space and then spends time every day brushing his teeth with a strip of rag pulled off his tattered prison uniform. He intuitively knew the best way to keep himself healthy was to exercise and keep a positive attitude and also to keep his teeth healthy. Even if you have to chew the ends of a small branch, do it and make it into a toothbrush; your efforts will be well rewarded. Many of the infections we contract are done so through our mouths, and eliminating this source will serve you all very well. I also highly recommend getting a dentist for your survival group. I can write a masterpiece about ways to remove teeth, etc., but that is not going to make any of you dentists. It is a highly trained technical skill that is indispensable to a survival group. So, if you don't have a dentist in your group, I would have each of your members reach out to their own dentist during their next visit; that is a good place to start. Physicians and dentists are intelligent and hardworking (or they would not have made it far enough to get a doctorate) and many are very practical guys with knowledge that is indispensable to a survival group. Have you ever noticed on shows like *Lost*, who was the most useful guy to have around? The doctor.

SLEEP

Proper sleep for health maintenance is very under appreciated. The average American gets much less sleep than is needed, and this leads to all kinds of problems that you probably never imagined, such as obesity, strokes, sudden death, and many others. It also leads to innumerable deaths from accidents both in the workplace and also at home, and especially on the roads.

Driving, flying, etc. will be much less of an issue after the collapse, but sleep will always be needed. Americans as a group are chronically sleep deprived. You should aim for eight good hours of solid sleep. A minimum of six hours and a maximum of nine hours of sleep nightly is the proper range.

Contrary to popular perceptions, a good night's sleep promotes weight loss not weight gain. This goes back to what your mother told you as a child about getting sleep so you would grow. As with many "old wives' tales", it has a factual basis. When you go into a nice, deep sleep you enter a level during which your body releases growth hormones. This, as the name implies, leads to growth in height (until you are an adult), the buildup of muscle, and the breakdown of fat. The result is a net weight loss, as well as a nice refreshed, rejuvenated feeling the next day. When I was in medical school, we all studied around the clock. After a while I learned that pushing myself to continue trying to absorb all that information when I was nodding out was counterproductive. It was not working at that point and I was just wasting my time. I learned that when I was nodding out, it was time to go to bed for the evening. My most productive time for the absorption of complex medical concepts with large amounts of information was first thing in the morning upon awakening. If you have guards on duty around your retreat, then you will want to keep this concept in mind. It is much more effective to have them do four-hour shifts and a change of guards than a single, eight-hour shift. They will be more attentive and less prone to zone out or sleep. Or an alternative method is to have two fellows on together all evening, with one awake every two hours and then changing guards. Any of these methods will provide better vigilance and attentiveness from your guards, which is their entire purpose. For a survival group, attention to these "little" details could make all the difference in your ultimate survival. Another tip to keep your guards vigilant is the use of smelling salts. Have the guards supplied with a small vial of smelling salts to self-administer when they find themselves nodding out; it will not only awaken them fully but it will keep them more alert for some time.

EXERCISE

In most survival situations people will be engaged in a steady amount of exercise due to their situations. Survival groups will not have the luxury of having many people who are sedentary, unless they bring to the table other skills that the group absolutely requires, such as a dentist or doctor. In a situation where your group has to hunker down and be inside or in a small

area, then mandatory exercise will be needed. You will need to keep your bodies strong and lean so they maintain health, strength, and vigor. In an enclosed situation, look into isometric exercises to maintain muscle tone. A rowing machine is outstanding for maintaining full body tone and fitness; they can be stood up on end when not in use and will not take up much room but will provide all the members with a fifteen-minute-a-day exercise routine. Stationary bikes, treadmills, elliptical trainers, steppers, and spin bikes will work just fine, but many of these are hard on people's knees and hips. A small set of free weights is cheap and doesn't take up much space. If you don't have any of these then just pushing against the wall to do isometric resistance exercises along with calisthenics will suffice to maintain muscle tone and keep you in shape. One of the best overall exercises is push-ups, if done properly, slowly exhaling as you push off the ground, and touching your chest to the ground with your arms shoulder width apart, and on your toes. An alternative method that I did for many years in my small medical school apartment was to do push-ups on three chairs. You put each arm on a chair and your feet on the third chair, and you go down below the level of the chairs and this really builds up your chest and upper torso. Sex also counts as a vigorous exercise, unless you are married (only kidding). Sex alone does not count as exercise.

My point is that you have many options, but the leader of the group should make sure that everyone who is not ill should be getting some exercise daily. How you as a group delegate a mandatory exercise rule when you are stuck in a bunker-type situation should be thought out ahead of time and agreed upon. It will also keep up members' spirits as well as their health and has no downside except some body odor.

SUNSHINE

The sun is good for you; ignore everything you have been told about avoiding the sun. Our ancestors were out in the sun all year round, without sunblock, and did not develop skin cancer like modern man. The reason is they were always out there, so they were not getting burned. Sunburns are a modern problem, even for the fairest-skinned among us (excluding albinos, of course). Modern man is for the most part an indoor creature, and the last few generations have seen that accelerating as kids watch TV and play video games rather than playing outside in the sun and fresh air (depending on where you live -- I grew up in New Jersey, two miles from New York City, so there was no fresh air for us).

When they do go out and go to the beach their skin has not seen the sun since the previous August and they burn to a crisp. Most of our ancestors were involved in farming, hunting, fishing, and herding, which involved them being outside for most of the year. When they weren't trying to produce food they were outside for festivals and for repairing their homes and barns, etc. Their skin was well tanned and never burned. This also provided them with a nice, steady source of vitamin D for most of the year, which boosted their immune system, helped their bone health, and prevented cancers, it also helps mood, although I am not claiming they were necessarily in good moods...! In my practice here in New England it is rare that I see anyone with normal vitamin D levels from October to May, and for most not even during the summer months. For patients with dark skin types it is even worse; blacks and dark-skinned Hispanics are always vitamin D deficient due to large amounts of melanin, or skin pigment, which blocks the sunshine thus preventing vitamin D production from cholesterol. That brings up another little known fact, sunbathing causes a drop in your cholesterol levels by diverting that cholesterol to the production of vitamin D.

BUILDING BLOCKS OF GOOD NUTRITION

Many times in this book I talk about the importance of good nutrition. You have to provide your body with all of its nutritional needs in order for it to build and repair itself and to maintain a vigorous immune system. The building blocks you will need include the following:

Hydration

Adequate hydration with fresh, clean water is critical. Ideally water with a slightly alkaline pH is best for you, high in minerals and trace elements also helps but is difficult to find. As long as you have clean water you can always supplement it by adding a complete mineral and trace element supplement such as Supreme Fulvic, which also contains fulvic acid (see following section for complete details).

Minerals and Trace Elements

A mineral source should contain all the minerals, and especially important is all of the trace elements. A humic shale source is best; this will contain humic and fulvic acids. They are essential for good health and the fulvic acid will make your body's cell membranes more permeable and

facilitate the entry of those minerals, vitamins, and trace elements to the inside of the cell, where they can be used by the cell to produce the thousands of different chemicals that cells need and are capable of producing. A lack of any of these minerals or trace elements will result in some cellular dysfunction (not working properly) and eventually, disease. Ideally you should get your minerals and trace elements from plants or animals (that eat plants) that you are eating, but since our food is grown on severely depleted soils that are missing many minerals and trace elements, we have no choice but to supplement our diets with a humic shale-derived mineral source. Of course, the better option is to heal your soil by providing either rock dust or Azomite or some other form of minerals and feed those all-important soil microbes, and they will do their job and feed your garden plants, from which you will now get your minerals in an ideal form....from plants.

Essential Amino Acids

Amino acids are building blocks to protein. Your body carries out the vast majority of its activities by way of proteins that it manufactures. Essential amino acids are amino acids that your body cannot synthesize on its own and must be obtained in your diet. There are nine essential amino acids and six conditionally essential amino acids, meaning that they become essential given the right conditions such as a premature birth.

Most of your body is built on protein. Your muscles and your enzymes are mostly proteins, so having the full complement of amino acids to build this immense variety of proteins is absolutely essential. Protein deficiencies affect all of the body's organs and systems, especially the developing brain (iodine is also essential for the developing brain, a lack of which leads to cretinism), immune system, the GI tract, heart, liver, and kidney function. Remember the native American use of the "three sisters" to meet all their amino acids needs. The three sisters were corn, beans, and squash. These three plants provided the full complement of amino acids that they needed in order to not only survive but thrive. Native Americans were vigorously healthy before they adopted an American diet; since then they have been ravaged by diabetes, hypertension, obesity, and many of the other degenerative illnesses.

Essential Fatty Acids

Essential Fatty Acids are fatty acids that cannot be made by your body and just like essential amino acids, they can only come from your diet. There

are only two essential fatty acids that your body needs and they are alpha-linolenic and linoleic acid. Alpha-linolenic acid is an omega-3 fatty acid and linoleic acid is an omega-6 fatty acid. Both of these fatty acids are found in plant food. A good supply of good fats is fine; do not be afraid of animal fats, you just need a balance. Fish oil, hemp oil, black seed oil, flaxseed oil, walnut oil, olive oil, and coconut oil are all excellent sources of a broad spectrum of the fatty acids that your body needs. Eczema is a classic example of the results of a diet deficient in essential fatty acids; giving patients with eczema a combination of a good fatty acid source, zinc, and sunshine will cure the vast majority of these patients. Depression, ADHD, and other mental illnesses are all helped by a diet high in essential fatty acids and fish oil. I am of the school of thought that these patients need to have all of these building blocks to good health before they are put on steroids and SSRIs (selective serotonin reuptake inhibitors). If we did such nutritional interventions first or even concurrently with pharmaceuticals that hopefully later could be withdrawn, we would have a much greater success rate.

Your body also needs a healthy balance of omega-3 and omega-6 fatty acids. Since fatty acids are essential to the production of many signaling molecules and messengers that control inflammation, mood, behavior, cell signaling and many other processes, if there is an imbalance of these fatty acids there will be problems with inflammation, cell function, and mental processes.

People are fat phobic and there is no need to be, you cannot survive without fats. I go into this further in the section on seed oils such as hemp oil and black seed oil. I would stockpile several of these oils in order to provide you and your group with a nice broad spectrum of essential fats.

The fat phobia that people have is because of the mistaken assumption that obesity is due to fat intake. They point out that a gram of fat has nine calories whereas protein and carbohydrates are four calories per gram. The difference is that carbohydrate ingestion causes insulin to be released. Insulin is essentially a fat storage hormone; it diverts excessive carbohydrate calories into new fat production as well as the protection of existing fat. Americans have been cutting their fat intake with low-fat and fat-free foods for the last several decades only to find themselves progressively more obese. If you look at a graph of high fructose corn syrup, it can be superimposed on a graph of obesity during the same years. Carbohydrates are the problem, not fat.

Intermittent fasting for sixteen-hour stretches and/or fasting for two days a week produce greater results in weight loss than any other dietary strategy I know of. I am not a novice in treating obesity, I am board certified in

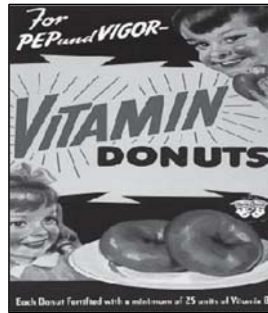
bariatrics, which is the science of weight loss. I have used many different kinds of diets on my patients over the course of my long career and I can say unequivocally that eating a diet of low glycemic foods, which are foods which do not release their sugar content rapidly and thus avoid spikes in your insulin levels, works better than any other diet yet devised. Two days a week, restrict yourself to 600 calories if you are a male and 500 calories if you are a female, of low glycemic foods; the other days eat pretty much whatever you normally would. This will result in a profound change for the better in your body chemistry and steady, sustained weight loss due to basically two days a week with low insulin levels. It is simple, does not involve calorie counting, and is a realistic diet that can be sustained indefinitely. There is an excellent book outlining this diet called *The Fast Diet* by Dr. Michael Mosley and Mimi Spencer.

Healthy Carbohydrates

Healthy carbohydrates are ideally from organic fruits, vegetables, whole grains, and beans. Unhealthy carbohydrates are from processed foods and highly refined foods such as cakes, pastries, breads, pastas, and foods high in sugar. Whole grains are healthier due to their fiber content as well as other phytonutrients.

Beans are a healthy source of both soluble and insoluble fiber as well as being high in protein. Fruits and vegetables are also packaged with lots of fiber and other healthy plant-derived nutrients.

If you have to choose a bread or a pasta (and I fully understand this, being Italian), then stay away from white breads and pastas. Remember the saying, “the whiter the bread, the sooner you’re dead”. Choose whole grain pastas which have up to three times as much fiber as the white varieties. Multigrain bread is much healthier for similar reasons, in addition to which you get more nutrition from the multiple grain sources. If you absolutely have to have a snack, then popcorn is one of the better choices since, believe it or not, it too is a whole grain. Some food manufacturers go to incredible lengths to make junk food sound healthy as evidenced by the ad for vitamin donuts below. Yes, the fortification with vitamin B1 is a good idea, but it is far outweighed by the refined sugar and unhealthy carbohydrates in the rest of the donut.



We Preppers will need to keep ourselves in good health and this will require healthy, organically grown fruits and vegetables as well as grass fed, free-range animals and livestock. Organic alone will not work if the soil is still depleted, you need to also feed the soil.

Growing plants in your garden or orchard and applying pesticides, herbicides, and chemical fertilizers is the most foolish thing you can do. The fungicides, herbicides, and pesticides kill off all that rich, wonderful microbial life in the soil. That microbial world in your soil is filled with beneficial fungi and bacteria which break down all the leaves, branches, and other vegetable matter in the soil and change it into rich black dirt, filled with humic and fulvic acids, which are essential for health. These same microorganisms also convert inorganic minerals into an organic form so your body can assimilate them. Our bodies cannot utilize minerals and trace elements in an inorganic form. The beneficial gut flora in your body converts some of these minerals into an organic form, they also produce essential vitamins for you and help your immune system and aid in digestion. The conversion rate of inorganic minerals to organic by your gut is quite small. Your body was designed in a jungle garden where there were large amounts of fruits, wild edible plant matter of various types, and nuts. Meat and fish were also in abundance. There is even a theory that the development of the brain of *Homo sapiens* (modern man) was kick-started by a movement to the shores of lakes and the ocean and the incorporation of large quantities of shellfish and other fish and along with them, a very high omega-3 fatty acid content. Until the last hundred years or so we only had organically grown fruits and vegetables; then industrial farming, using chemicals of all types, began. With those organic vegetables and fruits came large doses of humic and fulvic acids. These humates also help the binding and elimination of toxins and heavy metals from our bodies. Currently our bodies are undergoing an unprecedented attack of toxins and heavy metals in our air,

water, and food. We are also exposed to large quantities of toxins from seemingly “harmless” sources such as fire retardant chemicals on our rugs, bedspreads, and furniture, and toxins in your cosmetics and personal hygiene products. Many toxins come from plastic containers, leaching toxic chemicals and estrogen-like hormones that eventually enter our bodies and must be detoxified and eliminated.

This current toxic onslaught is new. Over millions of years as we evolved there were not any of the toxins we are currently exposed to. Our bodies need help in ridding themselves of these toxins, but the best way to help your body is to lower its toxic load exposure, and nothing does this better than fresh, clean, organic food. Remember, health begins in the soil. If you are eating food that is grown in ground soaked in chemical pesticides, herbicides, and fungicides, it is devoid of microbial life and only provides you with a skeleton of a plant lacking in minerals and trace elements and humic and fulvic acids, all of which are essential for good health. Our bodies evolved with the full complement of amino acids, fatty acids, minerals, vitamins, humic acid (including fulvic acid) and trace elements; restoring these will restore health and prevent many of the acute and chronic degenerative diseases we currently are afflicted with. As Preppers we will only survive if we follow the ideal plan God has designed here on this incredible planet. Why try to recreate the wheel, it is a beautiful, balanced system designed to provide us with our every need.

Vitamins

Your body also needs the full spectrum of vitamins: Vitamins A, D, E, and K are fat soluble, and B complex and vitamin C are water soluble. Vitamins are best assimilated from organic sources, i.e., fruits, nuts, and vegetables. Remember, soluble means what they dissolve in. All vitamins are fat soluble except B and C which dissolve in water. All of the fat-soluble vitamins need to be taken with a fatty meal in order to be absorbed, otherwise they are going straight through you. Vitamins B and C can be taken on an empty stomach because they are water soluble; since your body is mostly water, your GI tract always has enough water in it to properly dissolve them. I would certainly stockpile at least a year’s worth of a good multivitamin and several years’ worth of vitamin C for each member of your survival group. Vitamin C is so very essential to good health and helps boost your immune system as part of the antioxidant cascade, along with alpha lipid acid, vitamin E, CoQ10 and glutathione. Alpha lipoic acid is an essential substance

for your body's health; it is able to enter every cell of your body and cross barriers such as the blood-brain barrier and the cell membrane due to its unique property of being both fat and water soluble. ALA, as it is abbreviated, is the only substance known to have both fat and water solubility and I think this speaks volumes as to its importance in the body.

HALL OF FAME OF IMMUNE SYSTEM BOOSTERS

Here is a list of some of the most powerful nutrients to boost your immune system. These take prevention to an entirely new dimension. I have not included old classics like vitamin C and other antioxidant vitamins, since I reviewed them above. The assumption is that you have already maxed out all of the modalities above, and now we are taking it to another level. Keep in mind that these are mostly for prevention, but some also treat certain illnesses. Here are the Hall of Famers:

ASTAXANTHIN

Astaxanthin is pronounced asta-zan-thin. Astaxanthin is a carotenoid, similar to carotene which gives carrots their characteristic orange color, and it is this astaxanthin that gives krill and salmon their pink/red color. Like other carotenoids, astaxanthin is fat soluble; therefore you have to take it with fat to absorb it. Astaxanthin is also found in microalgae, yeast, trout, shrimp, crayfish, crustaceans, and the feathers of some birds. Unlike other carotenes, astaxanthin is not a precursor of vitamin A and therefore is not converted to vitamin A in humans.

The primary commercial source of astaxanthin is from a microalgae named *Haematococcus pluvialis*, which has the highest concentration of astaxanthin found in nature. Lobsters and crabs, among other animals feed on this microalgae and get their characteristic red color from them.

Astaxanthin is a very powerful antioxidant and is 550 times stronger than vitamin E and 6,000 times stronger than vitamin C! It works as an anti-inflammatory as well interfering with five different inflammation-producing pathways. Astaxanthin therefore is very useful in the treatment of any inflammatory condition, and as a potent antioxidant it also boosts your immunity and will help prevent infections and fight off any you might contract. Since it is such a potent anti-inflammatory agent it also works to control pain. Astaxanthin works to block *cox2* enzymes and as such works like the *cox2* inhibitors such as Celebrex and Mobic that are used in the treatment of arthritis.

Astaxanthin also works for endurance; it is highly concentrated in the muscles of salmon, for example, and is responsible for their incredible feats of strength as they swim upstream to spawn annually. Incidentally, astaxanthin also works for vision, helping macular degeneration, diabetic retinopathy, eye fatigue, and strain. Astaxanthin also helps you recover from fatigue and even helps problems like sunburn.

COLOSTRUM

Colostrum is also called first milk or beestings. It is produced by mammals in late pregnancy and is the first milk they give to their offspring. It is lower in fat (infants have a hard time digesting fat) and higher in protein than normal breast milk and more importantly it is full of antibodies to protect the newborn from disease.



Colostrum (on the left) and Breast Milk

Colostrum from both cows and humans is thick, sticky, and yellowish in color; it is also chock full of carbohydrates, minerals, and vitamins. Bovine colostrum from pasture fed cows is full of antibodies to nineteen human pathogens such as E. Coli, staphylococcus, shigella, salmonella, cryptosporidium and rotavirus (which causes diarrhea in infants), and others. Prior to the introduction of antibiotics in the 1940s the use of antibody-rich colostrum was one of the only means of fighting infections. Colostrum also contains lactoferrin, complement, lysosomes, lactoperoxidase, and proline-rich polypeptides (PRPs), all of which help fight infections. PRPs are interesting due to their immune- modulating effect upon the immune system. PRPs have the ability to boost the immune system in one direction to fight an infection and also dampen it down in the other direction once the infection

has passed, helping to prevent autoimmune diseases. That effect on the immune system in either direction is what is known as modulating. Colostrum also contains antioxidants like hemopexin (which binds free heme in the body from damaged red blood cells) and lactoferrin (which binds iron, preventing bacterial infections because bacteria require iron to reproduce). It also has antifungal activity against many fungal infections including *Candida albicans*. Antibody levels in colostrum are one hundred times higher than breast or cow's milk! Colostrum can also be administered rectally to treat cases of colitis. Researchers have injected cows with various disease-causing organisms, so they will develop antibodies to these diseases. The colostrum of these cows is known as Hyperimmune Bovine Colostrum. This sounds like a wonderful idea but in practice it has not proven to be as useful as physicians originally had hoped. If you have an allergy to cow's milk or dairy products you probably will be allergic to colostrum as well. Colostrum has proved very effective for the treatment of infectious diarrhea. The usual dose is 10 to 20 grams a day for approximately ten days. Colostrum also contains large amounts of the secretory immunoglobulin A which protects the newborns' throats, lungs, and intestinal tract from infections. Colostrum also has a mild laxative effect; this helps induce the infant's first bowel movement, or meconium. This meconium helps eliminate bilirubin, which is a by-product of the large quantity of dead red blood cells that are normally produced at birth; this helps prevent jaundice in newborns.

Colostrum also has a beneficial effect on the normal good bacteria in the intestinal tract allowing them to colonize your intestines. These beneficial bacteria are also known as probiotics, and they help the immune system, as well as competing with pathogenic or harmful bacteria and preventing them from colonizing your colon. Colostrum is helpful for all babies, but is especially useful to help premature infants survive and thrive. Colostrum is only for prevention and will not treat any infections.

STOLLE'S MILK

Stolle's milk was originally developed by a businessman named Ralph Stolle (yet another great Ralph) who was looking to improve his own health. He believed the best way to do so was by improving his immune system. Ralph Stolle owned a large dairy farm in Lebanon, Ohio, where he developed a method of injecting pathogens (germs) directly into the bloodstream of cows in order to stimulate their immune systems and to increase their production of specific antibodies to human diseases. He was wealthy and

used his wealth to finance a large experiment where he gave away to over 8,000 patients his Stolle's milk. It was very successful in the treatment of a large variety of conditions. His patients reported a decrease in arthritic complaints, fatigue, and their cholesterol levels, as well as a boosting of their immune systems with resulting decrease in infections of all types. Apparently it is cheap to produce and can be done so even in third-world countries. It is completely safe to use and can be taken orally. It offers protection against a wide variety of different organisms including bacteria, yeasts, fungi, protozoa, viruses, rickettsia, amoeba, and parasites. It is also reported to accelerate healing of injuries and increase energy and stamina. It can easily be delivered as an oral vaccine. Ralph Stolle eventually went into partnership with a company from New Zealand and around 1999 he was bought out and it is now produced by SMBI, or Stolle's Milk Biologics, Inc. For newborn mammals of any type, colostrum and Stolle's milk will provide a huge survival advantage by providing an acquired or adaptive immunity. SMBI currently produces milk as a 26-in-1 polyvalent vaccine. They do this by producing in a laboratory the twenty-six most common human pathogens and then heat-killing them and then injecting this product into cows, thus producing antibodies in the cow to all twenty-six pathogens. SMBI also claims that this contains an anti-inflammatory factor that helps reduce inflammation from allergies and infections, thus reducing pain, swelling, itching, and redness. Stolle's milk also contains macrophage-activating factor which activates macrophages which ingest bacteria and other invaders as well as boosting immunity. They also claim that it helps reduce atherosclerosis (hardening of the arteries) and therefore heart disease. Keep in mind that both colostrum and Stolle's milk are for prevention only; they are useless in the treatment of a disease you have already been infected with. SMBI also has patents on their Stolle's milk to lower blood pressure, anti-aging effects, prevention of lung infections, prevention of tooth decay, prevention of rheumatoid arthritis, lung protection, gastrointestinal protection, and even the prevention of body odor!!!

Stolle's milk is currently freeze-dried by a patented method and is produced in a powder in packets that you rehydrate by adding either warm or cold water. Do not use hot water -- it will inactivate the antibodies.

GARLIC

Garlic (or the Stinking Rose as it is sometimes referred to), or *Allium sativum* has many benefits for your health and your immune system; man has

been using garlic for over five thousand years. Garlic is a member of the lily family that also includes onions, chives, and leeks.

To get the most health benefit from garlic you should eat it either as an aged extract (Kyolic), chopped, whole, or crushed. Garlic contains many health giving compounds, most of which are sulfur-rich compounds such as its most potent compound, allicin. Allicin is destroyed by cooking, especially greater than 350F, so either crush or chop your garlic or eat it whole. If you do cook it, do so for as short a time as possible, ideally less than ten minutes and never greater than 250F, which will conserve the allicin. Allicin will remain viable if crushed or chopped for between two and a half days. If removed and purified as an extract it will last from two to sixteen hours at room temperature. Allicin is very unstable and will not last long once activated by crushing or chopping. The exception to this is Kyolic, which is an aged garlic extract that preserves garlic activity without any garlic smell. Garlic is a seleniferous plant, meaning it will uptake selenium actively from the soil, even if the selenium is scarce; thus it is a great source of selenium. Selenium is important for hundreds of selenium-dependent enzyme systems in your body, including changing thyroid hormone from its inactive T4 form to its active T3 form. Selenium-poor diets are also notoriously high in cancer; perhaps this is the reason for some of garlic's reported anticancer benefits.

Garlic has many extraordinary health benefits, but one of its most useful for us Preppers is its strong antibacterial effects. It has been utilized down through time immemorial for the treatment of wounds and infections. It has been used as recently as both world wars; in fact, the Russians utilized it topically on wounds in the form of crushed garlic juice when their other antibiotics ran out; it was even called "Russian Penicillin". Garlic juice has been shown by researchers to slow the growth and sometimes kill outright over sixty species of mold and twenty species of bacteria, even MRS. The chief antibiotic compound in garlic is allicin, it also gives garlic its strong smell. One milligram of allicin is equal to approximately fifteen standard units of penicillin. Using that formula, approximately 100 mg of allicin would be equivalent to a single dose of penicillin. Allicin kills MRSA and many other super-bugs that have developed antibiotic resistance. Garlic boosts your immune system and helps prevent as well as treat infections, has been used for generations for the common cold as well as more serious infections. Garlic works against both bacterial infections and viral infections as well as yeast and fungal infections, and intestinal parasites like worms. Garlic also lowers your blood pressure by providing polysulfides (sulfur- rich compounds) that are utilized by the body's red blood cells to make hydrogen

sulfide gas. Hydrogen sulfide gas causes the blood vessels to expand and therefore lowers blood pressure and has a cardio-protective effect. Fresh garlic is also an excellent source of vitamin C, B6 and manganese (as well as the selenium I mentioned earlier). Garlic is also an excellent source of the mineral sulfur, which is frequently deficient in the American diet and has many health benefits. Garlic also lowers bad fats in your blood like triglycerides and total cholesterol from 5 to 15 percent. Garlic is also a potent anti-inflammatory agent as well as being a good antioxidant. Inflammation is the basis for most noninfectious chronic diseases.

All of the sister plants of garlic such as leeks, onion, and chives also have similar benefits as garlic, but to a lesser degree. All should be included in your survival garden and included in raw crushed or chopped form in your diet or taken as an extract form like Kyolic. I would keep several bottles of Kyolic in my survival medicine chest to use for any bad colds or infections that may arise. Kyolic also comes in powder form. Kyolic has no allicin, but has over 200 other beneficial sulfur-rich compounds found in garlic, and thus retains many of garlic's health benefits. Kyolic is also made from organic garlic without any exposure to pesticides, herbicides, fungicides, and chemical fertilizers, etc.

As always, you will get the most benefit from the raw form of garlic or any of its relatives such as chives, leeks, and onions; once cooked, the enzymes and other beneficial compounds in these raw vegetables are destroyed. Most enzymes in food are destroyed by cooking raw foods at 125 degrees F or greater for more than twenty minutes. Most foods are better for you when they are raw due to their enzyme, mineral, and phytonutrient content.

IODINE

It is the same old sad story; the wonderful microbial life and fertility of our soils get progressively depleted of all of their minerals and trace elements as they get poisoned with concentrated chemical fertilizers and pesticides of all sorts. Soil farmed in this manner is lifeless and dead. Unfortunately except for organic farms this describes the vast majority of farms in the United States today. Soil treated with those toxins cannot form humic acids and fulvic acid and consequently cannot process inorganic minerals into organic minerals and trace elements which your body can easily absorb. The humus content of the soil, which took millions of years to develop, is destroyed in a few decades, and along with it the fertility and productivity of the soil. Foods

are grown that look okay but are nutritionally depleted and empty and are lacking the fulvic acid from the soil that is so important in facilitating the human body to absorb all the nutrients it so desperately needs to function properly. Consequently each successive generation of fruits and vegetables grown in these dead soils results in less and less mineral and trace element content. This is compounded by our modern methods of cooking and processing food, resulting in foods that are devoid of enzymes, vitamins, minerals, and most trace elements, but overflowing with high fructose corn syrup and other forms of sugar and soaked in innumerable types of toxins. This doesn't even take into account the potential environmental disaster of GMO foods, and international corporations like Monsanto and their almost total control of seeds and the resulting means of food production. Seed companies are now selling hybrid seeds that produce plants that are sterile and cannot reproduce themselves like open-pollinated seeds can. Farmers around the world are jumping on this hybrid seed bandwagon due to the promise of increasing yields, along with pest and pesticide resistance, as well as larger-sized vegetables. However, this is done at the expense of the loss of several thousand years of local plant breeding that has developed local plants, known as landraces, which are perfectly matched to the local environment as well as the local insects, soils, and weather patterns. These plants contain DNA that has many different traits and characteristics that we do not want to squander and lose forever. Once lost, these varieties of plants will be gone forever.

As a Prepper, you have to have a seed vault of heirloom seeds that are open-pollinated and thus will produce viable seed themselves for your next season. Seed germination and gathering, along with the ability to breed plants to improve size, taste, and other characteristics, is essential for any serious Prepper or survival group. There is no doubt that we will have to grow our own food; we have to learn to do so using organic techniques in healthy soil rich in all the minerals and trace elements that we require for good health.

In the bibliography there are many books on this subject that will help teach how to do so. One fabulous source for open-pollinated heirloom varieties of fruits and vegetables is the Seed Savers Exchange. This was started in 1975 by Kent Whealy and his wife, Diane, who just wanted to save some varieties of vegetables that they ate as children that they noticed were disappearing. Gardeners of all races and ethnicities had come from all over the world to the United States, bringing with them jars of seeds from their "old countries". These seeds were grown in backyards all over the country, but were being lost by the thousands before the Seed Savers Exchange

became reality. This idea has grown into a thick catalogue of thousands of varieties of any fruit and vegetable you could imagine and has resulted in the salvaging of an innumerable number of these plants that otherwise would have gone extinct. I highly recommend joining it and making a contribution if you have any unusual varieties. For a Prepper it is a wonderful source of seeds at reasonable prices; currently the catalogue has over 12,000 varieties of vegetables, herbs, and other plants. As a couple they have probably contributed more to saving the genetic diversity of our planet than any group or government. Scientific American had a revealing article in April 2011 on the changes in nutritional content of some of the foods we grow. From 1975 to 1997 the average calcium content in twelve fresh vegetables dropped 27 percent, iron levels 37 percent, vitamin A levels declined 21 percent and vitamin C levels dropped 30 percent! Wheat has half the protein content of one hundred years ago. We would have to eat eight of today's oranges to get the vitamin C content of one orange our grandparents ate. The calcium content of broccoli would require you to eat three heads of today's broccoli to get the same amount as one head in 1950. Alarming reports detailing the decline in nutritional content of our foods go as far back as 1935 when the Department of Agriculture began sounding the alarm, and things have gotten markedly worse since those bygone days. The quarter of the American population that eats the least fruit and vegetables has twice the cancer rate as the group that eats the most; that alone is a startling statistic.

A consequence of all of this is a drastic decline in the iodine content of soils, dropping as much as 50 percent in the last thirty years. The World Health Organization (WHO) estimates that over 2.2 billion people worldwide are at risk for iodine deficiency. Iodine is essential for proper functioning of the thyroid gland, which in turn controls your metabolism and many other functions. Iodine, however, is not only essential for the thyroid but also is found in the thymus, breast, salivary glands, pancreas, brain, cerebrospinal fluid (the fluid that your brain and spinal cord float in), stomach, and skin. A woman's thyroid gland is twice the size of a man's and hence she will need more iodine, especially during pregnancy and breast feeding. The developing fetus's brain is dependent on adequate iodine (along with essential fatty acids), without which the child will be born mentally deficient (before the current political correctness was imposed on all of us by the Democratic party, in a time when speech used to be free and not censored, these children were called cretins. Try that now and see what happens to you!). Some of the non-thyroid side effects of iodine deficiency are easily traceable to its source in the body: in the salivary glands - dry mouth; in the brain - cretinism, slow

mental development, and slow brain functioning; in the skin - dry skin and a lack of sweating; in muscles and joints - fibromyalgia-type complaints of aches and pains. Iodine deficiency is also the cause of many of the cysts that develop in patients' breasts (fibrocystic breast disease) and other body organs.

Iodine is essential to those parts of the body named above, but also its deficiency has been implicated in a large number of conditions and diseases such as ADHD, miscarriages, Multiple Sclerosis (M.S.) and Alzheimer's disease as well as Parkinson's disease and a large number of other neurological disorders.

Another major issue with getting enough iodine is a problem with competition with other halogens like fluorine, chlorine, and bromine. All of these halogens are adjacent to iodine on the periodic table of elements and have similar structure and hence compete with iodine. With all the fluoride currently being placed in our drinking water, and all the bromine used for fire retardation and other chemical uses, this has caused a major problem. Bromine is also added to commercial breads and baked goods. Standard laboratory tests will not pick up bromine or fluorine replacement of iodine in thyroid hormones and these hormones will be reported at levels which are wrong because they are inactive due to their replacement of iodine. Thyroid hormone without iodine that contains bromine or fluorine cannot function and is useless to the body's needs.

Lugol's solution, which is a liquid form of iodine and iodide combined, is very useful when one or two drops are placed in a small glass of water daily. Use this solution to rinse out your mouth once a day and then swallow it. This will provide enough iodine to your body and help displace any fluoride or bromide that might have replaced iodine in your thyroid and other tissues. Note: Too much iodine in a diet supposedly can lead to hypothyroidism or a slow thyroid. That being said, the Japanese have the highest intake of iodine of any population in the world, and do not have an epidemic of hypothyroidism, so as far as I am concerned, high iodine intakes have no serious adverse consequences and many benefits. Another wonderful source for iodine is Nascent Iodine. Nascent Iodine comes as a liquid, it is iodine in its atomic or most basic form. Nascent Iodine is the form that is most readily recognized by the body and most easily absorbed. It has a high electromagnetic charge on its surface and this makes it more readily absorbed by our bodies. Because of this easy absorption, Nascent Iodine helps displace bromine, chlorine, and fluorine and also prevents their uptake, thereby helping to detoxify the body. Nascent Iodine also stimulates the thyroid to

produce more thyroid hormones such as T3 and T4. Nascent is the form that was used by dentists and doctors in the pre-antibiotic era to treat infections in the mouth, topically on the skin, and internally as well. Nascent Iodine is also the best form to protect yourself from radiation exposure due to its rapid absorption in a readily usable and recognized form to the body. Nascent Iodine also has the following benefits:

- Supports and boosts the immune system
- Helps regulate metabolism
- Boosts energy levels (especially if you have an iodine deficiency, which many of us do)
- Maintain detoxification systems and help flush the body of toxins
- Fight off infections by its antiseptic properties

The usual dose of Nascent Iodine is from one to ten drops daily depending on your situation. Keep in mind that each drop of Nascent Iodine contains approximately 400 mcg (micrograms) of iodine. I take four to five drops daily to maintain good thyroid health. It can either be taken orally mixed with fruit juice or water, or the drops can be administered directly under your tongue. I personally like it in a small glass of cold water, I also swish it around my mouth to clean my mouth of any pathogens before I swallow it. You might as well disinfect your mouth while you are at it; there is no downside to that and lots of benefits as far as prevention of tooth decay, which in a survival situation without a dentist might prove to be very important.

Many diseases gain entry into our bodies through our mouths and thus the importance of good oral hygiene, so why not use an iodine water mix to cleanse and disinfect your mouth while at same time providing yourself with a steady flow of life-sustaining iodine? In a survival situation iodine is essential to have readily available, especially if there is a nuclear event of any type (see the section on Potassium Iodide supplementation for full details). Iodine is also essential to have due to its ability to disinfect water. After treating water with iodine you should let it stand for half an hour; this will allow enough time to kill off all the viruses and bacteria. If the water is cold (less than 68 degrees F) then you will have to give it four hours to be sure it is sterilized.

Symptoms of hypothyroidism include fatigue, cold intolerance (you always feel cold), constipation, hair loss, bags under your eyes, and if severe enough, the thyroid gland will swell (goiter). A goiter is evident when looking at a person you will see a swollen area at the front base of their neck, below their larynx or Adam's apple. There are other more far-reaching

effects of hypothyroidism including stopping of ovulation and infertility in women, increased risk of other cancers including prostate, endometrial, breast, and ovarian.

As a Prepper, iodine is one of the most useful items to have on hand; it is relatively inexpensive, and I also recommend you stockpile a good supply of potassium iodide for any radioactive exposure from a nuclear event as well as other forms of iodine such as Nascent Iodine for daily use, etc. Other sources of iodine are mostly from sea vegetables like kelp, seafood, and shellfish. Note: the iodine content of iodized salt cannot be used as a source of iodine, since the amount you would need to raise your iodine levels in your blood would be fatal.

GREEN TEA

There are four varieties of tea: green, white, black, and oolong. All four come from the same tea plant, *Camellia sinensis*; as the Latin botanical name suggests, it is originally from China. The differences between the varieties of tea lie in how they are processed. Black tea, which is the tea most Americans drink, is fully fermented; oolong is partially fermented. White tea is made from uncured and unfermented young tea leaves and silver flower buds, and might be the most potent of the different tea types. Black tea has two to three times the caffeine content of green tea. Green tea is made from steamed, unfermented tea leaves which have many different health benefits that other teas do not have. The reason is that green tea has the highest concentration of plant compounds known as polyphenols. Polyphenols are very powerful antioxidants and thus protect you against the damaging effect of what is known as free radicals, which cause many health problems including arthritis, heart disease, and cancer. Polyphenols are able to neutralize many free radicals and therefore protect you from their damaging effects. The polyphenols in tea are classified as catechins. Green tea contains six primary catechin compounds, the most studied and active of which is known as EGCG.



Green Tea Leaves on a Tea Plant.

Green tea also contains alkaloids like caffeine, theobromine, and theophylline. These are all responsible for the stimulating effect of green tea. Theophylline is also a medicine used to dilate the lungs and allow asthmatics to breathe easier. The average cup of green tea contains between 50-150 mg of polyphenols.

Besides the loose leaves, green tea comes in capsules and also in an extract form. Green tea should not be made with boiling water; it will destroy too many of the healthy catechins. Instead, use water between 160 and 170 degrees F. Add lemon juice to your green tea, as the vitamin C content will help the absorption of the healthful catechins, whereas dairy products like milk will do the opposite and block the absorption of catechins. The catechin content of green teas varies, the loose teas have more than canned green tea. To maintain optimal health, drink about four cups daily, two with caffeine and later in the day two without caffeine to prevent any insomnia in those of you so predisposed.

Other reported benefits of green tea:

- Weight loss: Green tea has a positive effect on your metabolism and changes your metabolism to burn more fat. The weight loss effect of green tea is increased when caffeine is present.
- Anxiety and stress: Green tea has a calming effect due to an amino acid it contains named theanine, which helps calm the body. Theanine is very useful in the treatment of anxiety, panic attacks, and depression.
- Blood pressure lowering
- Lowering of total cholesterol and elevation of good cardio protective HDL cholesterol which helps prevent atherosclerosis (hardening of the arteries)
- Stabilizes blood glucose (sugar level) in diabetics.
- Improvement of memory and brain function.

- Helps treat inflammatory bowel diseases like ulcerative colitis and Crohn's disease.
- Prevents many types of cancers including skin cancer.
- Liver disease: Green tea protects the liver from toxins including alcohol, and may slow the progression of alcohol's damage to the liver and may even be helpful in the treatment of hepatitis.
- Prevention of dental cavities.

WHITE TEA

White tea is the most potent of the tea types and has been shown to prevent the growth of all classes of microbes (viruses, bacteria, and fungi). This antiviral, antifungal, and antibacterial effect of white tea has been utilized by toothpaste manufacturers and is currently included in many toothpastes, including Aim, Aquafresh, Colgate, Crest, and Orajel. White tea also has the most potent anticancer properties of all teas, probably due to the fact that it has the highest antioxidant levels of all the teas. White tea also boosts your metabolism and curbs your appetite and therefore helps with weight loss. Since white tea is not processed like the other teas and only steamed, it has retained almost all of its original flavonoids and other potent plant compounds. White tea is hand-picked from silver buds and young tea leaves of selected tea plants, which are allowed to wither and dry in natural sunlight. The name "white tea" is derived from the silver-white hairs on the unopened tea buds.

Currently there are four varieties of white tea: Silver needle, white peony, long life eyebrow, and tribute eyebrow. Silver needle is the highest quality, with the others descending in quality in order from left to right. Here are a few white tea tips for you:

Loose-leaf tea is better quality than tea bags, which are usually made from the bottom of the tea barrel. Just like green tea, do not boil the water but use hot water in the 160 to 170 degree F range; this will preserve most of the beneficial plant ingredients such as the polyphenols, etc. Only brew it for three to five minutes and let it steep (sit in the cup) for a few more minutes than you would with green tea to get out all the beneficial secondary plant compounds.

You can re-steep the leaves a few times to extract all the beneficial plant compounds, and this will also make it cheaper for you and stretch your supply. Drink two to four cups a day of white tea to get all the beneficial health promoting effects of the tea.

If you have the luxury of time and are not pressed in a survival situation, then I would suggest making a little ceremony out of drinking your tea where you relax and get a few minutes of quiet, peaceful “downtime”. This will very likely become one of the most relaxing and stress-relieving times of your day. In a survival situation, stress relief should not be overlooked; anything that gives you some relief will go a long way to maintaining yourself in good health and peak condition.

The best types of white tea come from close to their origin in China, especially Fujian province, which is considered the heartland of white tea. Another good province for white tea is Zhejiang province. Both white and green tea are excellent for your health and if possible you should include a large supply of both of these in your survival medicine chest. I would suggest changing over your current nonalcoholic beverage of choice to one or both of these tea types, for your overall health, as well as disease and cancer prevention.

A little note about caffeine content of various tea types: All tea that is made from the tea plant *Camelia sinensis* contains caffeine. Usually the less fermented or processed a tea, the more caffeine remains in it, but this is not an iron clad rule. Herbal teas (or tisanes as they are also known) are made from cinnamon, chamomile, peppermint, and other plants, and do not come from the *Camelia sinensis* plant and also do not contain caffeine. To get a decaf tea from a *Camelia sinensis* tea plant requires its removal via a chemical treatment of the tea leaves.

PROBIOTICS

Probiotics are the opposite of antibiotics; it means taking beneficial bacteria to supplement the normal bacteria that you were born with in your gut. Roughly 80 percent of the bacteria that you are now carrying in your intestines have been inherited from your mother and other family members. These good bacteria are called your intestinal flora, without which you could not live. Your flora is responsible for colonizing the entire surface of your mouth and intestines, forming a continuous colony of beneficial bacteria that occupy that area, competing with harmful bacteria and preventing their colonization. These good bacteria actually outnumber the cells in your body by a ratio of ten to one. Probiotics were previously thought to be passive little workers that helped change inorganic minerals into organic, digestible minerals, helped digest your food, and produce vitamins for your body such as vitamins K, B12 and folic acid. Recently these good bacteria have been

found to be in constant communication with your body, aiding your immune system in a symbiotic relationship, one which benefits both the bacteria and the human body. As the hosts of these bacterial guests we benefit from their assistance and they find a warm, cozy home to thrive in, protected from the outside world and continuously fed by their human host. With the recent mapping of the human genome (the DNA on our twenty-three pairs of human chromosomes), it has come to light that we have a large number of bacterial genes actually inserted among our human genes! Talk about a close working relationship. Unfortunately, just as the beneficial microbes in our soils are being eradicated by pesticides, herbicides, fungicides, and synthetic chemical fertilizers, so is our own flora under attack by antibiotics, toxins, and chemicals we ingest and are exposed to from our environment. When this occurs it allows the pathological (disease-causing) bacteria to gain the upper hand and colonize those areas where your flora has been destroyed. This overgrowth by pathological bacteria is called dysbiosis and is the cause of many of man's diseases. The only sensible way to combat this is by becoming a good host for your flora, by eating healthily and reducing your ingestion of processed dead foods. Eating healthy includes avoiding processed, chemical-laden foods, eating organic as much as possible and providing a healthy balance of protein, fats, and carbohydrates along with a good supply of fiber in both soluble (dissolved) and insoluble form.

You can also ingest good bacteria or probiotics in order to aid your flora as allies in their fight with the bad bacteria. You can also nurture these probiotics with good nutrition or what is known as prebiotics. Whenever you take in a probiotic mix of any type you need to eat at the same time in order to provide food for those strains of bacteria. Yogurt, milk, and bananas are good meals for them, but in a pinch most foods will help. Think of it as restocking a pond in your backyard with trout fingerlings; you would not just add them to the pond without any fish food. Think of your probiotics in the same fashion. You are simply restocking your gut with beneficial bacteria that will supplement your normal healthy bacterial flora. Ironically, you want the pH of your gut to be acidic, the exact opposite of your body, which you want to be more alkaline. At first this seems to be a contradiction and is counter intuitive, but upon a second look it makes perfect sense.

You see the inside of your intestines or what is known as the intestinal lumen is outside of your body. Your gut is a hollow tube running from your mouth to your anus; things inside of it have not been absorbed into your body and therefore are outside of it. Probiotics are often harmless lactic acid-producing bacteria, that by doing so decrease the pH of your intestinal

surface and make it more acidic. This lower or more acid pH suppresses the growth of harmful bacteria, and as such is one of the strategies these probiotics use to inhibit the growth of harmful bacteria. *Acidophilus* of yogurt fame is the most well-known probiotic, but there are several others that are major players, such as *Bifidobacteria*, which are found in the guts of breast-fed infants. Other important probiotics are *Lactobacillus rhamnosus*, *Lactobacillus casei* and *Lactobacillus johnsonii*, all of which are normal colonizers of human intestines. When you purchase probiotics make sure they are never in pill form but rather in a powder or a capsule, and they usually need refrigeration. The act of crushing live bacteria and compressing them into a pill with other chemical binders usually kills off the majority of these beneficial organisms. Avoidance of foods that will help harmful bacteria such as sugars and starches, artificially processed foods, and fermented foods, will also help control them better. Although when it comes to fermented foods, I feel they have so many other benefits that it outweighs their negatives. Foods that benefit your good flora include rice bran, vegetables, beans, and inulin. Inulin comes from one of my favorite garden plants, the Jerusalem artichoke. All of these provide a framework of soluble and insoluble fiber that will help the probiotics form a colony. By the way, the Jerusalem artichoke has nothing to do with Jerusalem; it got its name from Italian immigrants to the United States where it is a native plant. It is in the sunflower family and hence the Italians called it *girasole* (sunflower in Italian, which literally means turning to the sun) and this got bastardized by Americans hearing this name and it changed over time to Jerusalem. It is also not an artichoke. It does, however, have a little starch in it, but also a lot of inulin, which is a naturally occurring polysaccharide. Plants store their carbohydrate chains, or polysaccharides, as either starch or inulin -- not both. Inulin has been shown to help beneficial bacteria flourish in the gut and inhibit harmful bacterial growth. It also decreases the inflammation found in ulcerative colitis and Crohn's disease and lowers rates of colon cancer in experimental mice. Inulin is a soluble fiber and as such has been shown to decrease total cholesterol and triglyceride levels and thus helps your cardiovascular health. Jerusalem artichoke's root tuber is the edible part; the top of the plant is just a very tall, perennial sunflower.

It is a good plant to plant around your property if you are a prepper and it grows naturally in most of the east coast of the United States from Maine as far south as Florida and in Texas as well. It is not commonly recognized and is a good hidden food cache for you and your family. It is a very hardy plant and can even be invasive in a garden setting. The tubers or roots of the

Jerusalem artichoke are eaten like potatoes but contain no harmful starches. Inulin cannot be digested by the usual enzymes ptyalin and amylase which digest starches in the human body; instead, it gets metabolized by intestinal flora. This metabolism of inulin by the intestinal flora releases carbon dioxide, hydrogen, and methane gases as a by-product and thus produces a lot of intestinal gas or farting. This lack of digestion by the body also prevents the breakdown of inulin into sugars and therefore it is a good food for diabetics, not causing any spikes in their blood sugar levels.

Benefits Of Probiotic Supplementation

1. Diarrhea, especially when induced by antibiotics. Diarrhea in infants was originally cured with the administration of probiotics. I have found that most diarrheas will respond to probiotics.
2. Crohn's disease and ulcerative colitis are both helped by probiotic administration. On a personal note, I had horrific ulcerative colitis that I was able to put into remission for almost two years with the use of VSL #3, which is the most potent probiotic on the market today.
3. Eczema has been shown to improve with probiotics. Eczema is also helped by sunshine, essential fatty acids, zinc, and vitamin D.
4. Vaginal infections. Probiotic administration during antibiotic use or even the ingestion of yogurt while on antibiotics will help prevent vaginal yeast infections and thrush (oral yeast infections), and for that reason I have been advising my patients to eat yogurt when they are treated with antibiotics.
5. Blood pressure has been shown to be lowered with the use of probiotics, and that seems to be because they release a substance which is similar to ACE inhibitors (a class of hypertensive or high blood pressure medications).
6. Improve immune function by aiding the immune system and thus decrease the rate of infection.
7. Decrease inflammation in the body which is always harmful.

Fecal Transplants

As disgusting as this sounds, fecal transplantation is an ingenious use of probiotic therapy. One of the most perplexing and intangible problems for scientists studying the various members of our human probiotic family was not only the wide variability between patients but also the constant changing of the probiotic mix in the same patient over time. That was also a huge hurdle to overcome when trying to determine what to put in a probiotic mix. It has been shown that even moderate changes in your daily diet directly

affect the makeup of your gut flora. The confusion was made worse by a large number of minor players in the probiotic community that occupied small niches in your intestinal lining; these also varying widely over time.

Then someone came up with the idea of just taking a large sample of stool from a healthy person and putting it directly into your colon either by a nasogastric tube going down your nose into your stomach, in a capsule, or as an enema. In effect you are taking a great mix of bacteria that has been thriving in the steamy gut of a healthy person and instilling the entire shebang right into your colon. They are readily welcomed by their buddies that are already living there and are currently losing their war with the harmful bacteria. This works great for ulcerative colitis, Crohn's disease, and especially for *Clostridium difficile* infections, or what is also known as C. diff, which itself is almost always caused by the use of antibiotics.

(See the section on constipation for full details on fecal transplants.)

Fungal Probiotics

There is another type of nonbacterial probiotic that comes from yeast rather than bacteria. It also has the same benefits as bacterial probiotics. Its trade name is Florastor and the yeast it contains is called *Saccharomyces boulardii*, which was originally found on the skins of lychee and mangosteen fruit in Southeast Asia. A very observant physician named Boullard noticed natives chewing the skin of these fruits to prevent cholera and was able to isolate the fungus from its surface. *S. boulardii* is used to treat the same conditions as other probiotics. Since it is of tropical origins it thrives at the 96.8-degree human body temperature, it does not leave the GI tract, and readily colonizes the small and large intestines. However, it should not be given to immunocompromised patients such as AIDS or cancer patients, in whom it might escape the intestines and invade their weakened bodies. So as you have seen, there are both bacterial and fungal probiotics, and that begs the question as to the existence of viral probiotics. I think that viruses play an inordinate role in many human diseases. Viruses cannot live outside of a host cell for long and need to invade a cell and take over the cell and have it produce more viruses. They also lie dormant in cells, sometimes for years before they reemerge (think genital Herpes and Herpes Zoster or shingles). I think it is very likely that in the future we will realize that many of the bacteria that cause our problems may also be colonized in turn with viruses of various types. The flip side of that theory is the existence of good viruses that colonize intestinal flora for the benefit of both the virus and its human

host. In my opinion there are probably hundreds of different probiotic viruses invading bacteria and even human host cells. We know this is true because of the presence of a large number of viral genes incorporated into our human DNA or genome! I remember the first time I ever read that fact, it blew me away. I had to reread the sentence several times; viral genes mixed onto human chromosomes, wow! As Preppers, both bacterial and fungal probiotics should be kept in as large a quantity as you can afford, keeping in mind that they will need to be refrigerated or at the very least in a very cool, dark corner of your basement or bunker, protected from rodents. They are especially helpful with any GI problems that may arise, everything from diarrhea to colitis and have no real downside. They will boost your immune system and enhance your overall health. Practicing fermentation of foods making kefir, yogurt, vinegar, and even alcohol such as hard ciders will also enable you to have an ongoing supply of beneficial bacteria that you do not have to refrigerate. It will also supply you with healthy food and beverages that if done correctly will last for many years.

LACTOFERRIN

Lactoferrin is a protein found in both human and cow's milk, hence the lacto part of its name. The ferrin part stands for iron, and this is due to its iron-binding capacity. Medicine is beautiful that way; most names are not random and are derived either from Latin or Greek roots. Colostrum or the first milk has about seven times the lactoferrin content of regular milk. Human milk also contains more of it than cow's milk. Lactoferrin is also present in tears, nasal secretions, and saliva. Lactoferrin is a potent antifungal and antibacterial agent. Our human bodies are amazing machines, perfectly designed by our creator. Think about it; the infant gets a huge dose of lactoferrin directly into its mouth via breast feeding from its mother. This lactoferrin binds up iron which is essential for the reproduction and growth of almost all bacteria and is present in milk, tears, saliva, and nasal secretions, therefore protecting all those surfaces from bacterial infections. Although lactoferrin binds up iron, making it unavailable to bacteria, it does at the same time make it more available to the body by increasing its rate of absorption. Besides absorbing free iron and denying its availability to the bacteria that need it, lactoferrin has a second ingenious method of fighting bacteria; it binds to the special receptors on the cell wall of bacteria that are there to soak up iron and kills the bacteria by producing hydrogen peroxide! Lactoferrin also prevents the attachment of *Helicobacter pylori* to the stomach wall,

helping to prevent ulcer formation. Could we have come up with a better system? I doubt we could have. Lactoferrin has recently been found to also be active against many types of viruses that are pathogenic (disease-causing) to man including herpes viruses, hepatitis, HIV, and others. It also has been reported to have anticancer and immune-enhancing effects. For Preppers, if you have any survival group members who have lost a lot of blood, or members who suffer with iron deficiency for any reason, then lactoferrin is something you should keep in good supply. If you have someone severely injured and you want to boost their immune system and also help them rebuild their blood supply, then give them lactoferrin as well as some iron supplements. I would also make sure they have a good supply of vitamin C which also helps increase iron absorption by about 25 percent. These are useful tricks to utilize when IV transfusions will not be available, and could mean the difference between surviving or not. When treating a patient, the dose of Lactoferrin that I recommend using is about 300 mg a day. It comes in convenient capsule form. Another useful trick to increase iron absorption by the body is to give a small amount of red meat with your iron supplement. Iron is found in two forms in your food; it is in heme or organic iron (in red meat) and nonheme or inorganic iron (in vegetables and grains). Iron absorption is low in both forms. The nonheme iron from vegetables and grains is about 10 percent, and the absorption of heme iron from red meat is about 30 percent. The exception to this rule is Shitake mushrooms, which have an easily absorbable form of nonheme iron. The interesting fact is that iron in heme form helps increase the absorption of nonheme iron, which is why a little red meat added to the diet will enhance overall iron absorption and is probably the source of the old wives' tale that "a little red meat is good for the blood". I have found over the years that there is usually a pearl of wisdom in most old wives' tales, or they would not have persisted.

Iron absorption can also be inhibited by certain foods such as milk and dairy products, coffee, tea, soy products, and excessive calcium intake; for that reason it is best to not take any iron and calcium supplements together. Iron, on the other hand, may decrease the absorption of both zinc and thyroid supplements and thus should be taken separately from them. Lactoferrin also has many benefits in the treatment of gastrointestinal diseases such as ulcers, Crohn's disease, and ulcerative colitis due to its beneficial effect on probiotic bacterial colonies in the flora of the gut and is probably one of the reasons it is in the colostrum, so an infant will have the mother's probiotic bacterial species to colonize its intestines and at the same time provide nourishment.

MUSHROOMS AS MEDICINE

Mushrooms as we know them are merely the above-ground fruiting part of a large underground organism known as a mycelium. Some of the oldest and largest organisms on Earth are huge mycelium that live and have spread underground for thousands of acres. Fungi do not need light to synthesize their own food and produce chemicals that dissolve the material that surround them and then simply absorb those compounds. Antibiotics are produced by fungi to kill their mortal enemy, bacteria. Bacteria and fungi are always competing for the same areas and in order to wage war on them, the fungi have developed antibiotics that they release into the immediate surroundings to kill off the competing bacteria. Penicillin was the first antibiotic discovered and it is made by a fungus, the *Penicillium* fungi. It is not surprising that mushrooms have been utilized to treat infections for thousands of years. We know this from ancient Chinese texts that refer to different medicinal mushrooms. We know they have been used just as long in Europe from the 1991 discovery of Otzi, the “Ice Man” found in the Italian Alps. Otzi was carrying a medicinal pouch at the time of his untimely death; in it were two types of mushrooms, *Piptoporous betulinus* and *Fomes fomentarius*. *Piptoporous B.* is a fungus that grows on birch trees and is known to have antibacterial qualities. The second, *Fomes F.* was used as tinder to start fires. Otzi has been estimated to be over five thousand years old, living about 3,300 BCE (previously known as BC), proving the long history of medical mushroom use. Another amazing fact about Otzi is that he was found to have DNA of *Borrelia burgdorferi* or Lyme disease and is thus its oldest known victim. I have a special interest in Lyme disease since I live and practice in Connecticut a short distance from where it was first discovered, in Old Lyme. I have personally seen the havoc that Lyme disease can cause in patients, including my father, who was a small powerful man who came down with Lyme disease while on vacation in Europe and was unable to even carry his luggage!

Medicinal mushrooms produce substances known as beta-glucans, which are complex polysaccharides (chain of sugars, particularly of glucose molecules), similar to starch produced by plants and glycogen produced by animals. Beta-glucans are known as immune modulators, having properties that stimulate the immune system to fight infections and cancer. Various types of medicinal mushrooms produce these beta-glucans such as Reishi, Shitake, Chaga, and Maitake. Various types of grains also produce these beta-glucans in a soluble form, especially oats and bran. It has been shown

that in addition to beneficial effects upon the immune system, beta-glucans also lower cholesterol. I just mention that, but it will probably not be a concern of anyone who survives an apocalyptic event! Beta-glucans have been shown in many studies to protect against infections and to help shorten their length and severity; they have even been shown to be effective against anthrax. Anthrax is a favorite biological warfare weapon of the Soviets, and much loved by terrorists due to its lethality. While we are on the subject of terrorists, beta-glucans have also been shown to be helpful in the protection of your bone marrow after radiation exposure. Damage to the blood cell-producing bone marrow leads to many radiation-induced cancers such as leukemias; this damages the immune system and leads to death either from hemorrhage or from overwhelming infections.

For best results, medicinal mushrooms should be taken on an empty stomach. The intestinal cells will absorb them into the intestinal lymph and they will immediately interact with macrophages to activate your immune system.

Reishi mushrooms (Ganoderma lucidum)

Reishi is a type of medicinal mushroom that has been used for thousands of years in traditional Chinese medicine. Reishi has been described as having a tough, woody taste. As a medicine, both the mushroom which is the above-ground fruit of the fungus and the mycelium or underground fungus are utilized. Reishi has been used extensively to treat viral infections such as colds and the flu as well as bronchitis, asthma, and respiratory problems. It is also used to lower blood pressure, cholesterol, and to treat heart, liver, and kidney diseases. It has shown activity against cancer, HIV, and also helps chronic fatigue and insomnia.

Reishi use is usually free of any side effects of any significance, but it may cause some nausea and perhaps a rash. Taking vitamin C at the same time as the Reishi usually reduces its side effects by helping the absorption of Reishi. Drinking significant quantities of water will also help Reishi do its work. Reishi comes in various colors, but only the red and the black Reishi have been shown to have health enhancing benefits. Wild Reishi is often another name given for black Reishi, which has less beta-glucan content and therefore is not as beneficial as the red Reishi. Reishi works best to prevent infections and cancer rather than to treat them. Raw Reishi is not beneficial for you, since it does not undergo a complex process of repeated high

pressure boiling of the mushroom that activates the beta-glucans. This is known as hot water extraction.

Reishi is found in the wild on plum trees, but those are very rare. Fortunately, in the 1970s the Japanese developed a method of cultivation of these mushrooms. Besides the numerous positive effects I have listed above, Reishi mushrooms have also been found to have analgesic properties, anti-inflammatory effects; they boost the production of interferon and therefore have antiviral effects, reduce the effects of caffeine, and reduce stress as well as enhancing the production of blood cells from the bone marrow (other than red blood cells). Reishi mushrooms are excellent to have in your survival medicine chest along with the other mushrooms listed here.

Shiitake mushrooms (*Lentinula edodes*)

Shiitake is a medicinal, edible mushroom from Asia, very popular in Japan. The name “Shiitake” comes from the Japanese word Shii, which is the name for the tree *Castanopsis cuspidata* on whose dead logs the mushrooms are cultivated, and the second part, “Take” means mushroom in Japanese. Americans have discovered their rich, smoky flavor and are starting to enjoy these healthy mushrooms. Long consumed in Asia for their health-promoting and longevity- promoting qualities, the Chinese have been eating them for over 6,000 years, a good track record indeed!

Just like Reishi, Shiitake mushrooms contain a large variety of beta-glucans which stimulate the immune system in two ways. First, Shiitake activates macrophages, which helps your immunity to both infections and also cancer. Secondly, Shiitake suppresses excess immune activity so it helps with autoimmune problems of disease-causing free radicals.



Shiitake Mushroom Flowering on a Log

Shiitake mushrooms can also be easily grown by you in a medicinal garden of your own. There are many films available online showing you how

this can be done. Shiitake can be grown on sawdust blocks or any old hardwood logs, best done in a forest setting. This process is known as Forest Farming and has many applications for the Prepper and is a skill that you should acquire. Oak logs are perfect for this purpose as are most hardwood logs. You cannot use these logs for three or four weeks after they are cut; this will allow the natural fungicides (fungal killers) in the logs to disintegrate and thus not kill your spawn. You can buy wooden dowels that are inoculated with mushroom spawn, drill holes into the logs, and hammer in these inoculated dowels, cover them with wax, and let it grow! A damp spot off the ground in the shade will help; it will take from six months to two years for your crop to appear. Remember, a fungus only grows where it is wet and dark, so you need to keep these logs wet. During dry spells, water them. Another kinky fact is that you can sometimes induce their fruiting (production of mushrooms at the surface of the log) by immersing them in cold water like a pond or stream for twenty-four hours and then beating up the log with a mallet; why this works is anybody's guess.

This is a great project for your group when you have some downtime; it will literally plant both some food and a medicinal source as well. Forest farming will allow you to grow medicinal herbs and mushrooms, as well as fruits of various kinds. Oyster mushrooms, which are also good for you and a good food source, can be grown on coffee grounds in a bucket with a sheet of plastic over them to keep the moisture in. As I have said before, compost when you can and save things like used coffee grounds for your garden and projects like this.

Grow your mushrooms organically without any herbicides, pesticides, or artificial chemical fertilizers. This is very important, because mushrooms absorb whatever they are grown in; that is how they eat. So if you use any toxins they will wind up in your mushroom and subsequently in your body. Mushrooms come raw (the best form) in which case cook them above as directed. They also come in an extract or concentrate which is made by extensive boiling of the mushrooms to extract the long chain polysaccharides and also as whole food mushroom in a powdered pill. This is better for you than the extract form. Take as directed on the bottle.

An excellent source for all information about mushrooms is a website called Fungi Perfecti; they sell a wide variety of mushroom spawn kits of various species and provide good growing information. Forest farming is not easily found by people marauding for your food supply and is sustainable. If you have an unused piece of forest I would look into growing ginseng, huckleberries, and other types of shade-tolerant berries, medicinal herbs, and

mushrooms. It is very easy to do and could save your life in the right situation. Ginseng growing is a lot of fun and can be quite profitable; the price of ginseng fluctuates like any commodity but always brings a pretty penny due to the demand from Asia. A good website with all the information you need to grow your own ginseng is Wildgrown.com. There are also many books on the subject; see the bibliography.

All mushrooms readily absorb water, so cleaning them should not be done under running water or by soaking them; instead, wipe them down with a wet towel. Overcooking mushrooms destroys all the health benefits of them; instead, simmer them in a saucepan or skillet. First add some broth and then once that is heated and starts to steam, add the mushrooms and stir continuously. Do not cook them for longer than seven minutes. Onions and garlic can be added for more flavor and even more healthy benefits. Adding these sautéed mushrooms to your diet is the best way to get all of their benefits. Weird fact: You can dramatically increase the vitamin D level of your mushrooms by placing them in the sun where just like the skin of mammals, exposure to sunlight will convert vitamin D precursors to vitamin D. Even cut up mushrooms will soak up sunlight and convert it to vitamin D. This is best done with the mushrooms upside down; that is, gills facing skyward, and takes about six hours a day of sunlight during the June to September window here in the United States. Do this for two consecutive days, covering the mushrooms with cardboard at night to keep them dry. After two days place them in a food dehydrator or just dry them out naturally and then place them in a glass jar or sealed container for storage with a tablespoon of rice to absorb moisture. The increased vitamin D levels will last an incredible year! Dried, pulverized mushrooms will also be very efficient at absorbing Ultraviolet B light from a lamp and converting that to vitamin D. In fact, six times as much vitamin D is produced by this method as compared to natural sunlight; it also sterilizes the surface of the mushrooms. This method might prove very useful if we Preppers find ourselves in a situation where we cannot safely go outside and get natural sunlight, like for example after a nuclear event, or a prolonged decrease in sunlight levels after major volcanic eruptions or large wide-scale fires blotting out the sun. In those cases we will desperately need vitamin D to maintain our health. One word of caution; when using these UVB light lamps be careful not to expose your eyes or your skin, due to their harmful effects. Please refer to the Fungi Perfecti site for very detailed instructions, and with their excellent product line for all things needed to grow mushrooms, I am sure you will find them an excellent resource. As Preppers, the more

versatility we have the greater our chances of not just surviving, but thriving in robust health, and that is the underlying premise of this book, to teach you all the varied methods of maintaining your health and vigor.

Chaga mushrooms (Inonotus obliquus)

Unlike most mushrooms, Chaga mushrooms are not soft, but are hard as wood and almost black in color due to its very high melanin content (the same pigment that is responsible for human skin color). Chaga only grows on birch trees (sometimes on alder, chestnut, and hornbeam trees but infrequently) mostly in Siberia and northern Japan, the United States as far south as North Carolina, usually in very harsh climates where the fungus has to produce many compounds to help it survive, as well as helping its tree host. Eventually it will kill off the host and fungus-eating insects and the wind will help spread its spores to another host plant. Fungi seem to do this a lot; think of the mycorrhizal fungi that are symbiotic (their growth not only benefits themselves, but also their host, nature's win-win so to speak) with plant roots, providing them with water and minerals converted to an organic form the plant can use in return for sugars from the plant to help the fungus survive. Chaga, in its effort to both survive and nourish its tree host, will produce a large number of phytochemicals (phyto means from plants). Those same phytochemicals are what gives Chaga such strong, health- giving properties and have led to its Chinese name, the "king of plants", which is impressive, considering the long history the Chinese have of using medicinal herbs and plants of all kinds going back about six thousand years! The Siberians, who are not a bunch of wimps by any standards, refer to Chaga as "a gift from God" and the "mushroom of immortality".

You get the idea; this mushroom has some outstanding benefits. Let's take a look at some of them. Chaga contains large concentrations of B vitamins, minerals, enzymes, phenols, and flavonoids, all of which are health-enhancing. Chaga is a very potent antioxidant due to its large concentration of the enzyme SOD (superoxide dismutase); in fact, it has the highest concentration found anywhere in nature. The Russians did a lot of research on plants to see which ones helped with promoting strength and vigor and warding off diseases -- they named those plants adaptogens -- and they found Chaga to be the most potent adaptogen known. In Japan, Korea, and China, Chaga is known for producing longevity by fighting stress and increasing vigor, and so is widely used in those countries.

The extraction of the active phytonutrients from Chaga needs to be done in order to get their full benefit. Most of these phytochemicals or phytonutrients are encased in a chitin wall for which humans lack the necessary digestive enzymes. The most common extraction method is to make a tea using ground up Chaga. This will release all of the water-soluble phytonutrients, but none of the fat soluble ones. Then the Chaga is exposed to ethanol (the kind of alcohol we drink for fun); this gets out the fat-soluble phytonutrients. Some people ferment the Chaga, but this is complicated and produces varied results.

The best results come from the combination of hot water or room temperature water and ethanol extraction. Many people take Chaga in its various forms, such as a tea, beverage, syrup, emulsified drops, and also in supplement form. You will find it invigorating, and it will give you increased strength and vigor; that is why the Russians mandated its use in their Olympic athletes and their astronauts. As Preppers, it is a very useful nutrient to use for maintaining health and vigor as well as helping your body ward off infections. It has been touted as a cancer treatment, and studies have shown that it is very effective against flu and other viruses.

Maitake mushroom (Grifola frondosa)

Maitake mushrooms are also known as Hen of the Woods, ram's head, sheep's head and, among Italian-American communities in the northeastern United States, as "signorina". Maitake typically grows in large clusters at the base of trees, especially oak species. Maitake is a perennial fungus and will therefore grow for years on the base of trees; in the United States it will grow from the northeast as far west as Idaho. In Japan it sometimes grows as large as 50 pounds and is widely used for cooking and medicinal purposes. Maitake is very rich in minerals, B vitamins, fiber, and amino acids (the building blocks of proteins). As with all medicinal mushrooms, maitake are high in beta-glucans which help boost the immune system and treat inflammation as well as infections. Maitake is purported to have strong anticancer effects; it also helps control blood glucose levels and therefore diabetics should use it with caution since it might lower their blood sugar or glucose levels too much. Maitake also lowers cholesterol and triglyceride levels and has been used to treat cancer as well as help patients deal with the side effects of chemotherapy. It has been used to treat HIV, hepatitis, polycystic ovarian syndrome, hay fever, chronic fatigue, and hypertension.

As a food, Maitake is 25 percent protein, 28 percent fiber, has no cholesterol (cholesterol is only contained in animal products), and it is high in potassium, minerals, B vitamins, and enzymes. It is 60 percent carbohydrate and the vast majority of those are complex carbohydrates. Maitake is a wonderful, health-promoting food as well as being a useful medicinal plant for Preppers to acquaint themselves with, and should be part of your survival medicine chest as well as your forest farm, where it can serve as a good emergency food stash.

WHAT TO DO IF YOU THINK YOU ARE COMING DOWN WITH AN INFECTION

You have to act fast; in addition to all the ways you can boost your immune system listed above, you now have to send in the Marines. Here are some excellent ways to stave off an impending infection or treat one that is starting to take hold.

HYDROGEN PEROXIDE (H₂O₂)

Hydrogen peroxide is a wonderful way to treat infections anywhere, but especially in areas to which you can apply it directly, such as your skin and mouth, etc. Hydrogen peroxide is inexpensive and readily available. I would purchase the food grade peroxide and dilute it down to the 3.5 percent you need. Never use the full 35 percent strength of hydrogen peroxide; it is too strong and will burn your skin, and certainly never take it internally where it will cause serious harm. These formulations are mostly free of any toxic metal contaminants that may or may not be present in the store-bought variety. If you are using it topically it doesn't really matter which one you choose, but the 35 percent strength is dangerous and can never, ever be used undiluted, whether externally or internally. It will cause serious burns to your skin and will be like drinking acid if you take it orally, causing serious damage to your mouth and throat. Hydrogen peroxide is essentially what your body's white blood cells release to kill microbial invaders. Hydrogen peroxide foams up when you put it on a cut or open sore because of the presence inside of cells of an enzyme called catalase. Catalase converts hydrogen peroxide into its water and oxygen parts at an amazing rate of 200,000 molecules per second, and it is that production of oxygen that causes the foaming.

That is the same reason why when you put hydrogen peroxide on the skin's surface there is no foaming, because there is no catalase present on the

surface, it is inside the cell. I should say that there sometimes is foaming on the surface of the body, but this comes from hydrogen peroxide's contact with bacteria and is slight. Hydrogen peroxide is easily destroyed by light, so must be stored in dark bottles to keep it from breaking down, which also limits the time it can work on the surface of your skin. For that reason it is best to apply peroxide and then cover the area with an opaque dressing (one that you cannot see through). Hydrogen peroxide's chemical formula is H_2O_2 , which is essentially H_2O or water and an extra oxygen atom. Hydrogen peroxide gets its medicinal powers from its ability to oxidize, or donate that extra oxygen atom upon demand, leaving pure water behind as a by-product. Here is the interesting part; most diseases and cancers thrive in an anaerobic (without oxygen) environment, so by hydrogen peroxide donating oxygen molecules it is capable of killing many microbes and infections. Many people think for the same reason it can be useful against cancer, but that is another book's worth of debates. If you suspect you have a mouth or throat infection or simply an infected tooth, then use some of your diluted hydrogen peroxide mix (3.5 percent); mix it in a glass half-filled with water or use it straight without any further dilution. Swish it around your mouth vigorously and then gargle it and allow it to remain in your throat as long as you can, and then expectorate it (spit it out). Repeat the above process up to four times a day until the infection resolves.

How to Dilute 35 percent Food grade Hydrogen Peroxide to 3.5 percent Hydrogen Peroxide

The simplest way is to mix nine parts of water with one part of the 35 percent hydrogen peroxide. To use a simple example, mix 1 ounce of 35 percent hydrogen peroxide with 9 ounces of water. If you are comfortable with the metric system you can mix 100 ml of the 35 percent hydrogen peroxide with 900 ml of water to get a liter of 3.5 percent hydrogen peroxide. Any amount will work on one side of the formula as long as there is nine times as much water on the opposite side.

WARNING: Never use undiluted 35 percent hydrogen peroxide anywhere in or on your body; IT WILL SEVERELY BURN YOU. It needs to always be diluted to a less potent dilution. See the photo below of the effects of a very brief exposure of some fingers to 35 percent hydrogen peroxide.



MMS OR MASTER MINERAL SOLUTION (FORMERLY KNOWN AS MIRACLE MINERAL SUPPLEMENT)

This is a very effective antimicrobial substance to have in your survival medicine chest to treat most infections that may rear their ugly heads. However, its use is very controversial. I am not recommending its use; I am just providing information on how it works and how it has been used in the past. There are reports of its toxicity by the governments of the United States and Canada, however, many people have used it for many years without any problems, at least according to anecdotal reports all over the Internet. In a postapocalyptic scenario you might find yourself without any recourse. The entire premise of this book is just that; what you can do, if no doctors and no pharmaceutical agents are available.

Here is the basic science behind this powerful medicine. MMS is chlorine dioxide. It is produced by mixing sodium chlorite with equal parts of 50 percent citric acid as an activator. Mixing these two produces the chlorine dioxide that is the active ingredient, which is then mixed with water, and drank. The taste takes some getting used to and it smells similar to bleach; in fact, it often causes nausea due to its strong odor.

There are newer alternative methods of producing chlorine dioxide using some simple chemical tubing and beakers. There are films on YouTube about how to produce this CDS or Chlorine Dioxide solution, but that is beyond the scope of this book.

How does MMS work? It is a very potent oxidizer, just as we discussed with hydrogen peroxide. This means it donates oxygen to kill off pathogens of many types including bacteria, viruses, molds, yeast, fungus, and biofilms. Biofilms are what many bacteria produce in order to protect themselves from the body's defenses. Biofilms are essentially domes of biological material that the bacteria produce to cover themselves and produce a powerful shield from the body's defenses, thus making eradication of these infections very difficult. Chlorine has been used for over a hundred years to purify water by

water companies, and is still in use by the majority of them today. If used properly it is safe and very effective.

Chlorine does lead to the production of some carcinogens and has been phased out in favor of chlorine dioxide (MMS), which does not. See the section on Ebola for a complete explanation of the differences between chlorine and chlorine dioxide.

A clarification of how MMS actually oxidizes pathogens (disease-causing organisms like bacteria, fungi, and viruses) is not actually from the donation of the oxygen atom that it has on its surface, but rather by using the power of this oxygen atom to pull off other atoms from the microbe and tear it apart. It is important to remember that chlorine dioxide does not chlorinate pathogens to kill them, chlorination involves the donation of a chlorine atom that combines with the target molecule and forms new chemical compounds that sometimes are carcinogenic (cancer-causing). MMS as well as oxygen itself are powerful oxidizers against invading microbes but do not damage healthy cells because of their voltage. Chlorine dioxide has an oxidation potential of 0.95 volts and pure oxygen only of 1.28 volts (The two remaining oxidizers that can be used inside of the body are hydrogen peroxide at 1.8 volts, and ozone, the strongest oxidizer of all, at 2.07 volts). None of these voltages are strong enough to overcome the opposing voltages of healthy cells and tissues, therefore they have no effect upon them in any way, and that is very good news.

HOW TO PROPERLY MIX MMS

First of all, the mix depends on the strength of the citric acid activator you use. If you have 50 percent citric acid then you mix it one-to-one with the MMS. If you are using 10 percent citric acid, then you need five drops mixed with every drop of MMS. So, the first thing you should do is check the percentage of the citric acid activator you have.

The first time you use MMS you need to take only a few drops as a test solution to ensure that it does not upset your stomach.

The chemical reaction between the MMS and the citric acid activator solution takes one minute at the 50 percent strength and three minutes for the 10 percent strength. You will smell a strong bleach-like odor from the glass, this is normal.

Now pour the new mixture into a glass of water. Don't be concerned about diluting it, it doesn't matter how much water you mix it with, the potency of the MMS will not be altered. You can also use apple juice for flavor; the mix does not taste very good. Note: Do not mix it with any vitamin C-containing juices like orange juice or other juices with vitamin C added to

them, vitamin C will react with the MMS and reduce its effectiveness. You can slowly build up your dose of MMS as tolerated. In the beginning you may feel ill for a short time with some stomach upset, this is especially true if you have a serious infection with bacteria, viruses, or fungi, due to the killing off of these organisms and the release of all the toxins involved with their death.

This is usually a short-term phenomenon and will not last very long; the length of time depends on the patient as well as their tolerance and the extent of their microbial infection. Once you feel okay then slowly titrate up the dose until you reach a maximum of fifteen drops of MMS daily. It is best given in divided doses, and is better tolerated at bedtime. Most conditions will improve before you reach the maximum dose of fifteen drops daily. MMS can be taken to treat infections or can be used daily to rid the body of pathogens. The beautiful part about taking MMS is that it is selective for pathogens only and will not harm normal cells or the beneficial bacteria that live within our bodies.

Note: MMS is very controversial and is banned for human use in the United States and recently, in Canada, where it has been seized and removed from store shelves. The governments of both countries warn of its toxicity and for that reason have banned it. I AM NOT RECOMMENDING ITS USE HERE; I am only describing to you how it works and how some people take it. This should not be construed as medical advice and is only for informational purposes.

ZINC SUPPLEMENTATION

Zinc is an essential mineral that also has other health-enhancing and immune-enhancing properties as well as being essential for over a hundred enzyme reactions in the human body. Zinc is also involved in wound and tissue healing as well as normal growth. I routinely use zinc for canker sores in the mouth or what are known as aphthous ulcers. Using zinc lozenges for this has worked every time for me in over twenty-five years of medical practice. Zinc promotes healing by playing an essential role in protein synthesis, immune function, DNA synthesis, and cellular reproduction. As with most minerals and trace elements, zinc is sorely lacking in our current diets. This lack of zinc in our foods is due to the use of chemical fertilizers, herbicides, pesticides, and fungicides, destroying the microbial life of soils and thus their conversion of inorganic minerals to usable organic forms, exhausting soils of their zinc. The processing of foods during preparation

also strips out much of the zinc. Unlike many nutrients, the body has no way to store zinc for future use and must get a constant supply of it in our daily diets. Vegetarians, alcoholics, and patients with chronic digestive problems and low stomach acid (especially caused by taking medications to reduce stomach acid such as Prilosec, Prevacid, Zantac, Pepcid, and others) all will have problems with zinc deficiency. Some of the early signs of zinc deficiency are white flecks in your fingernails, slow wound healing, increasing allergies, and when it is severe, there will develop a lack of the ability to taste foods. Zinc is involved in many bodily processes and its deficiency will lead to low libido (low sex drive) and also can cause infertility in both women and men. Zinc works against all types of infections by its positive effect on all lines of white blood cells, boosting their function and enabling them to fight off microbial invaders of all types. Zinc also plays a very important role in fighting off viral infections of all types, famously used for the common cold in various preparations. Zinc is a powerful antioxidant and also plays a role in decreasing inflammation.

If you have a child with ADD or ADHD, zinc supplementation is also very helpful (along with B complex, magnesium, and omega-3 fatty acids or fish oils). The mechanism by which zinc helps in these children is by its essential role in neurotransmitter function (these are the chemicals that control the way the brain communicates and performs its various functions), as well as its break down and utilization of fatty acids that are essential for proper brain function. Zinc given to children with ADD and ADHD at a dose of 150 mg of zinc sulfate a day showed marked improvement in their behavior and their hyperactivity. Zinc has also been shown to elevate mood and help depression. Zinc also plays a role in the detoxification of heavy metals from the body, especially the brain.

Zinc is also essential for the metabolism of melatonin and most hormones in the body and is also necessary for the production and function of insulin and therefore plays a large role in diabetic patients. Zinc also plays an important role in eye health and is used in cases of macular degeneration, night blindness, and cataracts. Zinc is also essential for skin health and is useful in eczema, psoriasis, acne, and other skin conditions; you can apply it topically as zinc oxide. That is the same stuff you saw the lifeguards using over their noses and cheek bones, it works well to protect against sun damage to the skin. In the section on burns I explain how to make your own sunblock with non-nano zinc oxide.

The daily dose of zinc for men is 11 mg and for women it is 8 mg daily. Men need more due to its use in the production of the male hormone

testosterone. In fact, testosterone levels can be increased significantly with zinc supplementation (The trace element boron also helps significantly raise testosterone, lower estrogen, and C-reactive protein levels, raise DHEA, decrease inflammation, and build rock hard bones. The dose of boron daily should be about 3 mg.), and this is much less expensive than using testosterone supplements. Zinc is absolutely essential for male sexual health and adequate sperm production and motility (how well the little bastards swim towards that egg), approximately 5 mg of zinc is lost in each ejaculation! Knowing that figure, it is surprising that all high school boys are not deficient! Zinc is also involved with a healthy prostate gland and in fact, other than bone, the prostate contains a higher concentration of zinc than any other of the body's tissues. For that reason, zinc deficiencies may lead to BPH (benign prostatic hyperplasia) and inflammation of the prostate, or prostatitis. Zinc toxicity can easily develop and for that reason you should not exceed 20 mg of zinc daily.

Caution: Long-term supplementation with zinc may lead to a copper deficiency. You should take a 1 mg copper supplement along with zinc if you are using it for any length of time.

ESSENTIAL OILS AND THEIR EFFECT UPON YOUR IMMUNITY AND INFECTIONS

In the days before antibiotics, essential oils were one of the primary ways to treat infections, and were very useful and surprisingly potent in the eradication of bacterial infections of many kinds as well as fungal and parasitic infections. Once society as we know it collapses, there will be a great need for healers who are knowledgeable in the production and use of essential oils. The use of essential oils as medicine is known as Aromatherapy. I personally do not like that name very much; it sounds like you are treating illnesses with certain smells or aromas, and nothing could be further from the truth. Many scientific studies at major universities worldwide have shown the effectiveness of essential oils in eradicating even serious infections such as MRSA (Methicillin-resistant staphylococcus aureus) and VRE (Vancomycin-resistant enterococcus).

Most of these oils can be made from plants that you can grow in your survival garden;; for that reason you should try to stockpile the seeds to these plants and keep them in a cool, dry place, away from mice. A tin can is a wonderful place to store seeds; I always put some cotton balls in there as well to soak up any excess moisture. You should also purchase a book that

describes how to make these oils as well as tinctures and other preparations, it is beyond the scope of this book. There are several good books on the market and you can easily find them on Amazon or even eBay if you are lucky. One of my favorites is by Kurt Schnaubelt, called *The Healing Intelligence of Essential Oils*. It is an easy read for someone with little or no medical training and contains a wealth of information. Life originated in the oceans of the earth and eventually those simple, single-celled life-forms became more complex and eventually developed into sea creatures. These sea creatures eventually left the world's oceans and evolved on land. As plant life developed on land, it too became more complex, and eventually started producing what are known as secondary plant metabolites. These secondary plant metabolites perform all of the specialized functions for the plant, such as repelling certain animals from eating them as well as communication between plants and their environment. As animals coevolved with plants they had to develop systems to handle these complex chemicals that they were ingesting from plants without being poisoned by them. Animals eventually developed the cytochrome P450 system of enzymes in their livers to break down these secondary plant metabolites that include essential oils, and make them harmless to the animal, but at the same time keeping their beneficial effects. Iron is one of the minerals that is essential for this cytochrome P450 system to function; just thought I would mention that since we just covered the importance of iron for your health. In fact, we have enzyme systems in our bodies that have evolved specifically for the removal of essential oils that were previously considered to be toxic. For that reason most essential oils are not harmful to humans when used properly and real toxicity from essential oils is quite rare. The secondary metabolites made by plants usually target proteins that are common to many types of microorganisms and are not species specific. This nonselective targeting of proteins by these secondary metabolites makes the development of resistance practically impossible, hence these essential oils have not become obsolete over time. Microorganisms may be able to resist an attack on one of their proteins, but not on several proteins at once. This nonspecific targeting is also the reason for the broad spectrum of activity by most essential oils against numerous types of bacteria. The flip side of this is one of the reasons for physicians to not feel comfortable with the use of essential oils for a specific type of infection. Modern medicine likes reductionism, where one medicine is used specifically for one type of infection or what is sometimes known as the "magic bullet".

I will teach you the best essential oils to use for the treatment of infections both on your skin as well as internal infections. A few words of caution, many of the topical oils used to treat skin infections will need to be diluted or they will irritate the skin. The dilution of these essential oils for topical use is usually done with a carrier oil that will also help penetrate the skin. The final word of caution; do not use essential oils if you are pregnant or breast feeding.

Lavender Oil (Lavandula angustifolia)

Lavender oil has been used medicinally since before ancient Rome. It was renowned for its healing of both wounds and burns and its antiseptic properties. It also works very well as an insect repellent. It is very useful to wash and clean out wounds and had been used for that purpose right up until WWII. Lavender oil is very mild and is the only essential oil that does not need to be diluted with a carrier oil. Lavender can also be made into a tea, by using the fresh or dried flowers, that is useful for internal use. The recommended dose is about one and a half teaspoons of dried flowers in an 8-ounce glass of water. Lavender oil is made by steam distillation of the plant's flowers. It is easy to make and even easier to grow. You should not use lavender oil internally on your cats or dogs; it may cause liver and kidney damage; it is not a problem in humans. In young boys lavender oil and tea tree oil have been linked with gynecomastia, which essentially means the boys developed some big boobs, so use it with caution with them. No father really likes hearing, "good looking boy you have there, that's quite a rack on him". The good news is that the gynecomastia in these boys disappeared when they stopped using the lavender oil. Life is stressful enough for teenage boys these days without them having to deal with breasts!

Medically, lavender oil has many uses such as an excellent topical antiseptic as well as a mild anesthetic (pain reliever), so it is very useful for cuts, burns, scrapes, insect bites, bee stings, sunburn, eczema, psoriasis, poison ivy oak and sumac, and skin infections. Lavender is said to be useful for head lice either as a hair rinse or applying it to a comb to comb out the nits. Lavender oil works as a bronchodilator (it opens up your large airways) and a few drops can be added to a vaporizer, or it can be rubbed directly on a patient's chest. Lavender oil is also reported to help with anxiety and stress and is used frequently for that in Germany, where they are light years ahead of us involving the use of medicinal plants and oils.

Lavender tea has been found to be useful against internal pathogens and works very well for Candida infections. Lavender oil will also help infections including strep throat, pneumonia, bronchitis, diphtheria, laryngitis, and even toothaches. The tea can be drunk up to four times daily. For children with ear infections, put a few drops of lavender oil, undiluted, into their ear canals and have them tilt their head so it will go in further. Instead of making a tea, a few drops of lavender oil can be placed in a glass of water to gargle for a sore throat. Lavender oil also normalizes blood sugar output from the liver. Lavender oil also has a benefit with appetite control; a few drops under your tongue will decrease your hunger in about fifteen minutes. Hunger control might be a useful thing if you have little or no food to eat.

Lavender oil is oftentimes combined with geranium oil. The two together seem to have a synergistic effect and are very potent.

Geranium oil (Pelargonium odorantissimum)

Geranium oil is made from a Pelargonium species of geranium from South Africa, not the garden variety you are used to, which is a European geranium. Since the seventeenth century it has been grown extensively in France, Italy, Spain, Egypt, Morocco, and Madagascar. The best geranium oil in the world comes from Madagascar and Egypt. In those countries it is grown in hedge rows of about three feet in height. The oil is steam-distilled from the aromatic green leaves before the plant flowers. It takes a lot of leaves to make the oil and for that reason it is a rather expensive oil, and there are many adulterated oils for sale. Geranium oil comes in a variety of colors ranging from brownish yellow to light green; this is due to the different distillation methods used in various countries. The medicinal uses of Geranium oil are many, including as an antiseptic, antibiotic, diuretic (makes you urinate), haemostatic (stops bleeding) and an antispasmodic (prevents muscle spasm). It also has been used to treat depression. It is very useful for skin conditions ranging from eczema, poison ivy, cuts, scrapes, burns, athlete's foot, and even frostbite. To prevent wound infections apply it to a wound (diluted by at least half with a carrier oil) and cover it with a gauze and then reapply and change gauze daily. Geranium oil is also an astringent (it will shrink something); that quality along with its haemostatic effects will work nicely to shrink hemorrhoids and control their bleeding. When used for hemorrhoids it has to be mixed in a carrier oil to dilute it and also to allow deeper penetration. The carrier oils can be wheat germ oil, for example, at a mixture of one drop of geranium oil to one teaspoon or 5 ml of wheat germ

oil and cover it with a gauze. There are many carrier oils that can be used such as coconut oil, avocado oil, black seed oil, jojoba oil, and others. One of geranium oil's greatest effects is its antimicrobial effect. It will prevent bacteria and other microbes from growing in a wound and is excellent as a wound wash, in addition to which, it boosts the immune system. Geranium oil also prevents scar formation and is thus useful after surgery to promote healing without excessive scar formation and skin discoloration. It will help prevent and treat lesions such as boils and acne.

Geranium oil helps wounds keep from bleeding excessively by two methods. First, it causes the blood vessels to contract and secondly, it assists in the clotting process, helping to plug the hole in you that is bleeding. It is very effective in doing both of these things and that is why it is so useful for wounds and even hemorrhoids. Geranium oil also promotes and accelerates the healing of wounds. As a Prepper I would keep a generous supply of both lavender oil and geranium oil; once you run out of antibiotics you will need a good supply of both of these for the many wounds you will most likely encounter.

Another benefit of geranium oil is its effect upon parasites such as intestinal worms. This is especially helpful in children; it will rid their body of parasitic worms. Geranium oil is also helpful for acne, eczema, and other skin conditions; it can also be used for infections of the nose and throat.

Geranium oil contains a large amount of esters and for this reason it is very active against fungal infections of all types including *Candida albicans*. It also works on women suffering with mastalgia (breast pain) that often accompanies menstruation. When using it on a woman's breast, mix it in a ratio of 10:1 of carrier oil to geranium oil, so for those of you who are math-challenged, this means 100 ml of carrier oil mixed with 10 ml of geranium oil. It is a sad commentary on our schools that most people cannot carry out such simple calculations, but alas our children know more about gay history and transgender studies than math, science, or American history. Those same children who are products of our politically correct, worthless schools will be hard-pressed to survive in postapocalyptic society since they have not been taught any useful skills and have further been weakened by endless propaganda of social justice and other left-wing nonsense. How long can any system survive where hard work is endlessly penalized and sloth is rewarded? Any sane person can see the writing on the wall and is now prepping for the inevitable.

Tea Tree Oil (Melaleuca alternifolia)

This wonderful oil from Australia got its name from Captain Cook, who upon landing in Australia made a tea from its leaves. Tea tree oil is renowned for its exceptional antimicrobial properties, and was even put in first aid kits for Australian troops fighting in WWII. Tea tree oil contains a large amount of terpenes, and this is what gives tea tree oil its strong pine scent. Tea tree oil is distilled from its leaves and terminal branches, and this distillation produces a clear to pale yellow oil with a strong musk-like smell.



A Tea Tree in Flower

Tea tree oil's outstanding antimicrobial activity works against bacteria, fungi, and viruses. In tests done by the Australians it was able to dissolve pus and other wound debris and get down to the wound itself where it was an excellent antimicrobial. Tea tree oil also seems to promote wound healing; it is used quite extensively for wounds as well as burns and for all types of skin infections and ailments. The good news is that tea tree oil does not harm healthy tissue. For all of those reasons it is essential to have in your survival medicine chest and I would also recommend keeping a small bottle in your bug-out bag. Tea tree oil is very potent as an antiseptic to clean surfaces such as a cutting board for meat or any surface you want to disinfect. Using a ratio of 4 parts of tea tree oil to 1000 parts of water, it made an outstanding antiseptic, wiping out both *Staphylococcus aureus* and *Candida albicans* for up to thirty-five days after its application! This is important to remember, if you have an injured group member in a survival situation and you want to disinfect the area where he or she is being treated, then this mix would be a very good idea to use on all surfaces before you attempted to close any of his wounds. The mix would be 4 ml of tea tree oil (or a little less than a teaspoon) mixed in 996 ml (or almost a full liter) of water. If you are the person attempting to operate on this patient, it would be a good idea to wear a mask,

wash your hands and forearms vigorously with soap and water, and then apply the tea tree oil/water mix to your hands and forearms. Certainly, nothing will match the sterility of an operating room, but this can provide some semblance of cleanliness in an otherwise desperate situation!

Tea tree oil can also be used for vaginal infections such as *Trichomonas* as well as others. It can be inhaled in a vaporized form and made into a mouth wash for mouth and throat infections. Tea tree oil also works very well for acne, naturally applied topically. A word of caution: Tea tree oil is a very potent germ killer, however, if diluted too far and weakened, it can result in the development of bacterial resistance. This only occurs when it is mistakenly used over-diluted with too much carrier oil. Tea tree oil, just like lavender oil, has been known to cause young males to develop gynecomastia (breasts).

Thyme oil (Thymus labiatae)

Thyme oil comes from over 300 species of plants that grow primarily in the Mediterranean region. Due to its popularity it has spread all over the world, and is now grown as far north as Iceland, however the strongest oils are made from those plants grown in its original Mediterranean climate. The name “thyme” derives from the Greek word *thumos* or smell and is so named for its very aromatic leaves. Thyme oil is steam-distilled from the leaves and flower tops, and can be either white or red in color. Thyme oil contains several substances that have strong antimicrobial activity and has been used as an antimicrobial agent as far back as the ancient Egyptians. It has one of the strongest killing powers against MRSA and VRE infections and even has been reported to work on anthrax, tuberculosis, typhoid, and meningococcal infections. Like tea tree oil, thyme is a strong disinfectant and will kill germs on most surfaces, including *E. coli*. Thyme also works for fungal infections topically and *Candida albicans* internally. Thyme oil will also work for aches and pains when about fifteen drops are infused into a bath mixed with two tablespoons of baking soda. Thyme oil can also be used topically for acne; boil a pinch of thyme in two cups of water for fifteen minutes, allow it to steep for five minutes, and then mix in some lemon juice and apply it to the acne several times a day. Thyme oil can be used by mouth for respiratory infections such as bronchitis, sinus, and ear infections. It also works for intestinal and stomach infections and disorders such as diarrhea. It also works on infections from parasites such as worms, urinary tract infections, and skin disorders. It can be applied topically to ear infections and also to the larynx

for hoarseness. Thyme can be made into a mouth rinse for mouth and throat infections, including dental infections and abscesses.

Oregano Oil (Oreganum vulgare)

Oregano oil is not made from the oregano used for cooking, but rather a rare wild herb from the eastern part of the Mediterranean called *Oreganum vulgare*. It is famous for its very potent antiseptic and antimicrobial effects against bacteria, viruses, intestinal parasites, fungi, yeasts, and molds. It not only is bactericidal (kills bacteria) but also prevents their regrowth for some time. If that wasn't good enough, oregano oil is also a powerful antioxidant, helping to protect your body from toxins and cancer. Oregano oil is made by steam distillation of its leaves.

Oregano oil works wonders for sore throats and mouth infections, and can also be inhaled via a vaporizer for coughs, croup, asthma, and lung infections. It can be used topically but be careful on broken skin where it can be very irritating. Oregano oil is very strong and cannot be used without a carrier oil. A good general formula is one part oregano oil to three parts carrier oil. When using it on the skin, mix ten to twelve drops of oregano oil per ounce of a carrier oil such as jojoba, sweet almond, olive, or grapeseed. The same mix can be rubbed into sore, tired muscles to help rejuvenate them. It is antifungal, so it will also work when applied to athlete's foot, jock itch, ringworm, and other topical fungal infections. Orally it works against *Candida albicans* and other internal fungal infections. Adding a few drops of oregano oil to juice or water and then gargling it and swallowing it will work to treat a sore throat. Be prepared for a very strong bad taste; oregano oil is so much more concentrated than oregano, that it has a very potent flavor. One of the compounds that oregano oil contains is carvacrol, which acts as a natural insect repellent which is also present in mint and thyme. A little interesting tidbit about mint that I always found fascinating -- it is the only plant with a square stem. Okay, so I admit I am a nerd, odd facts excite me, that is probably why my wife, Lynne, calls me the King of Useless Knowledge. What can I say, knowledge always comes in handy at some time, and very likely will prove very useful for us Preppers. Oregano oil also helps with digestion by increasing the flow of bile, which is used to emulsify and digest fats and oils. It also works against intestinal infections and parasites, including intestinal worms. Most infections that are being treated with oregano oil can be eradicated using four to six drops of oil for seven to ten days. Oregano oil is too strong for infants and small children and naturally,

like almost everything, it cannot be used in pregnant or breast-feeding women.

Mountain Savory Oil (Satureja Montana)

Mountain savory oil is made from the plant of the same name; it is also sometimes referred to as winter savory. Mountain savory oil was used as early as Roman times. The Romans referred to it as Satyr's herb because of its reported sexual stimulation and enhancing effects; in other words they believed it was an aphrodisiac. A satyr, for my readers who do not know Greek or Roman mythology, is a woodlands god who is typically depicted as half-man and either half-goat (Roman) or half-horse (Greek), who is often drunk and always Horny. Mountain savory also has strong antibacterial, antifungal, antiviral, and antiparasitic effects, as well as being a stimulant of the immune system. Mountain savory is also a strong antioxidant, helping nullify the harmful effects of free radicals. In aromatherapy it is also used as a strong mental stimulator and a motivator. Mountain savory is made by steam distillation of the entire herb and usually is golden to pale yellow in color. It is primarily produced in Hungary, Spain, and France, and originates from the southern Mediterranean region. Mountain savory oil, like most essential oils other than lavender oil, has to be diluted with a carrier oil before it is applied to the skin. Mountain oil should not be used in children younger than eighteen months and should not be used in pregnant or breast-feeding women. Mountain savory may also be toxic to the liver if used long-term, but there have been no definitive studies on this. Mountain savory can also be an irritant to the mucous membranes lining your mouth and should be used with caution, hence the importance of dilution with a carrier liquid.

Mountain savory oil should be diluted with a carrier oil at a 1:4 ratio, meaning one part of mountain savory oil to four parts of a carrier oil. It can be used topically to treat burns, bacterial and fungal infections. It can be used internally to treat a large number of infections and conditions including digestive disorders. Mountain savory oil can also be put in a vaporizer and inhaled to treat upper and lower respiratory tract infections and cough. When taken internally it can be mixed with rice or soy milk or another liquid at a rate of one drop of mountain savory oil per 4 ounces of carrier liquid. Mountain savory is very useful for gastrointestinal (GI) infections as well as genital infections in both men and women. Mountain savory can also be mixed with honey at a rate of one drop of mountain savory oil per two teaspoons of honey.

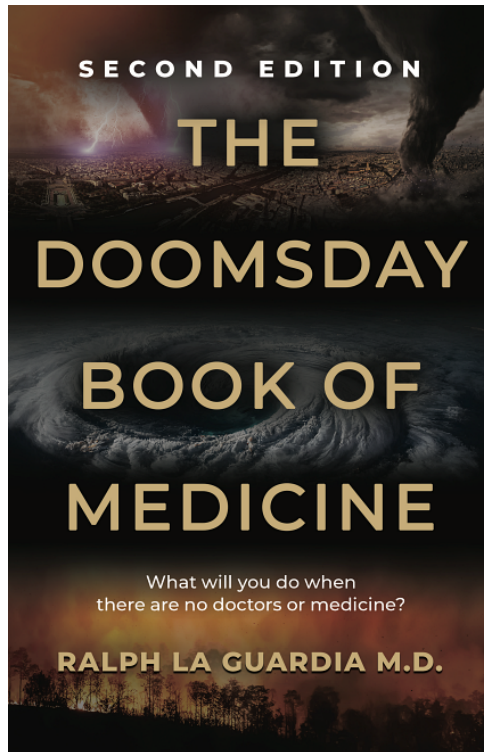
Lemongrass Oil (Cymbopagon Flexuosus)

Lemongrass oil is made from a grass species which has a distinctive scent of lemon. Lemongrass oil has been known to have antibacterial, antifungal, anti-inflammatory, and antiseptic qualities, as well as being a vasodilator (enlarges blood vessels) and a stimulant to lymphatic flow -- and if that wasn't enough, it also improves circulation. This improvement in blood circulation and lymphatic flow both help it to improve edema (swelling) in the legs. Lemongrass oil, like almost all essential oils, needs to be diluted in a carrier oil; the usual ratio is one part of lemon oil to four parts of carrier oil. Lemongrass oil is very useful for the repair of connective tissue; therefore it is very useful in joint, rib, tendon, and ligament injuries and can be applied as a liniment. It also repels insects and soothes the skin and is in the same family as citronella, just like those citronella candles your parents lit in the backyard to ward off those swarms of insects during your summer barbecues.

Lemon Myrtle Oil (Backhousia citriodora)

Lemon myrtle oil is made from the steam distillation of the leaves of an Australian tree of the same name. Lemon myrtle oil is an antibacterial, antifungal, antiviral agent as well as being a strong antiseptic. It is frequently used in atomizers or vaporizers to disinfect an entire household. It has very potent germicidal properties and eradicates many types of household germs on contact. Lemon myrtle derives its name from the strong lemon scent of its crushed leaves. It has a golden yellow color.

In a Prepper situation this is a wonderful oil to have, especially if you are stuck indoors for a prolonged period and you are concerned about the transmission of germs between group members. It is also very useful in a household if one member of the family is sick and you are trying to keep the others from becoming infected. Placing a few drops in a pan of water on a wood stove will also work just fine. Lemon myrtle oil has also been used for skin infections and especially for treating acne. For acne, a drop of lemon myrtle oil can be added to a cotton ball that has been soaked in distilled water and dabbed directly on the involved skin. Lemon myrtle oil cannot be used on broken skin due to its potential to irritate skin; of all of the essential oils, it is the most irritating. Lemon myrtle oil also cannot be used in pregnant or nursing women.



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