

Antibiotic Alternatives for Resistant Bacteria

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My Story

I have always had an interest in the “old ways” of healing. I find satisfaction in earth medicine. How wonderful that we can heal ourselves with plants right outside our door. Connecting with Spirit through the Earth feels right to me, I find peace and joy in it. It feels sacred and it helps me connect to the Divine. I feel gratitude.

I think about all the knowledge that used to be passed down generation to generation... all the traditions that have faded over time and are no longer common practice. It makes me feel empty, like a part of me and my ancestors has been lost or forgotten. So many of us are unaware of the God given healing powers of the Earth that are all around us. We have become so dependent on outside sources that the majority of people out there have no idea how to take care of themselves; how to cook, grow, harvest and preserve food or even practice everyday survival skills. People think you’re crazy if you reach for some sort of “herbal remedy” to help with an ailment. I have always felt a familiar sense or awareness when it comes to herbal medicine, like it’s a part of me. I know nothing compared to what I could know if these things were still common practice, tradition or passed down to me from my parents and grandparents. In my heart, my gut, I know it is a part of me. I feel safe and at peace when I am connected to the amazing God-given gifts of health and wellness all around us. I feel like I am living a life on purpose when I connect to the Earth.

Mothers have intuition, this I believe is true. I trust my gut feelings and try my best to do what feels right. A few years ago I was branching out and learning new things. I was pushing myself out of my comfort zone and experimenting with new ideas and ways of caring for myself and my family. I practiced making tonics and tinctures. I was excited and learning to trust my intuition when it came to healing. Then the day came when I was faced with fear and

uncertainty and I failed to walk the walk. Disappointed, embarrassed, sorry- that's how I felt when my 2-year-old son got a staph infection. I was given a choice, a choice to trust my gut and find a way to help him or to be fearful and run to a doctor that I knew would only prescribe antibiotics. Nothing about putting my son on antibiotics felt good to me. I knew it wasn't good for the little guy and I had just finished breastfeeding him. I knew it would compromise his gut health and therefore his overall health if he was put on antibiotics. I was scared, he was hurting, people shared their horror stories and the staph spread fast. I decided to put blinders on and go to the doctor. I put my hands up and allowed the doctor to convince me that I was making the only decision possible to rid my son's body of his infection. I took a side seat and failed to step up to the plate when my son needed me. The doctor indeed prescribed an antibiotic and assured me that I was doing the right thing. He knew that I was uncomfortable with the decision. He told me that it was just this one time and that we didn't want to take any chances. We would "knock it out" and he would be just fine. Well, it did work...for a week and then it came right back, but this time it was worse. Back to the doctor's office we went, another round of antibiotics and clear for another week or so. Then it returned, back to the doctor's office again and sent home with another stronger antibiotic that was sure to eliminate our problem. Once again the infection cleared and then came back after awhile. After three rounds of antibiotics, lots of pain, discomfort, tears and disappointment I put my foot down. I knew I had been going against my gut feelings and my beliefs. I knew I allowed fear to creep in and shut me down. I had enough. We did not go back to the doctor after that. I did my research and found healthy alternatives that were safe and effective. I learned new things and trusted my intuition. I only did what felt right. I prayed about it and set my intentions on healing and causing no harm. It was empowering to trust myself. I began using colloidal silver, elderberry syrup, Manuka honey and lemongrass

essential oil on him. I bulked up his diet with lots of healthy whole foods and immune boosters. The staph infection went away fast and never returned, but only after making mistakes and not trusting myself. This was a turning point for me, I knew that I could no longer follow blindly and put the health of my family in someone else's hands. It was time for me to start questioning things, to seek truth, truth that could empower me and help keep my family safe. This is very important to me, I need to be able to heal my family and keep them healthy. I need to teach my children what I know and what I will continue to learn and discover.

A new journey started, one that I will forever explore and be thankful for. There are so many wonderful natural alternatives out there for specific conditions. I encourage you to do your own research, explore new ways of healing and allow yourself the space to have a fresh perspective on taking control of your own health. Through some of my personal research I have gathered some examples of herbal medicine and natural options to treat bacterial infections, with a focus on resistant bacteria. Included in my research are the alternatives that I have found and believe are the strongest and most beneficial when dealing with resistant bacteria.

Resistant Bacteria and Antibiotic Alternatives

Hundreds of millions of people all over the globe are contracting resistant infections every year, millions right here in the United States. Hospitals are the most common place to contract resistant infections. Hospital acquired resistant infections are the fourth leading cause of death in the United States. This does not include the deaths from the infectious diseases in general, they are the leading cause of death and illness in the United States. Hospitals host the most susceptible people, the ill, young and old. There is no place where bacteria experience greater contact with antibiotics than in the hospitals. (Buhner)

What are Bacteria?

Bacteria are single celled microbes. The cell structure is simpler than that of other organisms as there is no nucleus or membrane bound organelles. Instead their control center containing the genetic information is contained in a single loop of DNA. Bacteria are microscopic and thrive in many environments. They can live almost anywhere; within soil, in the ocean even inside the human body. Human's relationship with bacteria is complex. Some types of bacteria can lend a helping hand, for example, by curdling milk into yogurt or helping with our digestion. At other times bacteria can be destructive, causing disease.

Common Types of Bacteria

Major Gram-Positive Bacteria:

- Clostridium difficile
- Enterococcus spp. (E. faecalis, E. faecium)
- Mycobacterium tuberculosis
- Staphylococcus aureus
- Streptococcus spp. (S. pyogenes, S. pneumoniae)

Gram-Negative Bacteria:

- Acinetobacter baumannii
- Campylobacter jejuni
- Enterohemorrhagic E. coli
- Haemophilus influenza
- Klebsiella pneumoniae
- Neisseria gonorrhoeae
- Proteus spp. (P. vulgaris, P. mirabilis)

- *Pseudomonas aeruginosa*
- *Salmonella* app. (*S. typhi*, *S. enteritidis*, *S. typhimurium*)
- *Serratia marcescens*
- *Shigella* spp. (*S. dysenteriae*, *S. flexneri*, *S. sonnei*)
- *Stenotrophomonas maltophilia*
- *Vibrio cholerae*

Classification

The excerpt below was found on www.livescience.com, written by By Aparna

Vidyasagar:

“A few different criteria are used to classify bacteria. They can be distinguished by the nature of their cell walls, by their shape, or by differences in their genetic makeup. The Gram stain is a test used to identify bacteria by the composition of their cell walls. It is named for Hans Christian Gram, who developed the technique in 1884. Bacteria are first stained with a purple dye called crystal violet, which specifically binds to peptidoglycan, a complex structure of amino acids and sugars found in the cell wall. This is followed by a series of steps that ultimately remove any unbound or loosely bound crystal violet. Then the cells are stained with a second red-colored dye called safranin. Gram-positive bacteria stain purple because their cell walls are rich in peptidoglycan. On the other hand, Gram-negative bacteria whose cell walls have two layers take on a red coloring. The outer layer of lipids does not bind strongly to crystal violet and the dye is easily washed away during the staining process.”

The “Good” Bacteria

The Herbal Home Remedy Book, written by Joyce A. Wardwell states: “A normal healthy person has so many bacteria in his body that were he to suddenly become invisible, every

detail down to the eyelashes could be distinguished by the bacteria present just on the surface of the skin.”

Not all bacteria are “bad.” You often hear people talk as if all bacteria are harmful to our bodies and that we need to strive for a “germ free” environment. The bacteria that colonizes our bodies are friendly, they take up space so that harmful bacteria don’t have room to live. Stephen Harrod Buhner states in his book, *Herbal Antibiotics*, “All of our co-evolutionary bacteria generate antibiotic substances that kill off other, less friendly bacteria. The Streptococcus bacteria that normally live in our throats produce large quantities of antibacterial substances that are specifically active against the *Streptococcus pyogenes* bacteria that cause strep throat.”

When we have regular exposure to pathogenic bacteria our bodies along with our symbiotic bacteria learn how to respond to disease organisms, providing better health for our adult years. Researchers stress the importance of exposure to bacteria so that we can stimulate our immune systems. Children who are kept in an obsessively clean environment and use antibacterial soaps and wipes on a regular basis end up ill more often over their lifetime. They need to be exposed to bacteria to be healthy.

The womb is one of the few naturally sterile places on Earth. A baby isn’t exposed to bacteria until birth. When a baby is born and placed on a Mother’s chest the baby is exposed to the bacteria that is present on the Mother’s skin and the bacteria begins to colonize the baby’s body. When the baby starts nursing, the skin around the nipple and the milk begin to colonize the baby’s intestinal tract. This is very important to the health of the baby. The bacteria create vitamins and nutrients (B1, B2, B3, B12, and folic acid) in the intestinal tract, they help with digestion and they secrete natural antibiotics that help prevent bacterial infections.

Clinical Antibiotics

Penicillin, the first “miracle” drug, was the first true antibiotic. It was discovered in 1928 by Alexander Fleming, Professor of Bacteriology at St. Mary’s Hospital in London. In 1942 the world’s entire supply of penicillin was only 32 liters, about 64 pounds. By 1949 the pharmaceutical companies had begun full production and there was 156,000 pounds a year of penicillin along with a new antibiotic, streptomycin, being produced. By 1999, in the United States alone, the amount being produced had grown to 40 million pounds. These antibiotics were for people, livestock, research, and agricultural plants. Ten years later the number grew to 60 million pounds per year. About 30 million of those pounds were used on livestock for human consumption alone.

The Problem

Antibiotics are difficult to properly dispose of because they are not easily destroyed. Antibiotics do not simply go away. Millions of pounds of antibiotics from millions of patients who visit hospitals are excreted into the waste streams. Expired antibiotics are thrown in the garbage. Antibacterial disinfectants and antibiotic remnants from several treatments all enter the hospital waste streams. Alarmingly, all antibiotics, in a pure form or metabolized, end up in our environment. Most often in wastewater streams that travel to treatment plants and pass pretty much unchanged into our water supplies. American physicians outside of hospitals prescribe an additional 260 million antibiotic prescriptions yearly, those too end up excreted into our environment. Pharmaceutical manufacturers contribute thousands of tons of antibacterial waste into the environment.

All of the water supplies in the industrialized countries have been found to have minute amounts of antibiotics, indicating that bacteria are experiencing low doses of antibiotics on a

regular basis. The more antibiotics that make it into our water the faster bacteria learn and adapt, therefore, becoming more resistant. Information is passed on to all forms of bacteria met along the way, they share their survival information. What's alarming is the fact that bacteria are anticipating the creation of antibiotics that people haven't even thought of yet.

Every year American factory farms use about 30 million pounds of antibiotics on their animals such as pigs, cattle and chicken so that the animals can survive the overcrowding that often occurs in factory farming practices. The animal waste is channeled to waste lagoons and it eventually ends up in our ecosystem. Domesticated animals along with open range animals defecate directly into the soil and their feces are laced with antibiotics. Our land is saturated with antibiotics and they do not go away easily. Only high temperatures and other physical damage like ultraviolet light from the sun will destroy these antibiotics. While they are active, many will continue to kill the bacteria that they come in contact with. Antibiotics do not just kill off "bad" bacteria, they kill all bacteria. The word "antibiotic" literally means "against life." Right now the problem is the rise of pathogenic bacteria in human, animal and agricultural crop populations. Soon, infectious disease epidemics will be more deadly than ever.

Commercially raised salmon, trout and catfish are dosed with antibiotics and other drugs in their food. When the food gets wet the antibiotics leach into the water. The salmon are raised in open sea pens that allow leaching into our oceans. On average, 150 pounds of antibiotics are used per 1 acre of salmon farm. The antibiotics, as you can imagine, are then spread to other marine animals. Eventually, the antibiotic laced feces settle on the ocean floor where it is out of sun light and remains relatively stable.

Early Warning

The discovery of antibiotics was exciting and successful. Many proclaimed the end of

epidemic disease. Several new antibiotics were discovered daily, it seemed science could do anything. The man that discovered penicillin, Dr. Fleming, warned that the over use of antibiotics would create a problem, that the bacteria would adapt and become resistant. Sure enough, by 1995, 95% of staph was resistant to penicillin. Physicians began to use an antibiotic called methicillin that was effective against penicillin-resistant bacteria...one year later, methicillin-resistant staph (MRSA) emerged. 54 years after the commercial production of antibiotics began, the first staph strain resistant to all clinically available antibiotics infected three people. Resistant staph is the number one source of hospital acquired infections worldwide.

Most pharmaceutical companies have given up on the research for new antibiotics and there are no new antibiotics in development. The main reason for this is financial; it is more profitable for companies to develop medicines that treat for long term conditions than it is to find new antibiotics. There is money in medicine, not in a cure.

Intelligent Life

Bacteria are the oldest forms of life on this planet and are extremely adaptable and sophisticated. Stephen Harrod Buhner, author of *Herbal Antibiotics* states:

“As soon as bacterium encounters an antibiotic, it begins to generate possible responses. This takes time, usually a number of bacterial generations. But bacteria live a lot more quickly than we do; a new generation can occur every 20 minutes for many species. This is some 500,000 times faster than us. And during that quickened time scale, bacteria have found a lot of different ways to respond to our antibiotics.”

Herbal Remedy Solutions

Below you will find herbal remedies that you can use to protect your loved ones and take charge of your health. These are the herbs that are best for the most common gram positive and gram negative bacteria named earlier under “Common Types of Bacteria”. Also included are immune support formulations and other formulations that are specific to the conditions. All information in this section was gathered from the book “Herbal Antibiotics”, written by Stephen Harrod Buhner.

Clostridium difficile

Dangerous diseases are caused by the spores that enter the digestive tract or a cut. *C. botulinum* is the source of botulism poisoning in food and can infect wounds. *C. perfringens* can cause food poisoning and gas gangrene among other things. *C. tetani* is the cause of tetanus. *C. difficile* is the main resistant pathogen. Symptoms include diarrhea, inflammation of the colon and it can even lead to death.

Formulation 1- (antibacterial) *Cryptolepis* or any berberine plant tincture: 1 tsp-tbl, 3-6x daily. Depending on symptoms and severity.

Formulation 2- (immune support) *Echinacea*, *ginger*, and *licorice* (equal parts) tincture: 1 tsp, 6x daily.

Formulation 3- (antidiarrheal/colon soothing) *Blackberry root* and *marsh mallow root* (equal parts) standard infusion: up to 6 cups daily.

Enterococcus spp.

Enterococcus app. is highly resistant to antibiotics, especially in hospitals. Enterococcal organisms cause urinary tract infections, bacteremia, bacterial endocarditis, diverticulitis and meningitis.

Formulation 1- (antibacterial) Sida, alchornea, or cryptolepis tincture: 1 tsp-1 tbl, 3-6x daily. Depending on severity of symptoms.

Formulation 2- (immune support) Licorice, astragalus, and rhodiola (equal parts) tincture: 1 tsp, 3x daily.

Formulation 3- Pipeline: 20 mg, 2x daily, with the first dose in the morning 30 minutes before taking the other formulations, and the second dose at 4 pm.

Formulation 4- Isatis leaf (or root) and either Japanese knotweed or stephania (equal parts) tincture: 1 tsp, 3-6x daily.

Mycobacterium tuberculosis

This is the primary cause of tuberculosis (TB), which is very difficult to treat and has become increasingly resistant. XDR-TB (extensively drug-resistant TB) is resistant to all of the most effective anti-TB drugs. About 45,000 people per year contract this form of the disease. Unfortunately, the death rate is 90%.

Formulation 1- (systemic antibiotic) Cryptolepis and sida (equal parts) tincture: 1 tsp-1 tbl, 3-6x daily, depending on symptoms.

Formulation 2- Pipeline: 20 mg, 2x daily, with the first dose in the morning, and the second dose at 4 pm.

Formulation 3- (immune support) Lomatium, licorice, and rhodiola (equal parts) tincture: 1 tsp, 3x daily.

Staphylococcus aureus

Methicillin-resistant Staphylococcus aureus (MRSA) has become a common infectious disease. At first small red bumps appear that resemble pimples, small boils, or even a spider bite. Often times a fever is present and possibly a rash. Later, the bumps become larger and

extremely painful. They eventually break open into deep, pus filled boils. If the antibiotic treatment fails, the boils continue to spread and the infection goes deeper; sometimes the affected limb is amputated.

In hospitals MRSA can infect wounds, catheters, the urinary tract and the lungs. MRSA can spread through the whole body. MRSA can infect the heart valves, bones, joints, organs and blood. It can cause toxic shock syndrome and flesh-eating pneumonia.

Formulation 1- (internal systemic antibacterial) Cryptolepis tincture: 1 tsp-1 tbl, 3-6x daily, depending on severity.

Formulation 2- (immune support) Ginger, reishi, and licorice (2 parts ginger, 2 parts reishi, 1 part licorice) tincture: 1 tsp, 3x daily.

Streptococcus spp.

S. pyogenes is the most common species of streptococcal bacteria, it causes strep throat, acute bacterial glomerulonephritis and flesh-eating fasciitis. *S. pneumoniae* causes bacterial pneumonia, otitis media, sinusitis, meningitis and peritonitis. *S. agalactiae* causes pneumonia, meningitis, bacteremia, intestinal infections and infections in the female reproductive tract.

Formulation 1- (antibacterial) Echinacea angustifolia tincture: 1 tbl in minimal water, every hour.

Formulation 2- Cryptolepis, sida, or alchornea tincture: 1 tbl, every hour.

Formulation 3- Lomatium, rhodiola, and eleuthero (equal parts) tincture: 1 tsp, 4x daily.

Acinetobacter baumannii

Acinetobacter baumannii is often abbreviated as MDRAB and it is multidrug resistant. The only drugs that are still effective are toxic and no longer used. Many soldiers wounded in combat overseas come home with active MDRAB infections that then spread in hospitals.

Bacteria enters the body through wounds, breathing tubes, catheters, injection sites or anywhere there is a break on the surface of the skin. Health care workers spread the bacteria and that is a problem because the bacteria can live up to 5 months on surfaces. 82% of the patients that are infected from contaminated breathing tubes during hospital procedures develop severe pneumonia and die. Catheters cause urinary tract infections, while injections, blood draws, intravenous lines, surgical drains and open wounds cause blood infections.

Formulation 1- (antibacterial) Cryptolepis, alchornea, or sida tincture: 1 tsp- 1 tbl, 3-6x daily, depending on severity of symptoms.

Formulation 2- Lomatium, astragalus, and rhodiola (equal parts) tincture: 1 tsp, 6x daily.

Formulation 3- (important) Fresh ginger juice, stabilized with 20 percent alcohol: 1 tbl in hot water, 6x daily.

Formulation 4- Oregano or juniper essential oil inhalation as aromatherapy: 3x daily.

Campylobacter jejuni

This type of bacteria causes abdominal pain, diarrhea, fever and a general feeling of discomfort. Not usually fatal but can be debilitating.

Formulation 1- (antibacterial) Cryptolepis or sida tincture: 1 tsp, 3x daily.

Formulation 2- Any strong tannin-containing plant as a decoction: 6 oz., up to 6x daily.

Examples: oak, geranium, krameria, pine needles.

E. coli

The top three kinds of E. coli to be aware of are the enterohemorrhagic E. coli strains, ST131 (which causes UTI's) and the E. coli B2 strains that cause extraintestinal infections (infection outside the intestines). They all create similar conditions including hemorrhagic diarrhea and kidney failure. Contaminated ground beef is often the main culprit but it can also

be contracted by drinking contaminated water, juice, eating contaminated veggies or swimming in contaminated pools. Abdominal cramps come first, followed by acute diarrhea, often hemorrhagic. Sometimes the red blood cells in the body are destroyed and the kidneys fail. Death can occur but is most common with the very young and the elderly.

Treating enterohemorrhagic E. coli:

Formulation 1- (antibacterial) Berberine plant tincture: 1 tsp-1 tbl, 3-6x daily, depending on severity.

Formulation 2- Blackberry root or oak bark decoction: 3 tbl-1/2 cup, 2-4x daily.

*If the intestines are highly inflamed and sore add powdered elm bark gruel.

Treating E. coli ST131:

Formulation 1- (antibacterial) Juniper berry-bidens tincture (1 part juniper, 2 parts bidens): 30 drops, 3-6x daily.

Formulation 2- Cryptolepis and either sida or berberine plant (equal parts) tincture: 1 tsp, 6x daily.

Formulation 3- Ginger, licorice, and reishi (equal parts) tincture: 1 tsp, 3x daily.

Treating E. coli B2 infections:

Formulation 1- (antibacterial) Cryptolepis and sida (equal parts) tincture: 1 tbl, 2-4x daily.

Formulation 2- Echinacea angustifolia tincture: ½ tsp-1tbl, every half hour to hour.

Formulation 3- Ginger, licorice, and reishi (equal parts) tincture: 1 tsp, 3x daily.

Haemophilus influenza

The infection rate in the U.S. and Europe has fallen due to widespread vaccinations but it is still common in the rest of the world. *H. influenzae*, *H. parainfluenzae*, *H. aphrophilus* and *H. ducreyi* are the four most common infectious species.

Formulation 1- (antibacterial) Sida tincture: 1 tsp, 3-6x daily.

Formulation 2- Isatis, ginger, licorice, and red root (equal parts) tincture: 1 tsp, 6x daily.

Formulation 3- Fresh ginger juice tea: 4-6x daily.

Klebsiella

Klebsiella infections occur primarily in the lungs, but they can also occur in the urinary tract, biliary tract, lower respiratory tract and in surgical wounds. *Klebsiella* causes pneumonia, bacteremia, urinary tract infections, diarrhea, cholecystitis, osteomyelitis, meningitis and respiratory infections. Bacteria on the hands of hospital staff can spread infection and an invasive apparatus can infect the patient's GI tract. *Klebsiella* organisms are mostly multidrug resistant and spread quickly. The mortality rate is about 50%.

Formulation 1- (antibacterial) Ctyptolepis and alchornea (equal parts) tincture: 1tsp-1tbl, 6x daily.

Formulation 2- (to thin mucus) Ginger juice tea 4-6x daily.

Formulation 3- (immune support) Reishi, red root, licorice and Echinscea angistifolia (equal parts) tincture: 1 tsp, 6x daily.

Formulation 4- Juniper essential oil inhalation as aromatherapy: 4-6x daily.

Neisseria gonorrhoeae

This type of bacteria causes the sexually transmitted disease gonorrhea.

Formulation: Cryptolepis and sida (equal parts) tincture:1 tsp, 3x daily for 14 days.

Proteus app.

P. vulgaris and P. mirabilis are the common species of Proteus, they are both resistant.

Proteus infections cause alkaline kidney stones, wound infections, urinary tract infections, septicemia and pneumonia.

Treating proteus UTI's:

Formulation 1- (antibacterial) Juniper berry and bidens tincture (1 part juniper, 2 parts bidens): 30 drops, 3-6x daily.

Formulation 2- Cryptolepis, sida, or alchornea tincture: 1 tsp, 3-6x daily.

Formulation 3- Ginger rhodiola, and red root (equal parts) tincture: 1 tsp. 3x daily.

Formulation 4- Pipeline: 20 mg, 2x daily. (the first dose in the morning 30 minutes before taking the other formulations and the second dose at 4 pm.)

Treating proteus septicemia:

Formulation 1- (antibacterial) Cryptolepis, sida, or alchornea tincture: 1 tsp, 6x daily.

Formulation 2- (to prevent septic shock) Isatis tincture: 1 tbl, 3-6x daily.

Formulation 3- Echinacea angustifolia tincture: ½ tsp-1tbl, every half hour to hour.

Formulation 4- Lomatium, rhodiola and red root (equal parts) tincture: 1 tsp, 3x daily.

Treating proteus wound infections:

Formulation 1- (antibacterial) Cryptolepis, alchornea and sida (equal parts) tincture: 1 tsp, 6x daily.

Formulation 2- Lomatium, rhodiola and red root (equal parts) tincture: 1 tsp, 3-6x daily.

Formulation 3- Daily topical honey dressings.

Treating proteus pneumonia:

Formulation 1- (antibacterial) Cryptolepis, alchornea and sida (equal parts) tincture: 1 tsp, 6x daily.

Formulation 2- Ginger juice tea.

Formulation 3- (immune support) Lomatium, licorice, red root and Echinacea angustifolia (equal parts) tincture: 1 tsp, 6x daily.

Formulation 4- Juniper essential oil inhalation as aromatherapy: 3x daily.

Pseudomonas aeruginosa

This type of bacteria can be found on the surfaces of medical equipment, including catheters, which is often how it enters the body. It can survive high temperatures, live with or without oxygen and live in distilled water where there are no nutrients. It is tough and very resistant to antibiotics.

Pseudomonas can infect all parts of the body and cause pneumonia, septic shock, urinary tract infections, otitis media, gastrointestinal infections and soft tissue infections. The most common infections are from burns, surgical wounds, urinary tract infections and otitis media.

Treating pseudomonas pneumonia:

Formulation 1- (antibacterial) Cryptolepis and alchornea (equal parts) tincture: 1 tsp-1 tbl, up to 6x daily.

Formulation 2- Ginger juice.

Formulation 3- (immune support) Ginger, isatis, red root and echinacea angustifolia (equal parts) tincture: 1 tsp, 6x daily.

Formulation 4- Juniper essential oil inhalation as aromatherapy: 3x daily.

Treating pseudomonas sepsis:

Formulation 1- (antibacterial) Cryptolepis and alchornea (equal parts) tincture: 1 tbl, 6x daily.

Formulation 2- (immune support) Ginger, isatis and red root (equal parts) tincture: 1 tsp, 6x daily.

Formulation 3- Echinacea angustifolia tincture: ½ tsp-1 tbl, every half hour to hour.

Formulation 4- Tincture combination of salvia miltorrhiza and angelica sinensis, ½-1 tbl, every hour in water.

Treating pseudomonas GI tract infections:

Formulation 1- (antibacterial) Cryptolepis and a berberine plant (equal parts) tincture: 1 tsp-1 tbl, 3-6x daily depending on severity.

Formulation 2- Ginger, red root and echinacea angustifolia (equal parts) tincture: 1 tsp, 6x daily.

Treating pseudomonas UTI's:

Formulation 1- Juniper berry and bidens (1 part juniper, 2 parts bidens) tincture: 30 drops, 3x daily.

Formulation 2- Berberine plant tincture: 1 tsp, 3x daily.

Formulation 3- Ginger, licorice and red root (equal parts) tincture: 1 tsp, 3x daily.

Treating pseudomonas infections of surgical wounds and burns:

Formulation 1- (antibacterial) Piperine: 20 mg, 2x daily, with the first dose in the morning 30 minutes before taking the other formulations, the second dose at 4 pm.

Formulation 2- Cryptolepis and alchornea (equal parts) tincture: 1 tsp, 6x daily.

Formulation 3- (immune support) Ginger, licorice and red root (equal parts) tincture: 1 tsp, 6x daily.

Formulation 4- Daily topical honey dressings.

Salmonella app.

Salmonella app. is closely related to Shigella and E. coli. These organisms cause typhoid fever, paratyphoid fever and food poisoning. Most infections come from contaminated poultry, pork, cattle, fruits and vegetables. Symptoms include diarrhea, vomiting, fever and abdominal cramping. Sepsis and infection of other organs sometimes occur. Salmonella app. has become multi-drug resistant and is becoming much more difficult to treat with conventional antibiotics.

Formulation 1- (antibacterial) Cryptolepis, sida or alchornea tincture: 1 tsp-1 tbl, 3-6x daily depending on the severity of the infection.

Formulation 2- Berberine plant tincture: 1 tsp-1 tbl, 3-6x daily.

Formulation 3- (immune support) Licorice tincture, rhodiola tincture and ginger juice (equal parts) combined: 1 tsp, 3x daily.

Serratia marcescens

Mostly acquired at hospitals, this type of bacteria is becoming highly resistant. Bacteria can colonize in catheters, surgical wounds, the blood, eyes, respiratory tract, the central nervous system, bones and heart.

Treating serratia UTI's:

Formulation 1- (antibacterial) Juniper berry and bidens (1 part juniper, 2 parts bidens) tincture: 30 drops, 6x daily for 10 days.

Formulation 2- Bidens fresh plant juice or tincture: $\frac{1}{2}$ tsp, 3x daily.

Formulation 3- (immune support) Ginger, licorice and rhodiola (equal parts) tincture: $\frac{1}{2}$ tsp, 3x daily.

For surgical wound infections: *Formulations 2 and 3* for serratia UTI infections (above), plus topical honey dressings daily.

Treating serratia eye infections:

Formulation 1- (antibacterial) Bidens fresh juice: 1-3 drops applied to the eye, up to 6x daily.

Formulation 2- (immune support) Lomatium, licorice and ginger (equal parts) tincture: $\frac{1}{2}$ tsp, 3x daily.

Treating serratia bacteremia and osteomyelitis:

Formulation 1- (antibacterial) Echinacea angustifolia tincture: $\frac{1}{2}$ tsp-1 tbl, every half hour.

Formulation 2- (immune support) Lomatium, licorice and ginger (equal parts) tincture: 1 tsp, 3x daily.

Formulation 3- Bidens fresh juice or plant tincture: 1 tbl, 6x daily.

Treating serratia pneumonia:

Formulation 1- (antibacterial) Bidens fresh plant juice or tincture: 1 tsp, 6x daily.

Formulation 2- (immune support) Lomatium, ginger, licorice and red root (equal parts) tincture: 1 tsp, 6x daily.

Formulation 3- Juniper or oregano essential oil inhalation as aromatherapy: 3x daily.

For wound infections, formulations 1 and 2 for serratia pneumonia (above), plus topical honey dressings daily.

Treating serratia meningitis:

Formulations 1 and 2 for serratia pneumonia (above), plus formulation 3 below:

Formulation 3- Isatis leaf or root and Japanese knotweed or stephania (equal parts)

tincture: 1 tsp, 3-6x daily.

Shigella spp.

Shigella organisms destroy the cellular lining of the intestinal mucosa and invade the body. The most common route of transmission is fecal/oral. There are about 165 million shigella infections per year, about one million of them result in death. Symptoms include diarrhea (consisting mostly of blood and mucus), fever, pain and bowel cramping.

Formulation 1- (antibacterial) Cryptolepis, sida or alchornea tincture: 1 tsp-1 tbl, 3-6x daily depending on severity.

Formulation 2- Berberine plant tincture: 1 tsp-1 tbl, 3-6x daily.

Formulation 3- (immune support) Lomatium tincture, licorice tincture and ginger juice (mixed in equal parts): 1 tsp, 3x daily.

Stenotrophomonas maltophilia

Stenotrophomonas maltophilia is most often found in hospitals where it causes infections in surgical wounds, pneumonia, bacteremia, endocarditis and meningitis.

Formulation 1- (antibacterial) Alchornea tincture: 1 tsp, 3-6x daily.

Formulation 2- Fresh garlic juice: ¼ -1 tsp, up to 4x daily.

Formulation 3- Thyme, rosemary, eucalyptus and oregano essential oils (blended in equal parts), inhalation as aromatherapy: 3-6x daily.

Formulation 4- Eucalyptus leaf infusion: 8 oz., up to 6x daily.

Formulation 5- (immune support) Boneset, licorice and red root (equal parts) tincture: 1 tsp, 6x daily.

Formulation 6- Piperine: 20 mg, 2x daily, with the first dose in the morning 30 minutes before taking the other formulations, and the second dose at 4 pm.

Vibrio cholerae

Cholera organisms infect the small intestine causing diarrhea, muscle cramps and vomiting. Contaminated water and food are usually the culprit. Most cholera strains are resistant to antibiotics.

Formulation 1- (antibacterial) Cryptolepis and berberine plant (equal parts) tincture: 1 tsp, 6x daily.

Formulation 2- Geranium root strong decoction: 3 tbl, every hour.

Formulation 3- Guava leaf or bark and pomegranate peel or bark (equal parts) tea: as much as possible.

Treatment for Children

Herbal dose amounts for the above formulations need to be adjusted with children because they are much smaller than adults. Here are the two easiest ways to determine dosage:

Clark's Rule: Divide the weight in pounds by 150 to give an approximate fraction of an adult's dose.

Cowling's Rule: The age of the child at his next birthday divided by 24. This provides 1/3 the adults dose.

More Common Alternatives

There is truly an amazing amount of antibacterial alternatives out there. Garlic is a very powerful and popular choice. It is one of nature's best antibiotic agents. Garlic should be eaten raw to prevent damaging its antibacterial properties. If garlic is used for external use it should always be applied to a piece of gauze and then applied to the skin to prevent burning. A garlic

infused wine can be prepared as an herbal antibiotic by chopping garlic and covering it with wine for several hours. The same can be done with honey or lemonade as a substitute for the wine. Also, garlic can simply be crushed and placed in water for at least 6 hours. It can then be safely applied to sensitive areas.

Honey is just as amazing and can be used topically or internally. When used topically, direct application to the skin or to a wound is cleansing and healing. It has been used as medicine for millennia. When ingesting honey for medicinal purposes you can eat the honey straight or add it to tea, tonics, syrups, etc. Honey tastes great and is extremely soothing. Some types of honey fight bacteria better than others. Manuka honey is known to be the best bacteria fighter. It is made in New Zealand and has the most antibacterial chemicals. Medihone is Manuka honey that has been zapped clean of any possible bacteria. The zapping doesn't harm the antibacterial chemicals and it is what is used at wound care centers. Honey is great to stock up on, as it is versatile and will never spoil.

Antibacterial Essential Oils

"Reference Guide for Essential Oils," written by Connie and Alan Higley, has an expansive list of antibacterial essential oils and the best use for each type of oil. You will also find information on how to use them properly with confidence. Essential oils were mankind's first medicine. They are liquids that have been distilled from plant parts including the seeds, bark, leaves, stems, roots, flowers and fruits. The properties of these oils vary but most importantly their healing properties were of interest when looking for oils that would kill bacteria.

Weber State University conducted a study on essential oils and their powerful antibacterial properties. The research concluded that oregano, cinnamon bark, mountain savory,

ravensara and peppermint were all more powerful as antibacterial agents than penicillin or ampicillin. Thieves essential oil was shown to be 60% more effective at killing bacteria than penicillin and ampicillin. (KID Radio with Lance Richardson and D. Gary Young, March 5, 1996)

Below is an excerpt from the book “Reference Guide for Essential Oils”:

“Dr. Terry Friedmann, MD, would often recommend the following Essential Oil Antibiotic Regimen: In a “00” capsule put 12 drops of Thieves, 6 drops of Oregano and 2 drops of Frankincense. Ingest one capsule every 4 hours for 3 days, then every 8 hours for 4 days.”

Conclusion

Now is the time to take control of our health. It is important to learn and research now so that we will be prepared for the fast approaching time when clinical antibiotics will no longer be effective. We must learn about herbal medicine and use it as an alternative to clinical antibiotics. We need to know where to find these herbs, how to grow them, harvest them and prepare medicine with them. Herbal medicine is a safe and effective way to deal with resistant bacteria. We are facing a scary time, a time of transition. We need to be connected to our Earth and to Spirit. Never underestimate the power of prayer and intention. Energy work will be a valuable tool and form of healing during this challenging time as well. Learn as much as you can and learn from your mistakes, don’t let them discourage you. Take back your power. Stay grounded and thankful. There is a solution!

In conclusion, I would recommend tracking down the herbs and essential oils suggested in this research paper. I would encourage you to find more books and resources that will be beneficial to have on hand for a fast reference when the time comes and you need it. Practice identifying medicinal herbs around your home and learn to harvest and store them. Make

medicine and practice, practice, practice. Reach out to the neighbors in your community that you can learn from and grow together with. Find local stores, farmers or websites that carry what you need and begin your journey in natural health and head in a direction towards self sufficiency. Take your health in your own hands and begin empowering your family.

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