



Compiled by

F. Joseph Montagna
Master Herbalist

What is Colloidal Silver?
Why use Colloidal Silver?
History of Colloidal Silver
Antibiotics & Resistant Diseases
Uses of Colloidal Silver
A Cure For Aids?
List of Specific Uses
Product Quality Control
Dosage and Administration
References

What Is Colloidal Silver?

Colloidal Silver is manufactured by a highly technical, electro-colloidal non-chemical method in which particles (with 15 atoms or less) of 99.9929% fine silver are electrically charged and attached to a molecule of protein and held in suspension in a solution of de-ionized or distilled water. It is produced by passing a high-voltage electric current or frequency between two pure silver electrodes that are submerged in the water, thereby producing a specialized magnetic field. The electrical current then "peels off" microscopic-sized particles from the electrode and, at the same time, electrically charges them. Each particle of silver will have the same electro-magnetic charge, and thus will repel one another by holding themselves in suspension in the water solution. This process is very similar to that used to electroplate a precious metal onto an object, except that the absence of a receiving object at another electrode causes the silver to remain in a colloidal suspension in the water. The electric charge is stronger than gravity so that the silver particles will remain suspended. However, as the electrical charge becomes weaker over an extended period of time, gravity will slowly pull the silver particles out of

suspension. Eventually, all the silver particles will settle out, and the solution is no longer "colloidal".

Colloidal chemistry is a process that alters the molecular structure of a substance without actually changing the substance itself. A Colloid consists of ultra fine particles that are typically 0.1 to 0.001 of a micron in diameter, which are suspended in a medium of different matter. The particles are larger than most molecules, yet so tiny that they cannot be seen by the naked eye, as millions of them would fit on the head of a match. Many ordinary substances are produced from colloids, such as rubber, leaded glass, soap and plastic. In this case, silver is converted into particles so minute that they can be utilized by living cells. Tissues and cells in the body are composed of billions of cells. The very life force (electricity/electromagnetic energy) of these cells is obtained from colloidal minerals and metals, which are generally supplied to the body from the foods that we ingest. Colloids are also an important part of the processes of digestion and excretion in the body. All living things exist in a colloidal state. Before any food or medication can be utilized by the body, it must be converted from a crystalline to a colloidal state. High voltage, positively-charged Colloidal Silver is the most usable and effective form.

According to some sources, concentrations of anywhere from 3 to 5 parts per million (PPM) up to 40 parts per million (PPM) is suggested as the ideal Colloidal Silver solution, however, the high electrical voltage charge and extremely small micron size appear to be more prominent factors in terms of determining its overall effectiveness. Silver particles in solution may vary in concentration, however, in the case of Colloidal Silver, research indicates that more is not necessarily always better, and that less is actually more beneficial over prolonged periods of time.

The silver particles in Colloidal Silver must range in size from 0.1 to 0.001 microns in diameter in order to be effective against the microscopically small viruses, pathogenic bacteria, fungi and other microbes. Since they are electrically charged, the particles are in constant motion, and can remain in suspension for several months (even years) while in the container. Colloidal Silver is not adversely affected by gravity because the particles possess a uniform positive or negative electrical charge, thereby causing them to repel one another, which allows them to remain in a rather homogenous solution. You should not have to shake the solution, and Colloidal Silver will not contain any chemical, protein, binding agent, stabilizer or any other artificial additives, as laboratory tests indicate that silver may lose effectiveness when additives are employed. The pH should measure approximately 6.5, and Colloidal Silver is generally colorless to a pale golden yellow. Products that display gold, green, black or brown coloration usually indicates increased particle size which, in turn, may reflect a decrease in product quality and effectiveness, and could even cause symptoms of Argyria. Color variance also depends upon the concentration of silver particles, as well as the presence or absence of additives which, in themselves, may or may not be toxic. On the other hand, Colloidal Silver is completely non-toxic, non-addictive, and has no negative or adverse side-effects, and one cannot overdose. Furthermore, it cannot cause any harm to the liver, kidneys or any other vital organs in the body. It is entirely safe for use by pregnant and nursing women, and even enhances the growth and overall health of the developing fetus, as well as easing the

mother's delivery and recovery processes. Colloidal Silver is odorless, tasteless, non-stinging, harmless to the eyes or skin when administered topically, and contains no free radicals. In addition, in small doses it improves the overall digestive processes without upsetting the stomach.

Solutions of Colloidal Silver do not require refrigeration, but should be stored away from direct sunlight, as it is light sensitive. Avoid exposing it to direct heat or noxious odors as well, and keep solutions of Colloidal Silver away from magnets or magnetic fields (such as computers or microwaves), as exposure to magnets may cause "plating" (the bonding of particles) or a residue of silver particles to settle in the bottom of the container. This, in itself, is not harmful, but it can significantly reduce the overall effectiveness of the solution.

Why Use Colloidal Silver?

When properly prepared, Colloidal Silver is a powerful natural broad-spectrum disinfecting antibiotic and antimicrobial agent that acts as a preventative against systemic infections or infectious disorders. It is capable of significantly reducing the severity and length of nearly any type of bacterial infection. The presence of Colloidal Silver near a virus, fungus, bacterium, or any other single-celled pathogen acts as a catalyst in order to disable those enzymes that pathogenic (disease-bearing) bacteria, viruses and fungi require for the metabolism of oxygen in order to breathe. As a result, within a few minutes these microbes either starve or suffocate without any corresponding harm towards the various parts of the human body chemistry, including human enzymes. This leads to the complete destruction of any disease-producing organism in the body, which are expelled from the body by the immune, lymphatic and elimination systems. Colloidal Silver has been documented to have the ability to rapidly destroy over 650 different harmful organisms within six minutes or less. Laboratory tests indicate that Colloidal Silver is toxic to various species of bacteria, fungi, protozoa, parasites and many viruses that were tested, and Colloidal Silver was successfully tested at the UCLA Medical Labs where it destroyed every virus upon which it was tested. There are only eight pathogens that researchers found to be resistant to silver, and tests further indicated that pathogens are destroyed within minutes of contact with Colloidal Silver, and that resistant strains do not develop. This is also true of all staph and strep bacteria as well. Parasites are destroyed while in the egg stage, however, Colloidal Silver does not destroy adult parasites. Upon direct contact with the inner terrain of the body, various resistant strains of these organisms fail to develop any further, and the body does not build up a tolerance to Colloidal Silver. Unlike pharmaceutical synthetic antibiotics, which destroy both beneficial enzymes and the friendly intestinal flora, Colloidal Silver allows these tissue-cell enzymes and flora to remain intact, as they are radically different from the enzymes of primitive single-celled life. Therefore, Colloidal Silver is absolutely safe for use by humans, pets, reptiles, plants and all multi-celled living matter.

The increasing interest of the medical profession in Colloidal Silver reflects a revival in the public health sector for a return to biological medicine. Colloidal Silver's destructive action on microbes is so incredible that it will protect rabbits tested in laboratory conditions from ten times the lethal dose of the diphtheric toxin, and Colloidal Silver remains stable even in the presence of salts and normal constituents of the blood. When taken internally, it is resistant to the action of the acids and alkalies of the stomach, and passes unaltered directly into the intestinal tract, thereby enhancing the removal of conditions such as diarrhea, bacillary dysentery, ulcerative urticaria and certain forms of dermatitis associated with extreme toxemia. Dr. Richard Davies, executive director of the Silver Institute, which monitors silver technology research in 37 countries, states: "In four years, we've documented 87 important new medical uses for silver".

Dr. Harry Margraf of St. Louis, a biochemist and pioneering silver researcher who worked with the late Carl Moyer, M.D., chairman of Washington University's Department of Surgery in the 1970's, states: "Silver is the best all around germ-fighter we have".

History of Colloidal Silver

The mineral known as silver has been used for healing purposes and for treating diseases as far back in recorded time as 4000 B.C. E. Persian records specifically mention the practice of placing water in silver vessels, and the ancient Babylonian and Greek civilizations were fully aware of silver's ability to disinfect. Furthermore, the Romans reported the use of silver compounds for medical treatment. It continued to be used as a remedy during the Middle Ages in order to treat open wounds in battle, and the Ayurvedic physicians of India continue to use it to this day. Silverware or a silver coin was kept in the drinking water and the milk in order to prevent spoilage before the days of refrigeration. The early settlers used silver, and many people remember their grandparents placing silver dollars in milk in order to prolong its freshness at room temperature. Members of royalty were called "bluebloods" due to the silver content in their blood and the blueness of their skin. When eating, the royalty used almost exclusively silver plates, bowls and utensils. They essentially ingested large particles of silver over an extended period of time, which created a permanent discoloration of the skin, due to the excessive silver deposits. This condition is known today as Argyria. However, there is no danger of this occurring today, as long as you are using properly prepared Colloidal Silver.

As recently as the 1930's, silver nitrate was routinely used by American hospitals in the eyes of newborn babies as a protection against blindness in case the mother had contracted a venereal disease, and is still used today in many countries. The March 1978 issue of Science Digest included an article entitled "Silver, Our Mightiest Germ Fighter", in which it stated that more than half of the world's airlines used silver water filters as the method of choice for protecting passengers from water-borne diseases, including British

Airways, Lufthansa and Air France. After reviewing 23 different water purification systems, NASA selected a silver-based system for the space shuttle, and Japan uses silver air purifiers. Prior to 1938, Colloidal Silver was administered orally, rectally, vaginally and intravenously, or atomized into the nose, lungs and eyes, as well as topically in the form of throat gargles, eye drops and douches for the treatment of open wounds and burns. For more effective topical use, Colloidal Silver can be mixed with natural vegetable glycerin or aloe vera. Medical research has documented that Colloidal Silver promotes more rapid healing, with less scar tissue in cases involving severe burns. Successes have been reported even in cases that have previously been unsuccessful by the medical establishment. Contemporary medical tests indicate no known adverse effects from the use of properly prepared Colloidal Silver, and there has never been a recorded case of adverse reactions or interaction with any other medication.

Silver has been employed for over 100 years against infections or infectious diseases. There are currently five different synthetic pharmaceuticals that utilize silver as one of the ingredients. Over 70% of the hospital burn units in the United States use a silver-based cream (Silvadene) as a preventative in order to treat infection in burn patients. This cream is extremely effective, has no known harmful side-effects, and is non-irritating.

At the beginning of the 20th century, scientists discovered that the body's most important fluids (both the blood and lymphatic fluids) are colloidal in nature, as suspended ultra-fine particles. For example, blood transports nutrients and oxygen to the bodily cells. This scientific breakthrough in understanding paved the way towards endless possibilities for medical treatment. Silver was already a proven and accepted germ fighter, and Colloidal Silver became the mainstay in the treatment of infectious diseases. There were varying degrees of success which, we now know, were due to silver particles being too large, thereby never attaining the optimum microscopic size necessary for its effectiveness. Another missing factor was that the silver particles must possess an electrical charge, and we are now aware that this is a critical part of the equation for it to be effective. Even so, the results obtained during these early times were phenomenal, and the results of many scientific studies and examples of its use were published in prestigious medical journals. In 1924, the first electro-colloidal silver was produced, and it proved to be far superior to what had been previously available, and was considered to be very "High Tech" at the time. Due to more advanced technical methods of production, today's Colloidal Silver solutions are far superior than those produced prior to 1938, and at a mere fraction of the cost.

For centuries, the only known method for producing fine silver for human consumption was to grind it into a fine powder, either manually or chemically. The fine silver powder "appeared" to dissolve in water, however, it did not remain in suspension, and ultimately settled to the bottom of the container. These particles also had the tendency to clump together, but the use of protein stabilizers corrects this problem so that the particles settle more slowly. However, they tend to block the effects of the silver particles. One problem with using chemical acids to grind the silver is the difficulty in removing the chemical from the solution, and trace amounts of those chemicals may be toxic to the consumer.

Colloidal Silver was in common use until 1938, and had proven itself to be useful against 650 different infectious diseases, but was very costly to produce at that time. Today, advanced technology provides us with "electro-colloidal" solutions that produce even greater results. Unfortunately, the discovery and subsequent widespread use of Penicillin and other synthetic drug pharmaceuticals caused much of the rapid advancement of colloidal research to be set aside in favor of a new, fast-working, less costly, more toxic and potentially dangerous, more profitable "industry controlled" allopathic medical approach to treating disease. The Food and Drug Administration currently classifies Colloidal Silver as a pre-1938 drug. A letter from the FDA dated September 13, 1991 states: "These products may continue to be marketed . . . as long as they are advertised and labeled for the same use as in 1938, and as long as they are manufactured in the original manner".

Antibiotics & Resistant Diseases

Unfortunately, antibiotic-resistant diseases have reached epidemic proportions throughout the world, and the overall effectiveness of synthetic antibiotics is rapidly decreasing. As indicated by the Center for Disease Control in Atlanta, we are informed that over 70,000 people died in American hospitals the year 2000 from infectious conditions that resisted conventional synthetic drugs. Common bacteria that lead to the onset of pneumonia, ear infections and many other diseases are evolving into forms that are untreatable by known synthetic drugs, thereby threatening to create a chilling post-antibiotic era that would be nothing short of a major medical disaster, according to Alexander Tomasz of Rockefeller University in New York. He states, "In the post-antibiotic world, the simplest infection could rapidly escalate into fatal illnesses."

When a synthetic antibiotic is employed and fails to destroy even one pathogenic microbe (out of trillions), that microbe can reproduce itself and thereby create super microbes, which are constantly evolving into different and more lethal strains. Some microbes can reproduce in as little as twenty minutes. Due to the excessive use of synthetic antibiotics by the medical establishment, strains of super microbes have been created that become immune to destruction by any synthetic antibiotic. Furthermore, penicillin and related synthetic antibiotics produce harmful side-effects, which lead to even greater problems, such as nausea, abdominal pain, Candidiasis, etc.

We are becoming immune to the selective synthetic antibiotics produced by the pharmaceutical companies, and the medical community has acknowledged this publicly for many years. On October 23, 1994, the Los Angeles Times reported in an article entitled "Arsenal of Antibiotics Failing as Resistant Bacteria Develop", states: "But in the last decade, a broad resistance to antibiotics has begun to emerge. And because bacteria can transfer genes among themselves, experts only expect the resistance to grow. The potential nightmare is an Andromeda strain, a super-microbe immune to all antibiotics that could wreck havoc." In a December 1996 article in Reader's Digest, entitled "Warning: Antibiotics Could Endanger Your Child", it is stated that "Antibiotic

resistance appeared soon after the introduction of these synthetic drugs in the 1930's. Since then, more and more bacteria have become resistant to more and more antibiotics". The article continues: "Last January, researchers at the Georgetown University School of Medicine's Department of Pediatrics monitored 20 children taking amoxicillin daily to prevent ear infection. The study indicated that while their risk of infection from a resistant germ was 20 percent before using the antibiotic, after a five-month regimen, they stood a 100 percent chance of contracting a superbug, a fivefold increase in risk. Four months after those children were taken off amoxicillin, their risk level returned to its original point".

The human body contains approximately .001% silver, and is normally obtained, along with all the other minerals required by the body, through the foods we consume. Organic gardening is called "organic" because it refers to living organisms in the soil, and there are billions of these organisms in a handful of soil which break down the minerals into a colloidal form that is then assimilated by the plants. After we consume the plants, these colloidal minerals are assimilated directly into the bloodstream and transported to the various bodily organs in order to be properly utilized as nutrients. The minerals in the soil directly control cellular metabolism in humans, animals and plants. In the book entitled "Secrets of the Soil", authors Peter Tompkins and Christopher Bird explain in detail how malnutrition begins with the soil, and how trace minerals are insufficiently available for adequate nourishment because the soil has become so depleted, due to the usage of synthetic chemical poisons and overworked soil conditions. Silver is one such trace mineral that has virtually disappeared from the soil, and deficiencies develop whenever we cannot obtain the quality and quantity of nutrients from the food we eat.

In his book entitled "The Body Electric", Dr. Robert Becker, M.D. states that silver deficiency is responsible for the improper functioning of the immune system. While analyzing hair samples and questioning the parties involved, Dr. Becker noted a correlation between low silver levels in the body and disease. Those who maintained low silver levels were frequently sick, with innumerable colds, flus, fevers and other illnesses. Dr. Becker's experiments concluded that silver destroys a wide range of pathogenic bacteria without damaging any of the cells of the body, and without any harmful side-effects.

Dr. Becker also states that the silver ion (colloidal state) was accomplishing much more than just killing disease-causing organisms. It was also accelerating major growth stimulation in injured tissues. When exposed to silver, human fibroblast cells, which are common throughout the body, will change into embryonic general cells (which are able to multiply at an increased rate) and then differentiate into the specialized cells of the organ or tissue-system that has been injured or damaged, even in patients over fifty years old. Furthermore, Dr. Becker discovered that cancer cells would transform back to normal cells in the presence of the silver ion, regardless of their location in the body. He therefore concluded that Colloidal Silver will regenerate damaged, old or worn out cellular tissue, eliminate cancerous cells, and any other diseased or abnormal condition. He also observed that those patients with higher than average levels of silver ion present in their bodies, who suffered from severe burns, were able to more quickly regenerate the

burn-damaged tissue, without the occurrence of scar tissue or any overload to their immune systems. Moreover, Colloidal Silver is especially well suited for use against many types of disease-producing organism simultaneously, even the strains of pathogens and fungi that are highly resistant to synthetic antibiotics. Fantastic successes have been documented in many cases that were previously considered to be hopeless. Residual silver in the body more than doubles the capability of the immune system to destroy cancer cells and other disease-causing organisms, and the friendly bacteria in the intestines (the intestinal flora) are not adversely affected.

Uses of Colloidal Silver

While studying the regeneration of limbs, spinal cords and organs in the late 1970's, Robert O. Becker, M.D., author of *The Body Electric*, discovered that silver ions promote bone growth and destroy any surrounding pathogenic bacteria.

Extensive tests have been conducted with Colloidal Silver on a variety of pathogenic organisms, and the following results indicate that Colloidal Silver is a broad-spectrum anti-microbial agent. Tests included the following organisms:

Staphylococcus aureus — Pneumonia, meningitis, food poisoning, toxic shock syndrome, osteomyelitis, skin infections (such as boils, impetigo, cellulitis, and post-operative wounds), and many others. Inhibited at 2.5 ppm and destroyed at 5 ppm

Shigella boydii — Bacillary dysentery (characterized by severe cramps or abdominal pain and bloody diarrhea). Inhibited at 1.25 ppm and destroyed at 2.5 ppm

Salmonella arizona — Food poisoning. Inhibited at 2.5 ppm and destroyed at 5 ppm

Salmonella typhimurium — Food poisoning and enteric fever. Inhibited and destroyed at 2.5 ppm

E. coli — Food poisoning, urinary tract infections, traveler's diarrhea, infantile diarrhea, respiratory tract infections, and wound infections). Inhibited and destroyed at 2.5 ppm

Haemophilus influenzae — Otitis media (ear infection), pneumonia, meningitis, throat and sinus infections (including epiglottitis in children and sinusitis), and suppurative arthritis in children. Inhibited and destroyed at 1.25 ppm

Enterobacter aerogenes — Wound infections, bacteremia, meningitis, and urinary tract infections. Inhibited and destroyed at 2.5 ppm

Enterobacter cloacae — Produces illnesses similar to the *E. aerogenes*. Inhibited and destroyed at 5 ppm

Klebsiella pneumoniae — Nosocomial infections (those spread through hospitals), lower respiratory tract infections, bacteremia, and urinary tract and wound infections. Inhibited and destroyed at 2.5 ppm

Klebsiella oxytoca — Produces illnesses similar to those infectious conditions caused by *K. pneumoniae*. Inhibited and destroyed at 2.5 ppm

Pseudomonas aeruginosa — Keratitis, pneumonia, meningitis, severe burn and wound infections, nosocomial infections, urinary tract infections, etc. Inhibited at 2.5 ppm and destroyed at 5 ppm

Streptococcus pneumoniae — Pneumonia, meningitis, sinusitis, and otitis media (ear infection). Inhibited at 2.5 ppm and destroyed at 5 ppm

Streptococcus pyogenes — Skin infections, upper respiratory infections (such as strep throat), impetigo, scarlet fever, hospital-acquired infections, etc. Inhibited and destroyed at 1.25 ppm

Streptococcus faecalis — Urinary tract infections, endocarditis, wound infections, etc. Inhibited at 2.5 ppm and destroyed at 5 ppm

Streptococcus mutans — A major cause of dental plaque and tooth decay. Inhibited and destroyed at 5 ppm

Streptococcus gordonii — Tooth decay, and also implicated in infective endocarditis (an infection of the heart valves). Inhibited and destroyed at 5 ppm

Various medical journals have also documented the uses of Colloidal Silver against the following pathogenic organisms: Anthrax bacilli, *B. coli*, *B. coli communis*, *B. dysenteriae*, *B. tuberculosis*, Gonococcus, Paramecium, Pneumococci, Staphylococci, *Staphylococcus pyogenes albus*, *Staphylococcus pyogenes aureus*, *Tinea versicolor*, *Vorticella*, *Aspergillus niger*, *Bacillus typhosus*, Bovine Rotavirus, *Candida albicans*, *Endamoeba histolytica*, *Legionella pneumophila*, Poliovirus 1 (Sabin Strain), Salmonella, Vegetative *B. cereus* spores, and Spore-Forming Bacteria.

The following is a documented list of silver-resistant bacteria:

- Citrobacter freundii*
- Enterobacter cloacae*
- Enterobacteriaceae (some strains)
- Escherichia coli* (some strains)
- Klebsiella pneumoniae* (some strains)
- P. stutzeri* (some strains)
- Proteus mirabilis*
- Vegetative *B. cereus* spores (some strains)

Based upon his experience in treating various types of bacterial lung infections, Dr. Victor Marcial-Vega, a board-certified oncologist and the Director of Health Horizons Rejuvenation Clinic in Coral Gables, Florida, believes he has discovered a method of preventing the anthrax bacilli from developing in the human body, even if one has already been exposed. During his last ten years of treating hundreds of clients with a variety of viral, fungal and bacterial pneumonias, he has personally observed the greatest successes with nebulizer treatments using a Colloidal Silver preparation. The nebulizer allows the mineral to reach the lungs and kill any harmful bacteria and, with the recent anthrax threat, he believes that it can accomplish the same results with anthrax spores.

Dr. Marcial-Vega states, "We are continually filtering all types of bacteria through our lungs". For the prevention of anthrax infection, he recommends a daily nebulizer treatment employing 4 cc of Colloidal Silver. By following this protocol, he says that your body can most likely destroy the anthrax spores before you are even aware that you are exposed. Colloidal Silver may even be useful in the treatment of cutaneous anthrax when the preparation is applied directly to the affected area.

Dr. Marcial-Vega states that there are no concerns about using this type of treatment because Colloidal Silver has no toxicity and no adverse side-effects. He has used this form of treatment on infants, the elderly, and AIDS patients with pneumonia, and has seen great results. All have responded quickly to the treatment even when no other approach appeared to help, and no one reported any adverse reactions. Nebulizers are widely employed in the treatment of asthma, and are readily available at retail stores nationwide. Each member of the family should have their own mask, and both adult and pediatric sizes are available as well. However, the entire family can share the nebulizer and the tubing.

A Cure For AIDS?

In 1991, an obscure but crucial discovery was made at the Biochemistry Unit of Upjohn Laboratories. According to the September 10, 1991 issue of "Biochemistry" states: "Among a number of metal ions tested, Zn^{2+} (zinc), Cu^{2+} (copper) and Ag^{1+} (silver) were discovered to be the most effective inhibitors of renin and the HIV protease (data not shown). Kinetic analysis revealed that inhibition of renin by Ag^{1+} (silver) is basically identical with that observed with Zn^{2+} (zinc), in other words, concompetitive, with respect to the metal".

Further testing at Upjohn, including a clinical trial, revealed that zinc was toxic in effective dosages. This was the first reporting to be made that silver is a highly effective protease inhibitor, and over the following years, this same discovery would be made several times. According to the February 13, 1992 issues of the "Orem Herald" in Provo, Utah, a full-time member of the administrative staff at Brigham Young University's physical plant, Daryle Tichy, who considers himself to be a searcher instead of a researcher by looking for patterns and answers to problems by crossing the boundaries of different disciplines such as physics and medicine, states he has determined that Colloidal Silver solutions will kill the AIDS virus without harming the human body. Tichy said that

he had the solution tested at two different labs, and the results showed that the solution destroyed a variety of pathogens, including the HIV virus.

A year later, this same discovery was made at the University Medical Center in Geneva, Switzerland, according to the December 30, 1992 issue of "Biochemical and Biophysical Research Communications", stating that "metal-binding proteins are important components of retroviruses such as human immunodeficiency virus (HIV). Therefore, metals could be used as anti-viral agents . . . silver is a highly active bacteriicidal metal with little toxicity for humans. Silver has also been shown to be a potent inhibitor of HIV protease". Three years later, Temple University in Philadelphia made this same discovery independently of the other discoveries, as stated by Professor Earl E. Henderson, Ph.D. He states:

"We tested the ability of biotic silver protein to inhibit human immuno-deficiency virus type 1 (HIV-1) replication in the human T-cell line, SupT 1, as measured by syncytia formation. We found that pure silver protein inhibited HIV-1 replication in SupT 1 cells as measured by a reduction in the appearance of syncytia in cell culture. There appeared to be little, if any, acute toxicity associated with the dose of biotic silver protein which inhibited HIV-1 replication . . . These results are very encouraging and suggest additional experiments that could be done . . ."

The following March 20, 1995, Professor Henderson released the findings of another experiment at Temple University:

"My laboratory has studied the effects of a special formulation of biotic silver protein on human immuno-deficiency virus Type 1 (HIV-1) survival, and on latency reactivation of HIV-1 in the human lymphoblastoid B cell line, M57-3 . . . The results of the . . . experiment show that exposure of HIV-1 to 1000 ppm of a special formulation of silver protein for one hour at 37 degrees Centigrade completely eliminates infectious HIV-1 as measured by syncytia formation on SupT 1 cells . . ."

List of Specific Uses

The following is a comprehensive listing of all ailments or disease-conditions that have been successfully treated by solutions of Colloidal Silver:

Acne, AIDS, Allergies, Angina (Vincent's), Anthrax, Appendicitis (Suppurative -- post-operative), Arthritis, Athlete's Foot, Axillae and Blind Boils of the Neck, Bladder Irritation or Inflammation, Blepharitis, Blood Poisoning, Boils, Bromidrosis (in Axilla or Feet), Burns and Wounds (Corneal), Cancer, Candida Albicans, Catarrh (Nasal & Nasopharyngeal), Catarrh (Spring), Cholera, Colds, Colitis, Conjunctivitis (Gonorrhoeal), Conjunctivitis (Phlyctenular), Cough (Whooping), Cystitis (Chronic), Dacrocystitis, Dermatitis (due to Extreme Toxemia), Diabetes, Diarrhea, Diphtheria, Dysentery (Bacillary), Ear Infections (Inner Ear), Eczema (Chronic -- Anterior Nares or Meatus of the Ear), Eczema (Perineal), Eczema (Pustular of Scalp), Edematous Enlargement of Turbinates (w/o True Hyperplasia), Epididymitis, Erysipelas, Eustachian Tubes, Fatigue

(Chronic), Fibrositis, Furunculosis, Gastritis, Gonorrhea, Halitosis (Bad Breath), Hayfever, Hemorrhoids, Herpes or Shingles, Impetigo, Indigestion, Infantile Disease, Inflammation, Infections (Bacterial, Fungal, Parasitic or Viral), Influenza, Intestinal Disorders, Keratitis (Interstitial), Leprosy, Lesions, Leucorrhea, Leukemia, Lupus, Lymphangitis, Lyme Disease, Malaria, Menier's Disease, Meningitis (Cerebro-Spinal), Neurasthenia (Nervous Exhaustion), Ophthalmia (Purulent in Infants), Ophthalmia (Gonorrheal), Otitis Media (Chronic Suppuration w/Offensive Discharge), Parasites, Para-Typhoid Fever, Phlegmons, Pneumonia (Bacterial, Fungal & Viral), Pleurisy, Polyps (Nasal), Prostate (Enlarged or Inflamed), Prostatic Gleet (Gonorrheal), Pruritis Ani, Psoriasis, Pyorrhea Alveolaris (Rigg's Disease), Quinsy, Rheumatism (Inflammatory), Rheumatoid Arthritis, Rhinitis, Ringworm, Scarletina, Scarlet Fever, Seborrhea, Sepsis (Ears, Eyes, Mouth & Throat), Septicemia (Puerperal), Sinusitis, Skin Rash (Diapers), Sores (Soft), Sprue, Staph or Strep Throat, Stomach Flu, Syphilis, Thyroid Disorders, Tonsillitis, Tonsillitis (Follicular & Septic), Tooth Decay, Toxemia (Extreme Systemic), Trachoma, Tuberculosis, Typhoid Fever, Ulcers (Corneal -- Infected), Ulcers (Hypopyon), Ulcers (Septic in Legs), Ulcers (Stomach), Urticaria (Ulcerative, due to Extreme Toxemia), Valsava's Inflammation, Vorticella, Warts, Yeast Infections.

Colloidal Silver can be added to plant water in order to prevent the formation of mold or fungi and various other harmful organisms. It can also be added to the soil or sprayed directly on fruits and vegetables, such as avocados and bananas, in order to prevent them from developing brown discoloration, molds, mildew or plant rot. Colloidal Silver is also effective against canine parovirus and other veterinary uses. It can also be used to purify water by adding one ounce to a gallon of water, shake well, then wait six minutes, and shake again, then wait another six minutes...and drink.

If you begin to experience any cold or flu-like symptoms, simply begin taking Colloidal Silver, initially tripling the dosage for three days, and then follow the normal regimen. Once you have used Colloidal Silver for a certain length of time, your body will become less susceptible to colds or influenza. If you develop any aches or sluggishness around 3 to 4 days after using Colloidal Silver, you are merely experience a cleansing reaction or "healing crisis" while the body is dislodging and expelling stored toxins through the various organs of elimination (including the pores of the skin). This condition is temporary, and its severity can be significantly reduced by ingesting additional quantities of purified water.

There are many topical uses for which Colloidal Silver may be employed, including:

- Open cuts, sores, wounds, abrasions, razor nicks, scrapes, scratches, skin rashes, warts, poison oak & ivy.
- Apply directly to acne, pimples, moles, insect bites & stings, toothaches, itchy or irritated skin.

- Spray on minor burns in order to accelerate the healing process and reduce the possibility of scar tissue or infection.
- Spray in shoes and between the toes in order to prevent athlete's foot.
- Apply as an underarm deodorant, as most underarm odor is caused by bacteria decomposing those substances being released by the sweat glands.
- Spray any surfaces that may harbor Salmonella, E. coli, etc.
- Swab air ducts, heating vents or air conditioner filters in order to prevent breeding sites for germs.
- Spray in garbage cans, on kitchen sponges, inside refrigerators in order to prevent noxious odors.
- Apply to toilets, shower stalls, Jacuzzis, or bath & shower mats.
- Add to final laundry rinse in order to prevent damp towels/diapers from mildew odor.
- Add to dishwater, cleaning and mopping solutions.
- Sterilize water sources while traveling or camping.
- Add to flower vases, potted plants, pet water or birdbaths.

Product Quality Control

Many brands of Colloidal Silver are inferior in terms of quality and effectiveness. The most advantageous and highest quality grade of Colloidal Silver is produced by an electro-colloidal, non-chemical procedure utilizing the electric-arc technique whereby the silver particles and distilled water are colloidized, in other words, dispersed within and bound to one another by an electric current. This method allows for the concentration of Colloidal Silver to be measured in parts per million (PPM). The super-fine silver particles are suspended indefinitely in demineralized water.

The ideal color of Colloidal Silver is golden yellow, and darker colors usually indicates the presence of larger silver particles that tend to accumulate at the bottom of the container, and are therefore not true colloids. The best way in which to ascertain whether the product is true Colloidal Silver is by reviewing the ingredients. If the product contains a stabilizer or other additives or lists any trace elements other than silver, or if it needs to be shaken, then it is inferior. Refrigeration may indicate that the product may contain an ingredient (additive) that might spoil at room temperature. Long-term stability is an important quality associated with Colloidal Silver.

Both the container and dropper must be glass, as plastic or other containers will not preserve the silver in liquid suspension for any length of time. There is an inherent electrical charge in the hydro-carbon molecule of plastic containers which, in turn, draws the silver out of solution, thereby binding it to the walls of the container. Some products containing high concentrations of silver do not necessarily destroy germs any more effectively than the safe range of from 3 to 5 parts per million.

Dosage and Administration

The human body is a complex system that may prevent certain levels or concentrations of Colloidal Silver from reaching the "affected area". Since Colloidal Silver can only destroy pathogenic organisms when it is in contact with them for a sufficient period of time, then the amount of the dosage must be higher in terms of concentration in order to be successful.

One teaspoonful of a 5 parts-per-million (PPM) solution of Colloidal Silver is equivalent to about 25 micrograms (mcg.) of silver. Anywhere from 1 to 4 teaspoonsful (25 to 100 mcg.) per day is generally considered to be a "nutritional" dose, and is reported to be safe to use for extended periods of time. Amounts higher than this are "therapeutic" doses, and should be used only periodically.

Natural health practitioners have usually recommended one tablespoonful daily for 4 days in order to establish a level, and then one teaspoonful daily for maintenance (proportional to body weight for children). After six weeks, a pause of several weeks has also been suggested by some doctors.

In cases involving an illness or sudden exposure to a harmful organism (such as anthrax spores), natural health practitioners have often recommended taking double (or even triple) the "nutritional" dose for anywhere from 30 to 45 days in order to provide general protection, and then reducing it to a smaller maintenance dose. In acute conditions, amounts ingested have ranged anywhere from 1 to 32 ounces per day.

When taken orally, solutions of Colloidal Silver is absorbed directly from the mouth into the bloodstream, and then is transported rapidly to the cells of the body. Holding or swishing the solution under the tongue for approximately 30 seconds before swallowing may result in quicker absorption, and the silver may accumulate in the bodily tissues in sufficient amounts within 3 to 4 days in order for benefits to occur. In order for it to reach the lower digestive tract, add one teaspoonful of Colloidal Silver to 16 ounces of distilled water, and drink this for 5 days. Colloidal Silver is eliminated by the kidneys, bowels and lymphatic system after several weeks.

It is also important to consume several glasses of water each day when using Colloidal Silver in order to purge the body of toxins. However, if your body is extremely ill or toxic, do not attempt to cleanse the body too rapidly. If pathogens are destroyed too quickly, then the body's five eliminatory channels (the liver, kidneys, lungs, bowels and

skin) may become temporarily overloaded, resulting in a "healing crisis" condition (commonly referred to as 'feeling worse before feeling better' syndrome) that includes symptoms such as headaches, dizziness, nausea, extreme fatigue, aching muscles and other flu-like conditions. If this occurs, then reduce your intake of Colloidal Silver while increasing the amount of distilled water. In addition, regular bowel movements are necessary in order to relieve the discomforts of the detoxification process.

Incidentally, Colloidal Silver is completely safe for children, and many have used the solution either orally, or topically in the eyes and ears of small infants with no adverse reactions. Remember, you cannot overdose on Colloidal Silver, and even if you consumed 50 times the recommended amount, it is not wasted, as it will accumulate in the bodily tissues in order to provide further benefits in the future. One accepted method is to consume a 32 ounce bottle monthly in any convenient increments anytime during the month.

References

The following is a complete list of references and recommended reading on the subject of Colloidal Silver:

Colloidal Silver, The Antibiotic Alternative — by Lloyd Michael Canty & Zane Baranowsky, \$3.50 plus \$1.00 S&H from The Association for Advanced Colloid Research, 232 N.E. Lincoln St., Suite 1, Hillsboro, Oregon, 97124 (503-640-0810).

World Without Cancer — by G. Edward Griffin, \$9.95 plus \$2.00 S&H from The Cancer Control Society, 2043 N. Berendo, Los Angeles, California 90027 (213-663-7801).

The Body Electric — by Dr. Robert Becker, M.D.

Cross Currents — by Doctor Robert Becker, M.D.

Secrets of the Soil — by Christopher Bird & Peter Tompkins.

Oxygen Therapies — by Ed McCabe, \$12 (includes S&H), Energy Publications, 99 - RD 1, Morrisville, N.Y. 13408.

Murder By Injection — by Eustace Mullin, \$15 plus \$1.50 S&H, The National Commission For Judicial Reform, P. O. Box 1105, Staunton, Virginia 24401.

Colloidal Silver: A Special Report — by Dr. Alex Duarte, O.D., Ph.D.

Use of Colloids in Health and Disease — by A. B. Searle, The British Medical Journal, November 1913, p. 83., quoting Dr. Henry Crooks.

Ibid., The British Medical Journal, February 3, 1912, p. 83, quoting C. E. A. MacLeod in Lancet.

Ibid., The British Medical Journal, November 15, 1913, p. 70, quoting Dr. Henry Crookes; p. 83, quoting Sir James Cantlie.

Ibid., The British Medical Journal, December 12, 1914, pp. 71-72, quoting W. J. Simpson in Lancet.

Ibid., The British Medical Journal, January 16, 1915, p. 83, quoting A. Legge Roe.

Ibid., The British Medical Journal, January 15, 1917, p. 83.

Ibid., The British Medical Journal, May 12, 1917, p. 85, quoting Sir Malcolm Morris.

Ibid., The British Medical Journal, December 15, 1917, p. 86, quoting J. Mark Hovell; quoting B. Seymour Jones, p. 86.

Ibid., The British Medical Journal, February 16, 1918, p. 85, quoting T. H. Anderson Wells in Lancet.

Silver, Our Mightiest Germ Fighter, Science Digest, March 1978 — by Richard L. Davies, Executive Director of The Silver Institute.

Colloidal Preparations of Silver in Pharmacy — by the British Medical Journal, February 1923.

Colloidal Silver as a Remedy for AIDS — by the Provo Herald, February 13th, 1992, page D1.

Chemistry's Miraculous Colloids — by Kenneth Andrews, The Reader's Digest, March 1936, quoting Dr. Frederick Macy.

Colloidal Silver, Where Have You Been? — by Iris A. Moore, The New York Times, Seattle, Washington, May 1994.

The Killers All Around — by Michael D. Lemonick, Time Magazine, September 12th, 1994.

The Best Kept Secret — by Martha Duncan.

Medicinal Silver Home Remedies — by Maurice Worthington, M.D., 1928.

The Condensed Medical Dictionary, 6th Edition.

Antibiotics, The End of Miracle Drugs? — by Newsweek Magazine, March 28th, 1994.

Outbreak of Fear — by Newsweek Magazine, May 22nd, 1995.

The Molecular Mechanics of Copper and Silver Ion Disinfection of Bacteria and Viruses — by R. B. Thurman & C. P. Gerba, a paper presented at the First International Conference on Gold and Silver in Medicine, quoting Dr. Richard Davies, The Silver Institute, Wash, V. 18, No. 4, 1989, p. 295, pp. 299-302.

Antibacterial Efficacy of a Colloidal Silver Complex — by L. Brentano, M.D., H. Margraf, M.D., W. W. Monafó, M.D., and C. A. Moyer, M.D., Surgical Forum Vol. 17, 1966, pp. 76-78, also quoting Dr. Harry Margraf.

American Drug Index — section on Inorganic Pharmaceutical Chemistry.

Harold Davis, Consumer Safety Officer, U. S. Food & Drug Administration letter dated September 13th, 1991.

H.E.L.P. ful News, Vol. 8, No. 9.

H.E.L.P. ful News, Vol. 9, No. 12.

The Olympian, Sunday, February 20th, 1994, quote by Alexander Tomasz of the Associated Press in San Francisco.

Colloidal Research Foundation, 1-800-487-5463.

More News on Silver — by Dr. Leonard Herschberg, John Hopkins Hospital.

The Wonder Cure That Time Forgot — Author unknown

Colloids In Biology and Medicine — by H. Bechhold, translated by J. G. M. Bullow, D. Van Nostrand Company, New York, 1919, pp. 367, 368 & 376.

Index-Catalogue of the Library of the Surgeon General's Office, United States Army — by the United States Government Printing Office, Washington, D. C., Volume IX, 1913, p. 628.

Disinfection of Bacteria in Water Systems by Using Electrolytically Generated Copper, Silver and Reduced Levels of Free Chlorine — by T. Y. Moyasar, S. M. Kutz, L. K. Landeen, M. C. Messina, and C. P. Gerba; found in the Canadian Journal of Microbiology, The National Research Council of Canada, Ottawa, Ontario, Canada, 1919, pp. 109-116.

Electrochemical Ag⁺ for Preservative Use — by N. Simonetti, G. Simonetti, F. Bognol, and M. Scalzo; found in an article in the publication entitled "Applied and Environmental Microbiology", The American Society for Microbiology, Washington, D. C., Volume 58, 12, 1992, pp. 3834-3836.

Germanium and Silver Resistance, Accumulation and Toxicity in Microorganisms — by R. M. Slawson, M. I. Van Dyke, H. Lee, and J. T. Trevors; article found in Plasmid, Academic Press, Inc., San Diego, California, Volume 27, No. 1, 1992, pp. 73-79.

For two centuries, Colloidal Silver has received excellent reviews from the international medical community's most prestigious doctors, researchers, institutions and publications. The following are quotes from some of them:

"I know of no microbe that is not killed in laboratory experiments within 6 minutes" — Dr. Henry Cooks

"When silver was present, the cancer cell de-differentiated and the body was restored" — Dr. Gary Sndth

"...there was major enhancement of both the rate and competency of the healing process" — Dr. Robert O. Becker, M.D.

"...studies showed the spectrum of organisms susceptible to electrically generated silver ions was wide and compared favorably with other antibiotics" — Dr. J. A. Spadaro, Ph.D

"It killed not only the HIV virus, but every virus that was tested in the lab" — U.C.L.A. Medical Center.

"...the colloidal metals ... are remarkable for their beneficial action in infective states" — Dr. Hirschberg, John Hopkins Hospital.

"Cancer is caused by the lack of oxygen and the fermentation of sugars" — Dr. Otto Warberg, Nobel Prize Winner, 1932.

"The treatment of cancer is quite simple. Colloidal Silver brought rapid remission in patients given up on by other doctors." — Dr. Bjorn Nordstrom, The Karolinska Institute, Sweden.

Our highly ionized Colloidal Silver is manufactured by a true electro-colloidal process that is completely free of any additives, stabilizers or proteins, and utilizes the most current and up-to-date methods available.

Potency: 40 parts per million

The statements in this article have not been evaluated by the United States Food and Drug Administration, and are not intended to diagnose, treat, cure or prevent any disease-condition. Nothing stated here should be construed as medical advice for treating an illness. Instead, you should consult your doctor or health care professional for individual

guidance for specific health problems. This article on Colloidal Silver is merely a collection of information that exists in the public domain, and is presented solely for informational and educational purposes only. Information conveyed herein is based upon pharmacological records, both ancient and modern. No claims whatsoever can be made as to the specific benefits accruing from the use of Colloidal Silver. Anyone with specific knowledge pertaining to the availability of additional information on Colloidal Silver is highly encouraged to e-mail this information to us so that it can be shared with others who may be interested.

Original at: <http://www.alternativescentral.com/colloidalsilver.htm>