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IF YOU HAVE ANY CONCERNS ABOUT YOUR HEALTH YOU SHOULD SEE YOUR LOCAL GP OR A LICENCED HEALTH PRACTITIONER.

PH - IONIC COLLOIDAL SILVER APPLICATIONS!

COLLOIDAL SILVER AND ITS APPLICATIONS Colloidal Silver acts as a powerful, broad-spectrum antimicrobial agent. An ordinary antibiotic kills perhaps a half-dozen different disease organisms (no viruses), but colloidal silver is known to be effective against over 650 disease organisms without causing any known side-effects. A normal individual excretes 98% of ionic colloidal silver in 24 hours, which accounts for part of its safety. Many essential minerals such as copper and iron are released very slowly and thus an overdose can cause long term problems!

Early studies showed extremely low concentrations of 0.01-0.04 PPM of colloidal silver to be effective on hundreds of bacteria and 3 to 5 PPM effective on over 650! The potency or quality varied widely, which accounted for the broad range, and **sadly is still a problem with much of the cheap colloidal silver generator equipment and weird procedures available on the internet. Adding salt, as many suggest, makes silver chloride, NOT recommended for internal use, NOT a colloid and thus a poor medicine!** The use of high voltage AC is stupid, for a very low voltage DC process, and often produces dangerous nitrogen compounds! There is not a single HVAC unit on the market with UL or CSA approval for home use!

The **EPA reference dose** for daily lifetime consumption is (14) teaspoons a day of 5 PPM colloidal silver. I.E. no danger or side effects for an sensitive individual taking that dose daily for 70 years! The generally accepted maintenance dose of one tablespoon/day is far less than that. Many say that just 2 to 4 drops a day are effective (Homeopathic dose). The fact that ionic colloidal silver has more ions of silver per ounce than your body has cells makes your requirement very low.

There can of course be no standard as we all react differently and have different microbial levels and intake. As a new user, be aware of the Herxheimer effect, which any good antibacterial can cause. You may start to feel better and then get the symptoms of the flu as your elimination system is overloaded getting rid of dead pathogens. It is a very common problem with bacteria such as spirochetes, as found with Lyme and syphilis diseases but not with most pathogens.

The only know side effect (Argyria) would require a dose of **many ounces a day for a whole year**, although we found no documented cases where ionic colloidal silver caused Argyria, but it was usually from compounds such as silver nitrate, the most common injectable form used by doctors! The estimated fatal dose for humans from Goodman and Gillman is 10 grams of silver OR **500 gallons of 5 PPM in ONE DOSE!** There are cases of accidental ingestion of silver compounds in excess of (10 grams), that have survived!

Research studies from 1912 to 1950's, showed concentrations of 3-5 parts per million (PPM) of colloidal silver to be effective. The ionic (positively charged) nature is considered the primary benefiting feature of Colloidal Silver, it being able to aggressively attach to microbial agents, to kill them. In addition, its naturally small size, permits it to pass thru cell membranes, which is the only way to get to a virus, as they multiply in your cells, using your cells functions to replicate their DNA!

The non-ionic or elemental pure silver metal has very limited antibacterial properties but no effect on virus as the particle size is too large to pass thru cell membranes (the ionic particle size is said to be 1/400 the size of a red blood cell).

Compounds of silver, such as silver nitrate are fairly effective but highly dangerous due to the toxic side effects of nitrates, thus finding most medical use as an external or topical treatment, such as salves and in newborn's eyes to prevent infection. The ionic colloidal form can not be made in strengths greater than 25 PPM, as metallic silver crystals will then form. Those honestly selling 50-500 PPM sell silver protein (ions complexed with a protein) but it has a very short shelf life, being subject to the growth of mold!

It has been shown that the ion of silver is 300 to 17,000 times more effective than metallic silver or silver salts! One study by the Canadian Government clearly demonstrated the efficacy of the ionic form: <http://www.env.gov.bc.ca/epd/cpr/criteria/awqcfs.html>

Ions are of course the smallest possible particle of silver and have a positive charge, due to their being short an electron, greatly aiding their reactivity and bio-availability.

By 1940 there were over 50 silver based medicines on the market in oral, injectable and topical forms. Many may still be available such as: Albargin, Argonin, Argylol, Largin, Lumosol, Novargan, Proganol and Silvol. Few of these were colloids (the most effective form), many had limited shelf life and none were as effective as silver nitrate (bad side effects).

All medicines have side effects which must be closely watched as many can be very serious, but few are as safe as colloidal silver! The PDR(Physicians Desk Reference) and EPA (Environmental Protection Agency) lists only Argyria for silver, silver colloids or compounds, but only at extreme doses. They also indicate no cases of cancer formation! My heart medicine lists 3% chance of liver failure (I die?) amongst dozens of other serious risks, with very low doses! Extra strength Tylenol is said to be fatal with just 11 tablets, causing liver failure! Two law suits involving user deaths from less than 6 tablets were settled for millions of dollars. **WHAT IS COLLOIDAL SILVER?**

Colloidal Silver is a solution in which microscopic, electrically charged particles of Silver are in suspension, due to their zeta charges repelling each other. Free positively charged ions or monovalent silver also are present, the more effective form of silver! We try to optimize the production of those free ions, in our generator.

A true colloid is very stable and has a long shelf life (years), while poorly produced product has few free ions and many clumps or

crystals of silver or silver compounds which have a very short shelf life (the silver settles out), large size of particles and thus very limited bio-availability or effectiveness.

For the many features and benefits of the ionic form, see our web page [about ions, atoms, etc.](#)

MANUFACTURING OF COLLOIDAL SILVER

Electrolysis, of pure water with a silver electrode, strips ions of silver from the positive electrode and places them in solution. Being positively charged, they are attracted to the cathode or ground electrode but have a very slow speed due to the water resistance. The cathode should be stainless steel to avoid contamination. Ideally most ions remain in solution but some make it to the cathode, which must be cleaned after use, of the soft deposit of silver.

To produce a pure product at 3-5 PPM you must use very pure water (less than 1 PPM) and at least 99.9% pure silver. Current flow must be carefully controlled to prevent crystalline growth of silver into large molecules rather than free ions. Most generators and suggested methods (salting) on the market today fail to produce an ionic Colloidal Silver! Electrolytically formed Colloidal Silver was the only form approved by the FDA, but some products on the market use finely ground silver or chemically dissolved silver, neither of which are active ions or have the exceptional properties of the colloidal or ionic form. The current rage is High Voltage AC "colloidal silver", which is a carnival approach to a simple process requiring a few volts of DC! It produces a very questionable solution with often very depressed pH from nitrogen breakdown product in the high temperature arc.

Water from your faucet has 100 to 300 PPM of dissolved solids and thus could not be used to produce 3 to 5 PPM of Colloidal Silver. What you would get is no ions and over 100 PPM of silver compounds. You must use distilled or de-ionized water (usually less than 1 PPM of contamination) so you produce ions (a Colloid) and almost no compounds. At the 1 PPM levels almost nothing would be dangerous, while at 100 PPM the compounds produced could be dangerous levels for human consumption.

Many generator manufacturers suggest adding Celtic Sea salt to pure water to speed up the process but the product produced has no ions of silver, just compounds of silver, many of which have limited benefit or are dangerous to your health, i.e. silver chloride, silver nitrate, etc. You may recall silver nitrate is used at birth to flush the eyes of babies to prevent infection but it is not recommended for internal consumption, as the nitrates are very dangerous! Silver chloride is nearly insoluble in water and thus the silver is not bio-available!

The greatest misrepresentation of Colloidal Silver products is particle sizing. If any of the silver particles are larger than 0.001 microns (an ion size), they can remain within the tissues and cause a bluing of the skin developing into a condition called Argyria. Ionic silver (as produced by our generator) has been shown to be 92 - 98% excreted in 24 hours! Many of the generators on the market produce silver crystals or compounds, all of which are too large and should not be used! Having no charge, they are non-active, ineffective and potentially harmful. **HOW DOES IT WORK SO EFFECTIVELY?**

Colloidal Silver is known to kill 650 different kinds of pathogens, including bacteria, fungus and viruses in addition to many others. This is accomplished by inhibiting the enzyme which allows the oxygen metabolism in single celled microbes. It does so in minutes, safely, with no side effects and no resistant strains developed, as with antibiotics.

Humans (and other animals) absorb it so rapidly due to its small ion size that it is absorbed by the blood before it can reach the gut (antibiotics very large molecules absorb so slowly they travel into the gut and kill your normal friendly bacteria (needed for good health in the intestines)).

Early medical research indicated silver is stored in the Kupfer cells in the liver. These cells are one of the body's defense mechanisms against infection. Little mention is found in current literature of this very important added effectiveness of silver.

MEDICAL APPLICATIONS OF COLLOIDAL SILVER

The generally recommended maintenance dosage for adults is one tablespoon per day of 3-5 PPM Colloidal Silver internally. This happens to be the computed amount of elemental silver we used to get from eating fresh fruits and vegetables when they were part of our diet in the early 1900's. Since then soil depletion caused by over farming has seriously reduced all trace minerals, including silver, by 85%.

To treat an infection, much larger doses are suggested, but no standard can be found. There have been studies where taking (8) ounces a day for weeks produced no negative side effects, however, in a few rare cases kill off of friendly intestinal bacteria occurred. This is a normal problem with antibiotics! We have a customer who had a severe liver infection which was considered untreatable by his Doctor but it cleared up in two weeks with a dose of 32 ounces/day! The most common mention of dosage for treating serious infections is a tablespoon every few hours or an ounce a day for a few days. Remember, the EPA says 4+ tablespoons a day for 70 years (of 5 PPM colloid) is a safe and acceptable intake of silver. A few studies have shown the liver filters out silver from the blood stream close to 95% in just two hours, so if ill you should take some every two hours!

The small particle size allows sub-lingual adsorption directly into the blood stream, by swishing it around your mouth. Excess ions of silver are said to be released thru normal elimination within 5 days. Only the large (non-ionic) silver particles produced by inferior manufacture methods are retained by the body but the worse case side effect is bluing of the skin after a year of excessive consumption. The bad thing is that the larger particles are of little medicinal benefit!

Medical applications by doctors often require direct injection into an infected site such as a gangrene area. Many cases have been reported of avoiding amputation of infected limbs when treatment with Colloidal Silver was initiated.

Dr. Henry Crooks (Use of Colloids in Health-Disease) found that silver in the colloidal state is highly germicidal, quite harmless to humans and absolutely non-toxic. From his bacteriological experiments with silver he concluded, "I know of no microbe that is not killed in laboratory experiments in six minutes".

Brooks Bradley reported: "Several years ago we conducted some rather extensive evaluations of various protocols promising effective results against various pathogenic agents which cause "food poisoning". The one protocol, effective against ALL agents evaluated, was colloidal silver. A 5 ppm solution proved effective against all pathogens tested; yielding complete control within 6 to 8 minutes.....regardless of concentration of the pathogenic agent. Control was effected in some solutions as weak as one part of 5 ppm CS, to 50,000 parts contaminated solution. Among the many agents tested were botulinum, campyobacter, salmonella and listeria (bacterial agents); and norwalklike viruses and hepatitis A (viral agents). Although we did not conduct researches involving the marine form of vibrio vulnificus, generally regarded as the most toxic of food poisons, a facility associated with us---did. Their results, using colloidal silver at 5 ppm, paralleled those of ours....on the pathogens we evaluated."

FROM THE BIOCHEMISTRY UNIT, UPJOHN LABORATORIES

"Among a number of metal ions tested, Zn^{2+} (zinc), Cu^{2+} (copper), and Ag^{1+} (silver) were found 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 seen with Zn^{2+} (zinc), i. e., noncompetitive, first order with respect to the metal." Biochemistry, September 10, 1991.

From this study, it seems that zinc and silver will work together to destroy the HIV virus, both type 1 and type 2. **Both kill HIV virus**, but don't compete against each other.

COLLOIDAL SILVER WAS FDA APPROVED, as a pre-1938 drug but they recently issued a "FDA Talk Paper" stating that "all OTC (over the counter) products containing colloidal silver or silver salts are not recognized as safe and effective and are misbranded." Basically, they have blocked the sale of colloidal silver as a drug - no health claims can be made and it thus must be sold only as a supplement!

IONIC SILVER IS VERY REACTIVE YET FRIENDLY TO HUMANS, WITH NO SIDE EFFECTS. IN HUGE DOSES OF NON-IONIC SILVER FOR EXTENDED PERIODS IT MAY PRODUCE ARGYRIA, A BLUING OF THE SKIN (REMEMBER THE BLUE-BLOODS OF EUROPE - THEY USED SILVER GOBLET, PLATES, FOOD STORAGE CONTAINERS, ETC.). THEY OVER-DID A GOOD THING AND INGESTED SILVER PARTICLES, NOT IONS!

THE ANCIENT GREEKS DISCOVERED THE HEALTH BENEFITS OF SILVER WHEN THEY NOTED THAT IN BATTLE THE UPPER CLASS WHO HAD SILVER CANTEENS NEVER GOT DYSENTERY BUT THE TROOPS OFTEN DID. OUR EARLY WESTERN SETTLERS KEPT SILVER DOLLARS IN THEIR WATER CASKS AND MILK JUGS TO RETARD SPOILING, AS DID THE BRITISH. In Australia it is still common for settlers to suspend a piece of silverware in their water tanks to retard spoilage. **Colloidal silver was found effective against** - Germs, Bacteria, infections, parasites, giardia, viruses, fungus and pathogens including: Allergies, Acne, Athlete's foot, Bladder infections, Inflammation, Blood Parasites, Blood-Poison, Boils, Bubonic Plague, Burns, Candide Yeast Infection, Chilblains, Cholera, Conjunctivitis, Cold Sores, Colitis, Cyst-isis, Dermatitis, Diabetes caused by infection, Diphtheria, Diarrhea, Dermatitis, Dysentery, Eczema, Fibrosities, Gangrene, Gonorrhoea, Herpes, HIV Virus, Impetigo, Influenza, Indigestion, Intestinal Infections, Kreatitis, Leprosy, Leukemia, Lupus, Lymphangitis, Lyme Disease, Malaria, Meningitis, Multiple Sclerosis, Neurasthenic, Parasitic Infections (oral and fungal), Pneumonia, Pleurisy, Prostatitis, Priritis Ani, Psoriasis, Purulence, Ophthalmia, Rabbit Fever, Rhinitis, Rheumatism, Ring-worm, Rosacea, Scarlet Fever, Septic Conditions of the eyes, ears, mouth and throat, Sevorrhes, Shingles, Sinus Infections, Staph Infections, Strep Infections, Stomach Ulcer, Syphilis, Thyroid, Tonsillitis, Toxemia, Trachoma, Trench-Foot, Tuberculosis, Ulcers, All forms of Virus, Warts, Whooping Cough and Yeast Infections.

If the government added it to our drinking water instead of Fluoride we would all be far healthier!

The following are excerpts from "Colloidal Silver: The Amazing alternative to Antibiotics" from The Association for Advanced Colloid Research, and "Colloidal Silver: The Natural Antibiotic Alternative " from Zane Baranowski, CN, Healing Wisdom Publications;

"And now it's silver that is finding wholly new uses as a wonder drug in modern medicine...perhaps it soon will be recognized as: OUR MIGHTIEST GERM FIGHTER " Science Digest, March, 1978

"We have had instant success with Colloidal Silver and immune compromised patients. A few examples are: Pink eye (topical) totally resolved in less than six hours; recurrent sinus infections (oral ingestion) resolved in eight days; acute cuticle infections - (topical) - twenty four hours. Another major area in which we have improved our clinical results is in the area of bowel detoxification and dysbiosis. The Colloidal Silver has provided excellent removal of abnormal intestinal bacteria; also it has proved to be a great adjunct to our Candide Albicans, Epstein Barr Virus and Chronic Fatigue Syndrome protocols " Dr. Evan M., Kansas. "

"A 65 year-old diabetic cut himself on the leg. He washed and bandaged it but, as often happens with diabetics, the pain persisted, and the cut grew into a sore. Soon it became bigger than the bandage, and he had to apply a dressing. Still, it grew bigger and ugly. In desperation he went to a clinic. His sore was diagnosed as a 'Stasis Ulcer.' For a year, one treatment after another was tried. Nothing, including Penicillin and sulfonamide, could heal the ulcer. If his condition had continued unchecked, his leg probably would have been amputated. But finally he was referred to a clinic that treated skin ulcers with a silver compound. This promptly stopped the growth of all bacteria. In less than two months, the ulcer was completely healed."-Science Digest-March 1978.

"What we have actually done was rediscover the fact that silver kills bacteria, which had been known for centuries. When antibiotics were discovered, clinical uses for silver as an antibiotic were discarded" concludes Dr. Robert O. Becker, M.D. Extensive research into the curative properties of silver has been conducted for many years at the Upstate Medical Center, Syracuse University, Syracuse, N.Y. under the direction of above mentioned Dr. Becker. The experiments conclude that silver works on a wide range of bacteria, without any known side-effects or damage to the cells of the body. Silver was doing something more than killing disease causing organisms. It was also causing major growth stimulation of injured tissues. Dr. Becker concludes that the presence of the silver ion may help to regenerate tissue, eliminate old or cancerous cell, and any other diseased or abnormal condition.

The author has long believed that if we can restore our natural immune system, our body can then rebuild damaged tissue as it has during all of our growing years!

Dr. Leonard Keene Hirschberg, A. M., M. D. (John Hopkins) states, "Speaking generally, the colloidal metals are especially remarkable for their beneficial action in infective states"

Dr. Richard L. Davies, executive director of the Silver Institute, which monitors silver technology in 37 countries, reports: "In four years we've described 87 important new medical uses for silver. We're just beginning to see to what extent silver can relieve suffering."

The FDA has just recently approved a few bandages containing silver, and others are in field trials. **USES AND APPLICATIONS**

Human and other animal uses are well documented in many books, health newsletters and health food stores. Among the assorted home uses besides the above medical areas are: general disinfectant in cleaning solutions, diaper pail, etc. add to well or aerator water tank to kill bacteria and algae add to stored foods or leftovers to prevent spoilage add to bird baths and wading pools to prevent bacteria and algae spray plants or wet soil to prevent mold and fungus damage in the bathroom to spray on the sink and shower floor in the kitchen for cleaning counter tops and the refrigerator shelves and door seals topically on skin for your warts, cuts, bites and burns Some applications are listed above and you may know neighbors whom have had amazing cures with Colloidal Silver. As a general antiseptic, it is handy to keep a small spray bottle in the bathrooms and kitchen.

In my home, I saved our goldfish which was floating on its side and unresponsive to my touch, by changing the water and adding a teaspoon of Colloidal Silver. In 4 hours he was able to wiggle and in eight hours was back to normal and full of color again. I have taken just 2 days to cure gum infections from an impacted tooth and overnight to cure itchy red rashes and dry flaky skin patches. These topical treatments produce results in hours but need repeated treatment to kill off deep infections. My life long problem with dandruff has finally ended since I started spraying my hair each morning with 5 PPM colloid before combing it. For a nose spray (mold and hay fever allergies) I squeezed out the solution in a 1.5 oz. saline nasal spray and then stuck the tip in a ounce of colloidal silver solution so it refilled. I only need to use this a few times a week when my nose gets itchy/sneezy, to get relief. Today, silver is used by the Soviets to sterilize recycled water aboard the space stations. NASA also selected a silver water treatment system for the space shuttle. Many of the world's airlines use silver water filters to protect passengers from diseases such as Dysentery.

Colloidal Silver is growing in use for pool treatment to avoid the bad side effects of chlorine, namely eye and nose irritation, respiratory problems and dis-coloration of hair. Government regulations stand in the way of wider use in public facilities, as they require a residual chlorine level, which would mean dual treatment. SILDATE (a powdered trivalent silver) is a commercial silver pool product available at some pool supply stores. I dump leftover 5 PPM silver in my pool and find it sharply reduces the chlorine required but also acts like a flocculate and settles out dirt if I don't circulate for a few days.

Silvers strong anti-fungal properties have found extensive uses in agriculture to improve germination and to accelerate growth and development without the use of poisons to kill plant and ground fungi. It also retards spoiling or rotting, making it quite effective in treating feed before storage. Again, government regulations limit its use, presumably to prevent buildup of undesirable levels in food products? Yet they allow most meat products to be laced with antibiotics and growth hormones. Cut flowers and Christmas trees last much longer with Colloidal Silver added, as the slimy rot is prevented, allowing water takeup.

In industry, it safely prevents fungal and bacterial growth in process water and water based solvents, without being corrosive like chlorine. Reduced exposure to infected solutions will of course reduce job related sickness and absenteeism.

The best water purifiers employ silver filters for antimicrobial treatment in addition to charcoal filters for odor and gas removal and fine porous filters for solids removal. It is not commonly known, but most inexpensive water filter systems become breeding grounds for bacteria, as the filter is rarely changed often enough and the collected solids become food for bacteria.

WHILE MEDICAL STUDIES INDICATE IT'S ABILITY TO DESTROY THE AIDS VIRUS, OUR GOVERNMENT (AMA) "PROHIBITS MEDICAL DOCTORS FROM USING IT AS A PRIMARY TREATMENT". (GUESS NO ONE MAKES ANY MONEY).