

COLLOIDAL SILVER, YOUR IMMUNE SYSTEM'S BEST FRIEND

Colloidal Silver, a solution in which microscopic, electrically charged particles of Silver are in suspension, is known to kill 650 different kinds of pathogens, including bacteria, fungus and viruses in addition to many others, by inhibiting the enzyme which allows their oxygen metabolism. It does so in minutes, safely, with no side effects and no resistant strains develop, as with antibiotics. Humans (and 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 absorb so slowly they kill your normal friendly bacteria in the intestines). Colloidal Silver is growing in use for pool treatment to avoid the bad side effects of chlorine, in agriculture to aid plant growth and development without the use of poisons to kill plant and ground fungi and in industry to treat process water to kill fungi and bacteria.

Many medical conditions have benefited from the use of Colloidal Silver, such as gastritis, malaria, parasitic infections, psoriasis, eye, ear and mouth infections, yeast infections, either with internal or external use. Colloidal Silver has been as well very successful in Veterinary use, for instance the dreaded Canine Parvo virus. You can also use a diluted solution either to spray on plant leaves or to treat the soil for improved vitality and growth.

You can purify a gallon of water in 6 minutes by adding 1/2 teaspoon of Colloidal Silver. Tests have been conducted in pools where gallons of raw sewerage was dumped in and then Colloidal Silver successfully killed off all E. Coli bacteria in a very short time.

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. Early studies showed extremely low concentrations of 0.01 - 0.04 PPM 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 some of the cheap equipment and weird procedures available on the market. Adding salt as many suggest makes silver chloride, NOT recommended for internal use!

The EPA reference dose for daily lifetime consumption is (14) teaspoons a day of 5 PPM colloidal silver. (No danger or side effects for an average individual taking the 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). 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 Herkimer effect, which any good antibacterial can cause. You may start to feel better then get the symptoms of the flu as your elimination system is overloaded getting rid of dead pathogens.

The only known side effect (Argyria) would require a dose of more than 2 ounces a day for a whole year, although we found no cases where colloidal silver caused Argyria, but 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. You would surely drown before you could get more than a few gallons down! There are cases of accidental ingestion of silver compounds in excess of that amount (10 grams) that have survived.

Research studies have shown concentrations of 3-5 parts per million (PPM) are 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 through cell walls, which is the only way to get to a virus, as they multiply in your cells, using your cell to replicate their DNA! The non-ionic or elemental pure silver metal has limited antibacterial properties but no effect on virus as the particle size is too large to pass through cell walls (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 and thus find most medical use as an external or topical treatment, such as salves and in newborn's eyes to prevent infection.

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, Argyrol, 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! My heart medicine lists 3% chance of liver failure (I die?) amongst dozens of other serious risks!

WHAT IS COLLOIDAL SILVER?

Colloidal Silver is a solution in which microscopic, electrically charged particles of Silver are in suspension, due to their positive charges repelling each other. These are ions or monovalent silver, the smallest particle of silver possible. 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.

A COLLOID IS NEITHER A SOLUTION (silver is not dissolved in water) NOR A SUSPENSION (silver particles are not floating in the water)!

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. It 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 equipment and suggested methods (salting) on the market today fail to produce Colloidal Silver!.

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 Colloid. 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 equipment manufacturers suggest adding Celtic Sea salt to pure water to speedup 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!

The greatest misrepresentation of Colloidal Silver products is particle sizing. If any of the silver particles are larger than 0.001 microns (an ions size), they can remain within the tissues and cause a bluing of the skin developing into a condition called Argyria. Ionic silver has been shown to be 90 - 99% 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 bodies defense mechanisms against infection. Little mention is found in current literature of this 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 an acceptable intake of silver. 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 through 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. 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".

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 is rarely used by Medical Doctors (DUE TO IT'S LOW COST?), Even though it kills 650 VIRUS, BACTERIA, FUNGI, Etc. The normal antibiotic drug is only effective on a dozen bacteria and no viruses!

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 GOBLETs, 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 ranchers to suspend a piece of silverware in their water tanks to retard spoilage.

Colloidal silver has been 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, Sevorrhoea, 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.

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. 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.