

All you need to know about Colloidal Silver

Disclaimer: This article on Colloidal Silver has been written and presented strictly for informational and educational purposes only. The information conveyed herein is based on pharmacological and other records both ancient and modern. No claims whatsoever as to any specific benefits accruing from the use of Colloidal Silver are made herewith. Please seek advice from a health professional.



Researched and compiled by:

Dr. Anton Cloete

Traditional Medical Practitioner

Dip. TBM, Dip. Reflex, Dip. Meridian Therapy,
CHT (NGH USA), C.TMP, CNH, C TCM & Acup.

Be in Harmony, Be in Balance, Walk in Beauty

at the Revival Nook Centre of Natural Health

P.O. Box 1601
Highlands North
2037
Johannesburg
South Africa

web www.revivalnook.co.za
e-mail info@revivalnook.co.za
tel 27 11 485-5330
fax 27 11 485-5431

INDEX

WHAT IS COLLOIDAL SILVER?.....	3
CONCENTRATION.....	3
HISTORY OF COLLOIDAL SILVER.....	4
HOW DOES COLLOIDAL SILVER WORK?.....	4
HOW HEALING IS ACCELERATED.....	5
HOW SILVER WORKS AGAINST BACTERIA.....	5
HOW SILVER WORKS AGAINST FUNGUS.....	5
HOW SILVER WORKS AGAINST VIRUSES.....	6
IT SERVES AS A SECOND IMMUNE SYSTEM.....	6
HOW DOES SILVER WORK AGAINST AIDS?.....	6
HOW DOES SILVER WORK AGAINST CANCER?.....	8
WHY COLLOIDAL SILVER NON ALLERGENIC.....	8
COMMON IN AMERICA PRIOR TO 1938.....	8
CURRENT MEDICAL INTEREST.....	8
COLLOIDAL SILVER : AN EXCEPTIONAL ANTIBIOTIC.....	8
COMPARE WITH OTHER ANTIBIOTICS.....	9
NO DRUG INTERACTION WITH ANY OTHER MEDICINES OR HERBS.....	9
KILLS RESISTANT PATHOGENIC STRAINS.....	9
COLLOIDAL SILVER AS A PREVENTATIVE.....	9
HELPS IN SEVERE BURN CASES.....	10
OTHER ESTABLISHED USES OF COLLOIDAL SILVER.....	10
VETERINARY USES OF COLLOIDAL SILVER.....	10
MEDICAL STUDIES AND OTHER TESTING.....	11
RECOMMENDATION FOR SKIN PROBLEMS.....	12
RECOMMENDATION FOR INTESTINAL PROBLEMS.....	12
RECOMMENDATIONS FOR PURIFYING FOOD & WATER.....	13
JAPANESE FIRMS FIGHT AIR POLLUTION.....	14
BODY BUILD-UP AND ELIMINATION.....	14
DOSAGE.....	14
SAFETY AND TOXICITY.....	15
TITRATION.....	15
CARE AND STORAGE.....	15
REFERENCES.....	16

WHAT IS COLLOIDAL SILVER?

Colloidal Silver, or electro-colloidal Silver, is an age-old natural anti-bacterial, anti-fungal, anti-viral and anti-biotic with no harmful side effects, that can relieve an incredible number of infections and diseases. It has no interactions with allopathic or natural medication and supplements.

The word "colloidal" refers to a condition where a solid particle is suspended in a liquid. The solid particles are too large to be considered dissolved, but are too small to be filtered out.

The particles in the silver colloid are typically 0.01 to 0.001 of a micron in diameter, or about one hundred thousandths to four millionths of an inch.

The word "ionic" refers to a condition where a particle has an electric charge. In the case of "electro-colloidal" silver, this electric charge is always positive. Silver will not form a negatively charged ion. So, the truth is that electro-colloidal silver is BOTH colloidal and ionic. It is considered colloidal because of the particle size and it is considered ionic because of the particle charge.

CONCENTRATION

The concentration of silver in the water is usually measured in parts per million, or ppm. While this is the standard convention, ppm is a "ratio" and not an indicator of quantity. When a laboratory tests colloidal silver for concentration, they report the findings in milligrams per litre (mg/L). This is an actual measurement of weight per volume, and therefore is a real quantity measurement. In the metric system, one litre of water weighs 1000 grams, and one milligram is one thousandth (1/1000) of a gram, so 1 mg/L is the same as 1 ppm, as long as we are talking about water. Silver weighs a little more than water, but the equivalence is very close, and the terms are often used interchangeably. With this in mind, we can calculate that one teaspoon of 5 ppm colloidal silver has about 25 mcg (micrograms) of silver in it.

There are at least four different products on the market being called COLLOIDAL SILVER. The **first** type of product is the classic, original kind, usually called "electro-colloidal silver." This product is made either by the "electro-arc" method in deionised water, or by the "low voltage electrolysis" method in distilled water. This product is usually found in concentrations between 3-5 ppm (parts per million), but sometimes as high as 100 ppm. Properly made, this product consists of microscopic particles of pure, elemental silver suspended in water, with no other elements present. Each particle of silver carries a positive electrical charge.

The **second** is called "mild silver protein". This product chemically binds microscopic particles of silver to a protein molecule. It is usually found in concentrations between 20-40 ppm.

The **third** are "silver salts". These products can be made either chemically or electro-chemically and usually create a form of silver that dissolves in the water. Concentrations range between 50-500 ppm. The silver particles do carry a positive electrical charge, but almost invariably, these products contain other elements or compounds other than silver.

The **fourth** is sometimes referred to as "powdered silver." This product was developed by the Russians and is made when a pure silver wire is rapidly disintegrated by a high voltage electrical discharge, similar to an old photographic flash bulb. The microscopic silver dust is collected and either dissolved in water or added to salves and creams for topical use. Concentrations range from 100-500 ppm.

All of these products work, to one degree or another, as a broad-spectrum germicide because they all contain microscopic particles of silver. That said, it is important to understand a number of things: 1) all of these products are not "colloidal suspensions" of silver, 2) these products do not all behave the same in the body or in laboratory tests, 3) effectiveness and dosage varies from product to product, 4) quality varies from product to product and from batch to batch with the same

product, and 5) they are not all uniformly safe and non-toxic. There are no industry standards that manufacturers voluntarily follow to assure quality control and there is no governmental regulation of the industry.

The purity of the water is one of the factors that controls how small the particles of silver will be. Only **high quality distilled** water should be used. You cannot use purified or filtered water because it still has too many dissolved minerals in it. You cannot use deionised water because it doesn't conduct electricity well enough to start the reaction. Distilled water is just perfect to start the reaction slowly and let it proceed properly.

HISTORY OF COLLOIDAL SILVER

Silver is not new as a disinfectant. It has been around since the dawn of time: the Druid's lined their drinking bottles with the metal for the disinfecting and sanitation of their water. The Egyptians used silver as a thin beaten paper-like product and wrapped it around wounds.

It is well documented that the ancient Greeks knew the medical value of silver. It was observed that those ancient families ate from silver utensils rarely were sick and had few infections. This knowledge passed on to kings, emperors, sultans and their families and members of their royal courts. They ate from silver plates, drank from silver cups, used silver utensils and stored their food in silver containers. As a result of this use, silver was ever so slightly rubbed off and mixed in their food, and hence they had little chance of getting any infectious illness.

These royals were called "Blue Bloods" because their skin had a blue tint, due to the accumulation of minute traces of pure metallic silver. The common red-blooded folk, however, ate from earthenware dishes with iron utensils and frequently were sick, whilst the royals enjoyed freedom from infectious disease as early as from birth. There are many historical references on Colloidal Silver. One of the most complete is published in "The Lancet" dated Dec. 12, 1914.

The soldiers of the Confederate Army in the war between the North and the South were known to swallow a real silver dollar. This was believed to ward off all main types of infectious bacteria as the soldiers were sometimes in water up to their necks with serious gaping wounds. Many of them believed they escaped serious illnesses by the ingestion of a silver dollar.

Until almost 1970 it was common usage for scientists to put a silver dime in a petri dish to sterilize the dish. Silver was long used for plates for the surgical repair of bones.

Colloidal silver was known at the turn of the century as an invaluable medicine. This article is accurate, and is recommended to readers who wish to experience for themselves, the many benefits that this effective and powerful product affords.

It has never shown any harmful side effects, and cannot be claimed as a heavy metal.

HOW DOES COLLOIDAL SILVER WORK?

Colloidal Silver is non-toxic to mammals, reptiles, plants and all living things that are not of a one-celled structure. One-celled life uses a different method of Oxygen metabolism, herein lies its weakness. Since Colloidal Silver acts only as a catalyst, meaning, it influences a change in the rate, or occurrence of a reaction of one-celled organisms, but does not enter into any chemical reaction with the body tissues. The mere presence of Colloidal Silver near any virus, fungus or bacterium (one-celled disease causing pathogens) will immediately cripple their oxygen-metabolising enzyme, or chemical lung, which suffocates and dies usually within six minutes. The dead organism is subsequently cleared out of the body by the immune and lymphatic system.

Body tissues having 5 parts per million (5ppm) of Colloidal Silver will be free of virus, fungus and bacterium. Silver particles are long lived in the body because they do not enter into a reaction, but

act catalytically. A catalyst is best described as a substance that brings about, or causes a reaction or occurrence without itself participating or being consumed. The Colloidal Silver acts as a catalyst in disabling a particular enzyme, best described as "chemical lung", as it transfers oxygen and nutrients through the cell walls of the disease causing organism. The organism suffocates! The mere proximity of silver will cripple the activity of the particular enzyme common to all viruses, fungi and bacteria - whilst not affecting the enzymes of tissue type cells.

Body fluids like blood and lymph are in a colloidal state. The crystalline state is the condition of dry, dead things. Most medications are in the crystalline state. The body must convert them to the colloidal state before they can be used. There is some expense to the body in time, energy and effectiveness. In the process, there are molecular pieces left over that burden the body with their need to be eliminated. In the case of Colloidal Silver, no effort from the body is needed for this conversion, and there are no by-products left in the body.

HOW HEALING IS ACCELERATED

Mitosis (the usual cell division in body tissue) is when two new, identical cells are formed. When Colloidal Silver is present in the body tissue, some of the divisions will be different. One duplicate cell and one dedifferentiated cell are formed. The dedifferentiated cell is like a baby cell that can change into any type of cell in the body. It will naturally migrate to a part of the body where there is tissue damage, where the cell changes to a local tissue cell, adding to the normal cell repair in the injured area and greatly lessening scar tissue formation.

This accelerated healing benefit of Colloidal Silver was discovered by Robert O. Becker, MD and was reported in his book, "The Body Electric". He and his research colleagues observed "a variety of cells, which are primitive in appearance, looking just like the active cells in bone marrow of children. These cells grew fast, reproducing a diverse and surprising assortment of primitive cell forms including fully dedifferentiated and rounded fibroblasts."

HOW SILVER WORKS AGAINST BACTERIA

"Positive Silver" Becker states, "produces large numbers of dedifferentiated cells, overcoming the main problem of mammalian regeneration. Positive Silver accelerates the healing process by over 50 percent. It is obvious that in the aggregate they profoundly stimulate soft tissue healing in a way unlike any known natural process." He further stated in his book: "Positive Silver kills all types of bacteria existing because no other single antibiotic worked uniformly against all types of bacteria. Positive Silver he says, "offers several advantages over previous antibiotic substances. There are no ions beside silver to burden the tissues. It works against all kinds of bacteria simultaneously and even kills antibiotic resistant strains and fungus infections."

HOW SILVER WORKS AGAINST FUNGUS

A fungus is a series of single cells having tiny tubes of material on the cell wall stretched between the cells. Whether more linear in its spread and expand mode or alternatively more like a fabric in its reproductive mode, a fungus still will exhibit that same characteristic of a one celled bacterium, namely that particular type of chemical lung which is immediately, completely and permanently disabled by the presence of Colloidal Silver.

Any fungus is killed within six minutes of contact with silver in the body. The Colloidal Silver Simply suffocates it!

HOW SILVER WORKS AGAINST VIRUSES

A single virus will invade a living cell of body tissue, then this insidious pathogen will take over the nucleus of the cell and alter its re-productive mechanism to replicate the virus, instead of the enzyme, hormone or other chemical the cell would normally have produced for the body within that cell. Later, the newly produced virus will be released from that cell into the bloodstream. However another interesting process happens. As the virus affects the cell for its own purpose, part of the response of that living cell is that it reverts back to a more primitive cell structure and chemistry. The oxygen metabolising enzyme in the cell wall reverts to a more primitive form as well. This more primitive form of enzyme is vulnerable to the suffocating effect of Colloidal Silver. The catalytic effect of the Colloidal Silver simply by being near the enzyme of this cell results in that enzyme becoming permanently disabled. It cannot function to bring oxygen into the cell and that virus "host" cell now dies. This process will take no more than six minutes and the body will dispose of it as it would any other of the millions of cells that end their usefulness each day.

IT SERVES AS A SECOND IMMUNE SYSTEM

Taking Colloidal Silver daily is like having a second immune system. It lessens the load on the body's natural immune system and effectively kills the many bugs present throughout the body. In addition, it lessens the toxicity due to the average amount of germ, virus and fungus activity that occurs naturally in the body. However, tests prove that, due to the high absorption of silver in the small intestine, the friendly bacteria in the large intestine are not affected. The second immune system acts parallel to, and independent of the body's own first in line defence a major advantage in warding off outbreaks of influenza or any germ plague or pestilence.

HOW DOES SILVER WORK AGAINST AIDS?

AIDS in itself does not kill people. It weakens the immune system to the point where the body cannot fight off the pathogens that we come into contact with on a daily basis. These pathogens (disease causing organisms) cause the secondary symptoms, infections and diseases that eventually take over the body completely and ultimately leads to death. The pathogens responsible for these diseases are single celled viruses and bacteria which are suffocated when they come into contact with ionic Colloidal Silver.

A non-patentable natural product in increasingly wide-spread use in AIDS is electro-colloidal silver, positively-charged ultra-microscopic silver clusters suspended in water, as with the bio-colloids of the vital fluids of all living organisms. These highly motile microclusters are naturally microbicidal, are as potent as the most powerful anti-microbials, yet are safe to higher life-forms by disabling only the metabolic enzymes of anaerobic micro-organisms and imparting disabling electrical charges to viruses. (N Thomson, *Comprehensive Inorganic Chemistry*, Pergamon, 1973), (Mentel R, et al, *Vopr Virusol*, (6): 731, 1977), (F Myers, E Jawetz & A Golfien, *Review of Medical Pharmacology*, Lange Med Publ, 1978), (Williams D, *The Biocompatibility of Silver*, First Intl Confer on Gold and Silver in Medicine, Silver Institute, Washington, 1989), (A Martin & P Bustamante, *Physical Pharmacy*, Lea & Febiger, 1993), (Also several references which follow)

Many researchers are of the opinion that silver is in fact an essential element, not because it is required for any mammalian enzyme system, but conversely, because since it is an anti-bacterial, anti-viral, anti fungal metabolite that disables specific enzymes that pathogenic and parasitic anaerobic micro-organisms use for respiration, colloidal/ionic silver functions as a systemic anti-anaerobic microbial and immune system supporter, which may be impaired by a silver deficiency (Drs J Wallach, DVM and M Lan MD, *Rare Earths: Forbidden Cures, Double Happiness Publishing*, 1995).

Dr R Becker MD, identified a relationship between low levels of tissue and dietary silver and infection, stating that silver did more than kill disease-causing organisms, since silver was

responsible for improper functioning of the immune system and its presence promoted and accelerated bone and tissue healing by over 50% (Becker R, J Bone Joint Surg, American Volume, 60: (7), 1978), (R Becker & G Seldon, The Body Electric, Morrow, 1985), (Becker R, The Effect of Electrically Generated Silver Ions on Human Cells. Proceedings of the First Intl Conference on Gold and Silver in Medicine, Silver Institute, Washington, 1989)

Among a number of metal ions tested at the Biochemistry of Upjohn Laboratories, zinc, copper and silver were found to be the most effective inhibitors of HIV protease (Unknown, Biochemistry, Sept 10, 1991).

Colloidal silver kills HIV, according to Daryl Tichy, an administrator at Brigham Young University, who determined in independent testing at two different labs that colloidal silver killed a variety of pathogens, including HIV (The Daily Herald, Provo, Utah, February 13, 1992).

Once the virus has invaded a cell in the body, the cell will revert back to the primitive type structure and use an enzyme as its chemical lung, which is promptly crippled by the presence of colloidal silver, the cell suffocates and dies, thus denying the virus an opportunity to replicate. Colloidal silver kills not only present viruses, but future forms as well, because no matter how the virus mutates, it cannot change the way human cells respond to invasion and because of its catalytic nature, colloidal silver is not affected in the reaction, continuing to kill other single celled pathogens nearby. (The Colloidal Silver Handbook, Silver Education Coalition, Utah Silver Institute, 1995)

Professor E Henderson reported that colloidal silver completely eliminated latently infectious HIV and at lower doses significantly reduced HIV infectivity (Report, E Henderson, Temple Univ, School of Medicine, Dept of Microbiology and Immunology, Philadelphia, March 20, 1995).

Dr M P Farber PhD, of the Colonel Leonard Farber Mild Silver Protein Foundation for Research and Development, cites a 1992 study at the University Medical Centre, Geneva, Switzerland, as confirming that colloidal silver kills all viruses, including HIV, via suffocation. Eight people recovered from HIV-AIDS in a scientifically documented study and an additional seven AIDS patients recovered as verified by anecdotal reports. (M Farber, The Micro Silver Bullet: A Scientifically Documented Answer to the Three Largest Epidemics in the World, Myca Inc, 1997)

Colloidal / ionic silver solutions exhibit better anti-microbial effectiveness than conventional silver solutions, due to the particularly potent and stable characteristics of electrochemical Ag⁺ (Simonetti N, et al, Appl Environ Microbiol, 58(12): 3834, 1992).

Dr Keith Courtney ULC states that research evidences that colloidal silver kills HIV and inhibits its replication and latent formation, attacks the HIV and co-factor viruses and then wards off other infectious health problems that the immune system has not been able to handle, and that research has proven under laboratory conditions that colloidal silver destroys HIV within 34 minutes after coming into contact with it. (K Courtney, Colloidal Silver: The Hidden Truths, 1997)

New technologies give technical insight into the physics involved e.g. "completely non-toxic colloidal silver ions, triggered by pathogens, fire electrons, electrocuting HIV, pathogens and immunity suppressing moieties, destroying them" (US Patent No 5676977, Antelman Technologies Ltd, 14 October 1997)

Several studies now strongly suggest that colloidal silver has a stimulating effect on the immune system and there is considerable evidence that silver works as an antibiotic, thereby renewing interest in electro-colloidal silver, with companies developing new silver compounds for a wide variety of applications, including protection against the spread of the HIV (Dr Hill, Colloidal Silver: A Literature Review, Clear Lake Press, 1997).

Tichy, at Brigham, now a scientific advisor to company planning clinical trials of a proprietary ionic colloidal silver formula, sent samples to Dr Larry Ford MD at the University of California, Los Angeles Medical Centre for testing. Ford reported that it killed every bacteria, fungus and virus tested, including HIV (Press Release, Invision International, Fort Lauderdale, FL, July 17, 1998)

HOW DOES SILVER WORK AGAINST CANCER?

The mutation of healthy cells into cancer cells occur continuously, even in healthy bodies. But such cancer cells are destroyed by the body's natural immune system at a rate about the same as they occur, when the body condition is stable, there is nothing manifest that a healthy person would experience as cancer. Some types of Cancer is reported to be caused by a virus. Like with any virus, upon invading a body tissue cell it will take over the cells reproductive chemical "factory" thereby forcing the cell to replicate the virus instead, the cell will revert to the "primitive" state thus enabling the Colloidal Silver to be effective in suffocating the cancerous cell.

WHY COLLOIDAL SILVER NON ALLERGENIC

There have been no allergenic reactions to silver reported in recorded history of the medicinal use of Colloidal Silver, because Colloidal Silver only affects the rate and occurrence of a pathogen's oxygen metabolism activity as described in the foregoing section. However Colloidal Silver does not react chemically within the body. Over use of Colloidal Silver has only one effect that is called Argyria, which is the development of grey blue tinge of the fingernails and the skin. What happens here is simply that the body starts to store the excess silver in the tissue and collagen, which make up the major part of fingernails. This condition however has no known detrimental effect and will disappear once the Colloidal Silver intake is reduced or discontinued for a while.

COMMON IN AMERICA PRIOR TO 1938

Colloidal Silver was in common use in America from the late 1800s until 1938. It was prescribed for a great variety of diseases and infections. There were none of today's antibiotics available, and Colloidal Silver was used for just about everything. But Colloidal Silver was relatively expensive back then, just as today's man made antibiotics are expensive.

CURRENT MEDICAL INTEREST

Today, Colloidal Silver is rapidly gaining favour in the medical community, reflecting a kind of revival in the public health sector. Dr. Richard L Davies, executive director of the Utah Silver Institute, which monitors silver technology in 37 countries, reported in 1978: "In four years we have described 87 important new medical uses for silver. We are just beginning to see to what extent silver can relieve suffering and save lives".

Some contemporary references from which this information is drawn include Dr. Harry Margarf of the St. Louis University, Dr. Charles Fox of the Columbia University; Dr Carl Moyer, Dept. of Surgery at Washington University and the literature of Dr. Robert Becker- "The Body Electric" and "Crosscurrents". Other sources are listed in the references chapter of this booklet.

COLLOIDAL SILVER : AN EXCEPTIONAL ANTIBIOTIC

Colloidal Silver is the only antibiotic known reportedly to kill all types of viruses, fungi and bacteria. Colloidal Silver is also the only antibiotic known to be perfectly harmless to all parts of the body. Whilst the liver and kidneys can be harmed by other antibiotics, Colloidal Silver promotes healing without any known side-effects.

COMPARE WITH OTHER ANTIBIOTICS

Each of the other man made antibiotics will kill only five or six types of germs. Increasingly more and more bacteria is becoming resistant to these antibiotics. These bacterium are commonly referred to as Super Bugs, however they are unable to form a resistance to Colloidal Silver, which will kill not only the bacteria but also all forms of viruses. A feat no man-made antibiotic has managed to date!

A further draw back of all other antibiotics is that they will destroy a variety of the body's essential enzymes, but Colloidal Silver doesn't disable or harm in any way the many different human body enzymes, as these enzymes are particularly different to the enzymes of single-celled life. Colloidal Silver actually promotes healing with less resulting scar tissue. No other antibiotic will do that.

NO DRUG INTERACTION WITH ANY OTHER MEDICINES OR HERBS

There has never known to have been a silver/drug interaction of any kind. The allopathic prescription pharmaceuticals of today are no more likely to react with silver in the body than did the surprisingly powerful of herbs from which they were developed and used for thousands of years, right along with the silver. The chemical nature of silver is such that inside the body it behaves to as to form no compounds that are toxic, and when already in the colloidal and stabilized state is even further removed from any possibility of the tiniest of problems. Colloidal Silver simply does not react with anything in the body except a germ's oxygen metabolising enzyme.

KILLS RESISTANT PATHOGENIC STRAINS

Disease organisms can become resistant to regular antibiotics, triggering dangerous super-infections. Conventional antibiotics are industrially developed from toxins manufactured by other bacteria of their own defences - penicillin being a prime example. Disease organisms in the body respond to this cultivated toxin of the conventional antibiotic at about the same rate as they do to the original organism. This is a long enough time that a mutation can, and often occur which will make the organism immune to the particular antibiotic.

Colloidal Silver is claimed to work relatively fast- mostly within six minutes or less, upon contact within the body- that these disease causing pathogens have no time to mutate into a resistant strain as such a mutation requires far longer than the time silver needs to kill the pathogen. In fact to date no pathogen or strain thereof, has ever been known to mutate and develop resistance to silver in several thousand years of the use of this remarkable substance. The time required for the fastest cell division always is several times longer than the six minutes within which Colloidal Silver completely kills one-celled plants and animals; hence, it is not possible for such a resistant strain to develop.

COLLOIDAL SILVER AS A PREVENTATIVE

Colloidal Silver, as a preventative is unsurpassed. Sufficient Colloidal Silver taken daily precludes infection, disease, contagious outbreaks and serious burn toxicity.

HELPS IN SEVERE BURN CASES

To take sufficient daily Colloidal Silver is to have protection already in place advance of serious burn toxicity Really severe burn cases, such as from a house fire or car wreck, are more survivable if one has taken sufficient daily Colloidal Silver in advance of a possible catastrophe.

Often people who first survive such injuries, later die of the complications occurring about a week after the injury when several body systems become overloaded. Colloidal Silver very definitely helps in these cases.

With references to the healing powers of Colloidal Silver, the American surgeon, Dr. William Steward Halsted wrote in 1913, after referring to the centuries old practice of placing silver wire in wounds. "I know nothing, which could quite take its place, nor, have I known anyone to abandon it who had thoroughly familiarised himself with the technique of its application. We may only have scratched the surface of silver's medical brilliance! Already it is an amazing tool. It stimulates bone-forming cells, cures the most stubborn infections of all kinds..... and stimulates healing in the skin and other soft tissues.

OTHER ESTABLISHED USES OF COLLOIDAL SILVER

An amazing, yet still only partial list of more than 650 diseases that Colloidal Silver has been used against include (in alphabetical order):

Acne, AIDS, allergies, appendicitis, arthritis and athletes foot, bladder infection, blood parasites, blood poisoning, boils, bubonic plagues and burns; cancer, candida, canine parvovirus, chilblains, cholera, colitis, conjunctivitis and cystitis; dandruff dermatitis, diabetes and dysentery; eczema and encephalitis; fibrositis; gastritis and gonorrhoea; hay fever and herpes; impetigo and indigestion; keratits, leprosy, leukaemia, lupus, lymphangitis and lyme disease; malaria and meningitis.

Also, neurasthenia; parasitic infection, pleurisy, pneumonia, prostate infection, pruritis ani, psoriasis and purulent ophthalmia; rheumatism, rhinitis and ringworm, scarlet fever, septic conditions (eyes, ears mouth and throat), seborrhoea, septicaemia, shingles, staph and strep infections, stomach flu and syphilis: thrust (yeast infection), thyroid infections, tonsillitis, toxemia, trachoma, trench foot and tuberculosis; ulcerated stomach; virus (all forms); warts and whooping cough and yeast infections (females).

VETERINARY USES OF COLLOIDAL SILVER

The following conditions in animals, birds and fish have been successfully treated with Colloidal Silver:

- Bacteria and parasites in house pets farm animals and birds
- Parvo-virus in dogs
- Revival of belly-up gold fish and
- Scours and undulant fever in cattle.

MEDICAL STUDIES AND OTHER TESTING

Colloidal Silver and illness: The author of "Body Electric" Dr R. Becker, noted in his studies a correlation between low silver levels and illness. Those who had low silver levels frequently were sick more often with colds, flu, fever and other illnesses. He said he believes a silver deficiency is the reason for the improper functioning of the immune system and the silver is critical for the destruction of bacteria and viruses. Becker's experiments conclude that silver works on a wide range of bacteria without any side effects and without any damage to the cells of the body's tissues.

Colloidal Silver and healing: Becker also states that the silver ion (Ionic-Colloidal state) was doing something more than killing disease-causing organisms. It was, he observed, causing major growth stimulation of injured tissues. When human fibroblast cells (common throughout the body), were exposed to silver, they dedifferentiated. That is, they changed into an embryonic, general cell, able to multiple at a greater rate and then differentiate into the specialised cells of the organ or tissue that had been injured. Even in the patient over 50 years of age, tissues healed as easily as a child's tissue.

Colloidal State and Cancer: Again Becker concluded that in the presence of silver ion, cancer cells change back to normal cells regardless of their location in the body. He concluded that the presence of silver ion regenerates tissues and eliminates cancerous cells as well as eliminating other abnormal cells. Dr. Bjorn Nordstrom of Sweden's Karolinska Institute has used silver in his cancer cure methods for many years. He records that he has successfully cured patients who had been diagnosed by other doctors as terminally ill.

Swimming pool water purification: Silver is widely used to purify swimming pool water, and it does not sting as does chlorine. A dramatic demonstration in Nebraska recently placed 250 liters of raw sewage into a pool containing no disinfectant. A standard measure of fecal contamination is the count of Escheri coli (E. coli) and organism found in the human intestinal tract. The count soared to 7000 colony forming E coli cells per millilitre of water. Subsequently the water was flushed through a silver electrode array, which totally eliminated the E.coli within three hours. Follow up tests also shown the water to be completely free of other one-celled organisms.

Hydroponics testing: Test in hydroponics greenhouse showed that Colloidal Silver is absorbed and used by the living plants as are any other materials. Hydroponics is an ideal gardening method having only one problem: Viruses, funguses and bacteria tend to thrive in the plant nutrient fluid. Colloidal Silver is proven to kill everyone of these pathogens, and without any consequence to the nutrient medium rn to the delicate plants. In addition, the plants ingested the silver through their roots, thus becoming a source of the silver minerals for human consumption.

Overdose testing: In laboratory tests since 1985 researches knew that overdose testing needed to be performed. One lab technician involved in the project from the beginning volunteered himself as a guinea pig for the first project. He consumed 1 litre of water daily, dosed with a high concentration of Colloidal Silver for a period of several weeks. The chemistry of his body fluids was monitored, as was his general well being (cold, flu, headaches etc.) He was especially observed for any change in skin colour to see if the technicians skin would develop a grey pallor of argyria. He had no change of colour in his skin, felt more vigorous and alert and experienced no aches or colds etc. Others in the laboratory repeated the test themselves finding the same results.

UCLA Study: It is claimed that some years ago an independent research laboratory sent to the University of California in Los Angeles a sample of Colloidal Silver to be tested against AIDS and anthrax. UCLA undertook the tests and proved conclusively that Colloidal Silver was highly effective in remedial applications against both disease pathogens. The independent researcher has obtained the same results in his own laboratory, and sought confirmation from UCLA. When the UCLA laboratory director called to confirm those findings, the director of the independent laboratory asked to have as the test results on a letter bearing the UCLA letterhead. However he was advised that a payment of U\$ 10,000 was required for this letter. The UCLA lab report confirming the effectiveness remains unofficial.

FDA Statement about Colloidal Silver: Written advise dated Sept. 19,1991 by the FDA consumers safety officer Harol Davis states, that Colloidal Silver considered a pre 1938 drug, may continue to be marked without submitted evidence of safety and effectiveness (required of all prescription drugs after 1938) as long as they are advertised and labelled for the use as in or before 1938.

RECOMMENDATION FOR SKIN PROBLEMS

While Colloidal Silver is used as a preventive against viruses, bacteria and funguses through daily, oral use, Colloidal Silver has been applied directly to open wounds and sores to eliminate surface infections. And it does not burn or sting!

Other antiseptics sting when applied to a wound because they are killing the surrounding tissue cells, as well as killing the germs. But while Colloidal Silver kills the topical germs within six minutes, it does no harm to any surrounding tissues.

Acne : In addition to omitting sugars and chocolate from the diet, any person with acne should wash and rinse the face thoroughly four times a day, and after each rinsing, massage on a small amount of Colloidal Silver onto the problem with a finger or tiny piece of cotton or tissue. The wash-rinse-massage activity may be continued throughout the teen years. This continuous habit precludes break-outs, leaving the skin continuously clear. Most people find it helpful to carry a quarter-ounce bottle of Colloidal Silver with them for availability throughout the day.

Cuts and Abrasions : Apply Colloidal Silver directly to the open wound and onto any dressing used. Colloidal Silver may be used as the only medication on the dressing, or it may be used with other medication.

Eczema and skin rash : Dab Colloidal Silver directly onto the affected area, rubbing slightly. Repeat often to keep the area moist. Bandage lightly, if desired, keeping the bandage moist with Colloidal Silver. Change bandage daily.

Warts : Cover the warts with a small adhesive bandage saturated with a few drops of Colloidal Silver. Keep the bandage moist. The warts should disappear within a few days. Large warts may take a few days longer to disappear.

RECOMMENDATION FOR INTESTINAL PROBLEMS

Digestive Interactions

Colloidal silver is apparently able to kill nearly all micro-organisms, including the "friendly flora" your digestive system needs for proper function. I have spoken with hundreds of people who have taken colloidal silver on a daily basis and have noticed no digestive upset, even after prolonged use. I have also spoken to two individuals who reported digestive upset after taking colloidal silver one time. So, in my experience, the die-off of friendly flora is possible, but rare.

There are a number of strategies that can reduce the probability of digestive interactions. The simplest one is to swish the colloidal silver around in your mouth for 30 seconds before swallowing. This promotes an absorption of the colloidal silver into the body away from the intestinal tract. Another strategy is to take smaller doses, multiple times per day, or with meals. Either way, if you

do experience a die-off of friendly flora, they can be re-populated by taking any of the acidophilus products on the market.

Optimum digestion : Put all, or a fraction of the recommended daily amount of Colloidal Silver, as determined by titration, into the beverage of choice accompanying any meal. As the food is digested, the presence of Colloidal Silver will keep the food from putrefying in the digestive tract, killing any germs ingested with the food, and leaving the food more useable. Also, there will be no flatulence.

Parasite infection : To take an amount of Colloidal Silver, as determined by titration, is to preclude parasite diseases caused by the tiny, wormlike animals that burrow through a particular organ - or in some cases, through out the entire body. In every case these parasites reproduce by laying egg ; and these eggs have the same characteristics of the oxygen-metabolising enzyme as the single-celled bacterium.

These eggs cannot hatch when there is sufficient Colloidal Silver in the surrounding body tissues - they are killed within six minutes and then eliminated by the immune system.

Diarrhoea diseases: A number of disease (such as Cholera, Canine parvovirus or other diseases where the pathogens resides mainly in the large intestine) are fatal, mostly due to the dehydration resulting from severe and prolonged diarrhoea and vomiting. The pathogen causing the problem is active in the large intestine, the one place where normally recommended dosage will not penetrate. However, if one drinks four ounces or more of Colloidal Silver with three or four big glasses of water on an empty stomach the Colloidal Silver will get into the large intestine and, very quickly, take care of the problem. Cholera has been cured with Colloid Silver.

Healing crisis : This is a condition wherein the Colloidal Silver is killing the pathogens very rapidly. The body's five eliminatory systems (kidneys, liver, skin, bowel and lungs) become temporarily overloaded. This especially is true in the case of overcoming AIDS with Colloidal Silver. One may feel as though he or she has the flu. Recommendation : Continue the silver regimen, yet drink up two gallons of water a day, take five or six grams of vitamin C and high enema. Repeat two or three times a day, or as needed.

RECOMMENDATIONS FOR PURIFYING FOOD & WATER

Water purification : Colloidal Silver is an excellent water purifier. Water stored with one or two tablespoons of Colloidal Silver per gallon will be safe and sweet-tasting for very long time. Water containing germ contaminants (non-toxic chemicals) can be made drinkable by adding two or three tablespoons of Colloidal Silver per gallon. And the silver is beneficial to the body, unlike the commercial tablets containing toxic chlorine bleach.

To guard against such waterborne disease as dysentery, the following airlines now use silver water filters : British Airways, Swiss Air, Scandinavian Airlines, Lufthansa, Olympic, Air France, Canadian Pacific Airlines, Alitalia, KLM, Japan Airlines and Pan Am. And the Swiss government has approved silver water filters, which are being used in homes and offices. Also, after testing 23 methods of purifying water, NASA selected a silver system for its space shuttle.

Home-canned foods : One-half teaspoon of Colloidal Silver per quart in home-canned precludes the growth of all bacteria, virus, and fungus. And as the food is consumed, the presence of silver will aid the digestion process by not allowing the fermentation of starches, the putrefaction of protein or the rancidification of fats in the digestive tract. Neither is there a formation of gas in the bowel, nor food decay from toxins to diminish a sense of well-being.

All commercial food processing operations to date have elected to use preservatives which, unlike Colloidal Silver, are toxic and poisonous to people. Were the commercial food processors to use

Colloidal Silver instead, it would yield the triple benefit mentioned in the recommendations for use in home-canned foods.

Questionable Refrigeration: In addition to keeping prepared foods cool and well sealed, add about one tablespoon of Colloidal Silver per quart to picnic foods containing mayonnaise, dairy products, or anything that has a potential for salmonella growth and poisoning . Stir in very well.

Leftover and Condiments: Mix about one-fourth teaspoon of Colloidal Silver into each container of mustard, ketchup or pickle relish. Mix one half teaspoon into items that spoil more easily, i.e. mayonnaise, milk etc. They will store longer, remain fresher and benefit digestion.

JAPANESE FIRMS FIGHT AIR POLLUTION

Silver can fight deadly poisons, also. Japanese firms have announced the following startling technologies that use silver to purify air : One company converts 50 parts per million of carbon monoxide into harmless carbon dioxide by passing the gas through a stack of screens coated with silver compounds, Another uses of silver compounds to remove vinyl cyanide, methyl cyanide and hydrocyanic acid from its discharges. And a gas chemicals company removes all the 200 parts per millions of nitric oxide by passing the gas through its silver compounds.

BODY BUILD-UP AND ELIMINATION

One week is average for the initial benefit of Colloid Silver to begin, Colloidal Silver will accumulate in the tissues to at least a concentration of five to seven parts per million (5-7 ppm) at the seventh day. This is the minimum effective concentration.

After two to three weeks (this varies with each individual) the Colloidal Silver effectiveness is finally lost and it is eliminated through the kidneys , the lymphatic system and the bowel. This is why continual intake is necessary to keep optimal levels of Colloidal Silver in the body.

DOSAGE

In 1940, R. A. Kehoe reported that under normal circumstances, the average daily intake of fruits and vegetables would provide between 50 - 100 mcg (2 – 4 teaspoons of 5ppm) of silver as a trace element. Since that time, the commercial farm soils of this country have become extremely deficient in trace minerals.

Although not authoritative figures for silver, according to the Earth Summit Report, issued in 1992, the levels of soil based minerals in North America have dropped over 85% in the last 100 years. Assuming that our ancestor's diet used to contain trace silver, and that our diet probably has greatly reduced levels, there is a reasonable argument for supplementing with colloidal silver.

Two teaspoons of 5 ppm colloidal silver provides about 50 mcg of silver and could be considered a "nutritional" amount, if taken on a daily basis. Any amount above four teaspoons a day or 100 mcg should be considered a "therapeutic" amount. That said, it should not be assumed that electro-colloidal silver is equivalent to or has the same metabolic effect as receiving trace silver from dietary plant sources. But since there are very few plant sources of trace silver available today, colloidal silver is probably the best substitute.

If you want to experiment with taking colloidal silver for an extended period of time, stay within the amounts considered to be nutritional. If you want to experiment with larger doses, do so with caution, and only after consulting your health care practitioner.

SAFETY AND TOXICITY

Silver can act as a heavy metal poison in the body. It can also act as a trace mineral nutrient. The difference is in the particle size, NOT the concentration. Colloidal silver with a particle size of .001 microns has particles 100 times smaller than a preparation of silver with a particle size of .1 microns. The smaller the particle, the less likely it will behave as a toxin.

Typically, the worst toxic reaction from metallic silver, cited in the medical literature, is a condition called Argyria. Argyria is primarily a cosmetic condition characterized by a bluish discoloration of the skin. Argyria causes no physical discomfort, and does not have any other known side effects. Your skin just looks bluish-grey. In fact, the term "blue bloods," in reference to the royal families of Europe, probably refers to a mild, argyrial condition caused by the constant eating of food from silver place settings. It is interesting to note, however, that there has never been a case of Argyria reported from the use of electro-colloidal silver which is free impurities.

TITRATION

Titration : Determining the amount needed. Begin with the recommended amount of two teaspoonfuls, once per day. Use half the recommended amount for young children & a few drops for babies. After taking two teaspoonfuls of Colloidal Silver daily for one week, adults may cut back to one teaspoonful daily (and proportionally by body weight, for children). The accepted method is for an adult to consume a 200 ml. bottle of Colloidal Silver monthly, in any convenient increment any time during the month.

In the event that a person begins taking Colloidal Silver while having a cold or flu - for any other virus, bacteria or fungus - the daily amount should begin with triple the dosage (one teaspoon three times a day) for three days then follow the above regimen. Some people will feel achy and sluggish on the third or fourth day after beginning Colloidal Silver daily. This is called a "healing crisis". When the body sloughs off a great many entrenched toxins at once, the eliminatory organs can become overloaded in which case drinking a lot of extra water will lessen the symptoms rapidly.

If a person taking the daily amount finds that he or she still occasionally has an infection, one may even quadruple the dosage. There is absolutely no danger of overdosing.

CARE AND STORAGE

Keep Colloidal Silver in a cool dark place. Store it in amber or cobalt blue glass containers only and away from electrical appliances.

Although glass breaks easier, glass is the only thing that will store colloidal silver for any length of time. There is an inherent electric charge in the hydrocarbon molecules of plastic that will draw the charged silver particle out of solution, bonding it to the sidewall of the plastic container. Do not store Colloidal Silver in a refrigerator or freezer, as the long-term electric charge of the appliance can de-ionise the Colloidal Silver.

REFERENCES

- Provo Herald 13 Feb. 92, pg.D1: Colloidal Silver as a cure for AIDS.
- The Condensed Chemical Dictionary 6th Edition: Mild Silver Protein is listed for medical use.
- The FDA has stated that because Colloidal Silver is (by fifty years) a pre-1938 drug, it may continue to be marketed. A 13 Sept. 1991, letter received from consumer safety officer, Harold Davis, U.S. Food and Drug Administration. Moreover, the FDA has no jurisdiction regarding a pure, mineral element.
- Environmental Protection Agency's Poison control Center reports no toxicity listing for Colloidal Silver, considering it harmless in any concentration.
- Dr.Bjorn Nordstrom, of the Karolinska Institute, Sweden.
- Silver Our Mightiest Germ Fighter, Science Digest March 1978
- Colloidal Preparations of Silver in Pharmacy, British Medical Journal, Feb 1923
- Medical Silver Home Remedies, Maurice Worthington, M.D., 1928.
- American Drug Index, section on Inorganic Pharmaceutical Chemistry, recognized Silver for its germicidal action, calling a stabilized form: Mild Silver Protein.
- N Thomson, Comprehensive Inorganic Chemistry, Pergamon, 1973
- Mentel R, et al, Vopr Virusol, (6): 731, 1977
- F Myers, E Jawetz & A Golfien, Review of Medical Pharmacology, Lange Med Publ, 1978
- Williams D, The Biocompatibility of Silver, First Intl Confer on Gold and Silver in Medicine, Silver Institute, Washington, 1989
- A Martin & P Bustamante, Physical Pharmacy, Lea & Febiger, 1993
- Drs J Wallach, DVM and M Lan MD, Rare Earths: Forbidden Cures, Double Happiness Publishing, 1995
- Becker R, J Bone Joint Surg, American Volume, 60: (7), 1978
- R Becker & G Seldon, The Body Electric, Morrow, 1985
- Becker R, The Effect of Electrically Generated Silver Ions on Human Cells. Proceedings of the First Intl Conference on Gold and Silver in Medicine, Silver Institute, Washington, 1989
- The Daily Herald, Provo, Utah, February 13, 1992
- The Colloidal Silver Handbook, Silver Education Coalition, Utah Silver Institute, 1995
- Report, E Henderson, Temple Univ, School of Medicine, Dept of Microbiology and Immunology, Philadelphia, March 20, 1995
- M Farber, The Micro Silver Bullet: A Scientifically Documented Answer to the Three Largest Epidemics in the World, Myca Inc, 1997
- Simonetti N, et al, Appl Environ Microbiol, 58(12): 3834, 1992
- K Courtney, Colloidal Silver: The Hidden Truths, 1997
- US Patent No 5676977, Antelman Technologies Ltd, 14 October 1997
- Dr Hill, Colloidal Silver: A Literature Review, Clear Lake Press, 1997
- Press Release, Invision International, Fort Lauderdale, FL, July 17, 1998
- A Closer Look At Colloidal Silver By Peter A. Lindemann

Disclaimer: This article on Colloidal Silver has been written and presented strictly for informational and educational purposes only. The information conveyed herein is based on pharmacological and other records both ancient and modern. No claims whatsoever as to any specific benefits accruing from the use of Colloidal Silver are made herewith. Please seek advice from a qualified health care professional.