

*Disclaimer: This information, including but not limited to, text, graphics, images, links and other material contained on this document are for informational purposes only. The purpose of this document is to promote a broad understanding and knowledge of "colloidal silver". It is not intended to be a substitute for professional medical advice, diagnosis or treatment. Always seek the advice of your physician or other qualified health care provider with any questions you may have regarding a medical condition or treatment and before undertaking a new health care regimen, and never disregard professional medical advice or delay in seeking it because of something you have read in this material.*

**How many have stored antibiotics? How many have a silver machine?**

**What happens when the antibiotics run out or degrade over time?**

## History of Colloidal Silver

Silver has been used by mankind for thousands of years, back to ancient Greek and Egyptian times to protect against Smallpox, Plague, Syphilis, mumps, measles, polio, typhoid, typhus, coliform etc. The aristocracy of Europe used silver utensils and kept their wine in silver goblets where it fermented into vinegar forming ionic silver acetate which they would drink.

Silver solutions were widely used for baby's eyes, infected wounds and infectious diseases before the advent of antibiotics in the 1940's. It is now being recognized again as a useful broad spectrum anti-biotic which can be taken orally or topically.

## How Colloidal Silver Works

The presence of liquid Colloidal Silver benefits humans by disabling the oxygen metabolism enzyme of a **virus, fungus, bacterium or any other single celled pathogen**. Within a few minutes, the pathogen suffocates and dies, and is cleared out of the body by the immune, lymphatic and elimination systems. One of the primary Colloidal Silver benefits is that unlike pharmaceutical antibiotics that destroy beneficial enzymes, Colloidal Silver leaves these tissue-cell enzymes intact, as they are radically different from the enzymes of primitive single-celled life. Thus Colloidal Silver is absolutely safe for humans, animals, plants and all multi-celled living matter."

## Types Of Colloidal Silver

There are three distinctly different types of silver that are labeled and sold on the market as "colloidal silver"; they are **ionic silver**, **silver protein**, and **true colloidal silver**.

[Wikipedia](#) A **colloid**, in [chemistry](#), is a [mixture](#) in which one substance of microscopically dispersed insoluble particles is suspended throughout another substance.

There is a lot of confusion and misuse of the term "Colloidal" on the market as it relates to selling and making colloidal silver. Hopefully this presentation will clear the confusion.

All silver ions work ... from whatever source they come from ... a silver dollar to a Nano-particle. When silver comes in contact with water it will produce ions. *The questions are what is the efficacy and what are the risks.*

## True Colloidal

Colloidal means particle and not ion for our purposes. Typically it will contain more than 50% particles and are known to cause **argyria**, (r-ge -rea) a condition that causes the skin to turn blue-gray. Color ranges from amber to almost black.

Argyria is caused by ingesting high concentrations silver particles. It is not caused by Silver Ions which consist of nanometer sized particles of silver in pure water.

## Silver Protein

They have very large silver particles therefore they will not remain suspended unless a protein like gelatin is added. The large particle size makes the silver not for safe human absorption and is less effective.

## Ionic Silver Water

Ionic Silver is made by ionizing silver using the process of electrolysis. It consists of both silver ions 90%+ and silver particles 10%. Silver ions **do not** adsorb light and are therefore clear, silver particles **do adsorb light** and will look white or slightly yellow and in higher concentrations will turn darker and darker. Ionic silver is a strong anti-microbial and in fact deadly to all **virus, lower order fungi, bacterium, yeast or any other single cell organism.**

*In order for silver to have any antimicrobial properties, it must be in its **ion form.***

Ionized silver is a single silver atom missing a negative electron and therefore has a **positive charge** ( $Ag^+$ )

*"**Ionized Silver:** In order for silver to have any antimicrobial properties, it must be in its ionized form (Lok et al., 2007; Rai et al., 2009). Silver in its non-ionized form is inert (Guggenbichler et al., 1999), but contact with moisture leads to the release of silver ions (Radheshkumar and Munstedt, 2005). Thus, all forms of silver or silver containing compounds with observed antimicrobial properties are in one way or another sources of silver ions ( $Ag^+$ ); these silver ions may be incorporated into the substance and released slowly with time as with silver sulfadiazine, or the silver ions can come from ionizing the surface of a solid piece of silver as with silver nanoparticles."*

Some people have said that ionic silver will not work after it reaches the stomach. This is not necessarily true. Ionic silver will form silver chloride in the stomach but it is still effective in the blood stream.

***I suggest that when you drink ionic silver you swish it in your mouth for 30 seconds prior to swallowing.***

## **Ionic Silver Uses:**

- Anti-microbial Anti- Viral taken internally or for Wound dressing
- Dental – brushing and mouthwash
- Deodorant
- Athletes foot soak
- Nasal irrigation
- Respiratory infection using a nebulizer
- Surgical masks
- Drinking water
- Gardening – fungal disease and better sprouting
- Food safety – soaking fresh produce before eating
- Surface cleaning
- Livestock – chickens, rabbits etc
- Disease prevention and cure including cancer

**Cancer:** Silver ions cause cancer cells to de differentiate turning them back into normal cells.

[http://silvergen.com/cancer\\_and\\_silver.htm](http://silvergen.com/cancer_and_silver.htm)

## **How Colloidal Silver Is Made**

There are two types of units used to make silver for home use: **Constant Voltage units and Constant Current units.**

### **Constant voltage generators *and why they don't work well.***

When an electrical source of [voltage](#) that is fixed in value such as 27 or 36 volts (the voltage supplied by 3 or 4 - 9 volt batteries in series connection) is used to generate ionic/colloidal silver, the voltage is connected to the silver electrodes which are in the water. A small amount of [current](#) then begins to flow. At this point the current is generally about one quarter of one [milliampere](#) (a milliampere is a measure of current flow). This allows some of the silver [ions](#) to be released from one electrode while hydrogen gas is formed and released from the other electrode. As the silver is released into the water, the conductivity of the water increases, allowing more current to flow. This in turn allows more silver ions to be sintered off the electrode. So far so good. But what happens very quickly is this:

The increased current flow allows the metal to be deposited into the water at a faster and faster rate as the conductivity of the water is increased by more silver being released. This is a vicious cycle because in a very few minutes the current passes the point where small colloidal particles are generated.

### **Constant Current Generators *and why they work so well.***

The voltage source may be the same or higher as constant voltage generators at the beginning of the operation but the similarity between **constant voltage** and **constant current** generators diverges rapidly. As the current flow begins to increase with increased water conductivity, the "constant current" regulator begins to reduce the voltage in order to keep the current at the desired amount of flow. With the voltage being reduced in order to keep the current constant, the silver particle size remains uniform

As the water becomes very conductive, the voltage may be reduced to as little as 5 or 6 volts to maintain the desired current flow. With this type circuit, one may leave the generator connected to the electrodes and not worry that "runaway" will occur. You may leave the generator on until the strength of silver in parts per million ([PPM](#)) is reached and be assured the particle sizes are uniform and ionic. Of course we are speaking of practical limits here. This is the secret of repeatable production of colloidal silver. **Constant current equals constant size particles.**

<http://silvergen.com/technica.htm>

**Must use distilled water and .9999 pure silver only. Avoid ozone treated water**

# Products On The Market

**Constant Voltage Generators** – Avoid these even though they are inexpensive



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**Silverlungs** – It doesn't tell you if it is constant voltage or constant current on their website. It does have agitation which I believe is very important. Uses rods and has magnetic agitator. They provide a proprietary solution that they instruct you to add which turns the solution amber the exact opposite of what you want

[www.silverlungs.com](http://www.silverlungs.com)



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**Silver Edge**



Silver Edge – Website doesn't state voltage or current. It tells you that it makes micro-particle colloidal silver ... what is that? It does say that many particles are in the nano range but doesn't claim a percent. Uses rods and is controlled by timer leading me to believe it is constant voltage. [www.thesilveredge.com](http://www.thesilveredge.com)

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### **SilverGen** [The unit I use](http://www.silvergen.com)

[www.silvergen.com](http://www.silvergen.com)

This company actually developed the first current based home generator back in 1993. Their website has a ton of information and links.

The variable control allows you to set the strength desired from 5 to 15+ PPM, 85 to 98% ionic 1-5 nanometer atoms. The generator automatically shuts off when the setting is reached.

Control of the generator is NOT done with a timer. A conductivity sensor and associated circuitry determines when the preset PPM is reached. Larger volumes of water just require longer production times to produce the CS.

A built in stirring motor keeps the silver atoms from colliding during production, to prevent agglomeration. All ionic/colloidal silver made with this generator is clear, colorless, very stable and has long shelf life.

**Uses polarity** reversing which keeps the electrodes clean. They are self-cleaning, not self-polishing which is unnecessary to do.

Order online: <http://silvergen.com/products.htm>



Nebulizer

<http://www.ebay.com/itm/162137749207>

