

**Colloidal Silver:** After a generation lost, the need to revitalize time-tested silver as a pathogen-fighting agent has arrived.

**Pathogen:** a bacterium, virus, or other microorganism that causes disease\*

**Abstract.** The shortcomings of modern medicine are becoming increasingly apparent. In the mid-twentieth century, following the ravages of two world wars, medicine achieved remarkable advancements. The discovery of antibiotics marked a turning point in the battle against human suffering and mortality, bringing about miraculous recoveries and saving countless lives. However, alongside these triumphs, a vulnerability began to emerge in the 1980s. Bacteria, with their remarkable resilience and adaptability, learned to outsmart antibiotics. These single-celled organisms mutated, rendering them resistant to the very drugs designed to combat them, and thus emerged the era of "superbugs." It is clear that a new approach is imperative for the survival of humanity.

Continuing to view everything as a war—whether it be the war against drug abuse, the war against poverty, or the war against socialism—has proven to be destructive. Instead, let us redirect our focus to the field of medicine itself. Rather than constantly fighting disease, let us prioritize prevention and wellness. To embark on this path, it is crucial to explore the potential of silver and its numerous applications in the fight against diseases, with the goal of prevention and optimum health. By embracing a proactive approach, we can revolutionize the medical profession and pave the way for a healthier future.

## Intro

### Bacterial Infections

From the 1940s through the 1950s, antibiotics revolutionized medicine, leading to significant reductions in mortality from bacterial infections—a true medical breakthrough. However, over time, the emergence of resistant bacteria became a concerning consequence. Bacteria naturally undergo genetic mutations, and exposure to antibiotics creates selective pressure, favoring the survival and proliferation of resistant strains (1). By the 1980s, there was a significant increase in the prevalence of these drug-resistant bacteria, commonly referred to as "superbugs (2)." Today, these superbugs pose a global health threat.

### Fungal Infections

Similar to bacteria, fungi can develop resistance to antifungal medications. Fungal infections often arise after viral infections or antibiotic use (3)(4). They undergo genetic mutations in response to antifungal drugs. Just as with bacteria, fungi employ selective pressure to acquire resistance. Certain fungi possess efflux pumps, which actively remove antifungal drugs from within the fungal cells. Additionally, fungi like *Candida* can form biofilms—a protective matrix aiding in evading the immune system and antifungal drugs. The full impact of fungi on human health is not yet fully understood, but they are predominantly observed in advanced cases of AIDS and cancer (5). Interestingly, recent

studies have found fungal antibodies and/or fungal DNA in the brains of Alzheimer's patients, raising new theories about the disease's root cause (6). The World Health Organization (WHO) has highlighted the increasing threat of invasive fungal infections to human health, emphasizing the need for further research.

## **Viral Infection**

The coronavirus SARS-CoV-2, responsible for causing Covid-19, has demonstrated the ability to mutate, resulting in the emergence of new variants. The mRNA Covid vaccines, although effective, have limitations as leaky, non-sterilizing interventions. These vaccines have allowed both vaccinated and unvaccinated individuals to become infected, leading to selective pressure and the development of new variants. It has been theorized that these mutations alter the structure of the spike protein, affecting its binding to host cells and recognition by neutralizing antibodies. Notably, the XBB variant, classified as a WHO variant of concern, has shown convergent evolution with substitutions occurring on the spike protein (7). The initial goal of eradicating the virus through the Covid vaccine program inadvertently led to its global endemicity.

## **Summary**

Today's medical system, often referred to as the medical-industrial complex, raises concerns akin to those expressed by President Dwight D. Eisenhower about the growing influence and dangers posed by the military-industrial complex. The medical-industrial complex has its own set of unique dangers. The production of prescription drugs to combat ever-evolving pathogens comes with significant drawbacks. The financial burdens associated with pharmaceutical research, development, and production are extremely high. Consequently, the costs of drug development often lead to expensive medications, rendering them inaccessible to those who cannot afford them. This creates disparities in access to life-saving treatments, particularly for vulnerable populations. Furthermore, the focus on pharmaceutical interventions often overshadows other aspects of healthcare, such as preventative measures, natural alternatives, and nutritional guidance. This neglect of preventative measures perpetuates a cycle of dependency on medications without addressing the root cause of disease.

Moreover, the constant evolution of pathogens necessitates a relentless pursuit where resources are primarily directed towards finding immediate solutions, rather than investing in long-term prevention strategies. In 2021, the CDC released estimates indicating that treating infections from six multidrug-resistant germs in healthcare costs more than \$4.6 billion annually in US healthcare expenditures (8)(9).

Additionally, the use of prescription drugs can have life-altering or life-ending effects. In 1999, the FDA approved Vioxx. Merck had hoped that this new drug would prove superior to older painkillers due to its fewer gastrointestinal problems. However, Vioxx turned out to be deadly, causing heart attacks and strokes. It is believed to have caused 88,000 deaths before being withdrawn from the market five years later (10).

In 2020, the CDC reported over 69,710 drug overdose deaths in the United States, with approximately 69% involving opioids (11). This widespread harm and tragic loss of life has become a

public health crisis, a direct result of the reckless policies of the pharmaceutical industry driven by hubris and profit.

In summary, we believe that the financial burdens, neglect of holistic health approaches, inadequate nutritional guidance, and potential risks of injury or death from pharmaceutical drugs and interactions make our current medical model a far greater risk than the solutions it purports to provide.

## **The History of Silver**

Silver\* a very malleable metallic chemical element with atomic number 47 that is capable of a high degree of polish, has the highest thermal and electric conductivity of any substance, and is used especially in jewelry and tableware, in electronics, and as an antimicrobial.

The usage of silver dates back to ancient times, with a recorded history as old as civilization itself. In ancient Greece and Rome, silver was renowned for its ability to prevent the spread of diseases. Many ancient civilizations employed silver to purify water, making it safe to drink even when the water source had caused prior illness. Historical records reveal instances of silver flagons being used by figures like Herodotus, the King of Prussia, to boil water and prevent disease. In Ancient Egypt, skeletons were discovered with silver pins used for surgical procedures to repair bones. Hippocrates, often referred to as the father of medicine, recommended finely ground silver powder for treating various conditions, including ulcers and wounds.

Even in the early history of America, silver coins were placed in wooden milk casks or smaller milking buckets to prevent spoilage. This practice persisted until the early 1900s. Silver has also been utilized in the space program since its early days. It was employed to sterilize recycled water aboard the MIR space station and NASA's space shuttle (12). Today, silver can be found in air and water filtration systems, further demonstrating its diverse applications across different industries.

## **Colloids in Human Physiology**

Colloid\* a homogeneous noncrystalline substance consisting of large molecules or ultramicroscopic particles of one substance dispersed through a second substance. Colloids include gels, sols, and emulsions; the particles do not settle, and cannot be separated out by ordinary filtering or centrifuging like those in a suspension.\*

At the beginning of the 20th century, scientists made the discovery that the body's vital fluids, including blood, possess colloidal properties. Blood, being colloidal in nature, carries essential nutrients and oxygen to the body's cells. This finding prompted studies on colloidal silver due to silver's well-known therapeutic capabilities. Prior to 1938, physicians commonly used colloidal silver as a mainstream antibiotic treatment. However, in the early 1900s, the pharmaceutical industry introduced new products utilizing silver. Unfortunately, in their pursuit of proprietary formulas, they combined silver with other molecules, resulting in the formation of silver compounds. Unlike pure silver particles, these compounds, such as silver nitrate and silver salts, caused a severe side effect known as argyria—a permanent blue-gray discoloration of the skin.

To this day, the FDA maintains its stance that the use of colloidal silver can lead to argyria. However, in the 1990s, Marvin Robey in his book "A Miraculous Health Substance" revealed that the FDA's evidence was based on a study involving silver nitrate, a compound known to produce argyria, rather than pure silver colloid (13). In 2017, a research study conducted in Berlin, Germany, explored the behavior of nanosilver particles in a simulated digestive environment (14). The study highlighted how these particles interacted with stomach juices, food, and saliva, maintaining their small particle size. The silver dispersion remained well-preserved, especially when combined with food. Some individuals have reportedly tested their urine to confirm the excretion of silver, indicating that it does not accumulate in their bodies. Unfortunately, there are no formal records of these tests, only anecdotal reports. While the digestive study provided valuable insights, further research is necessary.

Regrettably, instead of commissioning studies to substantiate the health benefits of colloidal silver, which have been supported by thousands of years of empirical evidence, the FDA banned the advertising and marketing of colloidal silver's health benefits in 1999, coinciding with the dawn of the internet age.

### **Colloidal Silver - What is it?**

Colloidal Silver is a solution composed of extremely fine submicroscopic particles (ranging from 0.15 to 0.005 microns) of pure silver suspended in water through a positive electric charge on each particle. The positive charge causes the particles to repel each other with a greater force than gravity can exert, thus keeping them evenly dispersed throughout the solution. Silver is a potent germicide, demonstrating exceptional properties as a metal. It is non-toxic to the human body but lethal to more than 650 diseases caused by bacteria, viruses, fungi, parasites, and molds (15). In comparison, conventional pharmaceutical antibiotics typically target only 6 or 7 types of bacteria. Furthermore, the emergence of new strains of bacteria classified as MDR (Multiple Drug Resistant) has rendered them resistant to pharmaceutical antibiotics, but not to colloidal silver due to its distinct mechanisms of deactivation.

### **How does Colloidal Silver work?**

The following is from Richard Davies and Samuel Etris of The Silver Institute.

In a 1996 monograph entitled *The Development and Functions of Silver in Water Purification and Disease Control*, they discuss three mechanisms of deactivation that silver utilizes to incapacitate disease-causing organisms. They are Catalytic Oxidation, Reaction with Cell Membranes and Binding with the DNA of disease organisms to prevent unwinding.

### **Catalytic Oxidation**

Silver, in its atomic state, has the capacity to absorb oxygen and act as a catalyst to bring about oxidation. Atomic (nascent) oxygen adsorbed onto the surface of silver ions in solution will readily react with the sulfhydryl (-S-H) groups surrounding the surface of bacteria or viruses to remove the hydrogen atoms (as water), causing the sulfur atoms to form an R-S-S-R bond, blocking respiration and causing the bacteria to expire. Employing a simple catalytic reduction/oxidation reaction, colloidal

silver will react with any negative charge presented by the organism's transport or membrane proteins and causing the bacteria to expire. Employing a simple catalytic reduction/oxidation reaction, colloidal silver will react with any negative charge presented by the organism's transport or membrane proteins and deactivate them.

### **Reaction with Bacterial Cell Membranes**

There is evidence that silver ions attach to membrane surface radicals of bacteria, impairing cell respiration and blocking its energy transfer system. One explanation is based on the nature of enzyme construction. Specific enzymes are required for a given biochemical activity to take place. Enzyme molecules usually require a specific metallic atom as part of the molecular matrix in order to function. A metal of higher valance can replace a metal of lower valance in the enzyme complex, preventing the enzyme from functioning normally. Silver, with a valance of plus 2, can replace many metals with a lower, or equal valance that exhibit weaker atomic bonding properties.

### **Binding with DNA**

Studies by C.L. Fox and S.M. Modak with *Pseudomonas aeruginosa*, a tenacious bacteria that is difficult to treat, demonstrated that as much as 12% of silver is taken up by the organism's DNA. While it remains unclear exactly how the silver binds to the DNA without destroying the hydrogen bonds holding the lattice together, it nevertheless prevents the DNA from unwinding, an essential step for cellular replication to occur (15) and deactivates them.

### **Silver as Medicine**

In more recent history, silver was utilized for medicinal purposes from the mid-1800s to the early 1900s. It exhibited potent germicidal properties while maintaining low or no toxicity to humans. The colloidal state of silver emerged as the most effective form due to its milder nature compared to silver salts like silver nitrate. Colloidal silver demonstrated high activity even at very low concentrations.

During the development of medicinal silver compounds prior to 1930, a wide range of approximately four dozen different silver compounds were introduced to the market. These compounds were used to treat various infectious diseases and were available in oral and injectable forms. Examples of marketed products included Largin, Lunosol, Movarigan, Proganol, Electrargol, Silvol, and others (16). It is worth noting that the use of some of these products contributed to the development of argyria, a condition characterized by permanent skin discoloration.

### **The FDA Drug Regulatory Regime**

Colloidal silver was largely treated as a pre-1938 drug. Most pre-1938 drugs were grandfathered into the medical regulatory system as medicinal products. Colloidal Silver received regulatory clearance at the same time as Aspirin (Acetylsalicylic Acid) and both were treated the same until 1999 when the FDA issued CFR - Code of Federal Regulations Title 21 placing Colloidal Silver under the category of "new drug". The reality at that time was folks were becoming alarmed about antibiotic resistance,

and as research was expanding the claims of Colloidal Silver's health benefits, usage began to tick up.

Instead of US government agencies, like FDA, looking at inexpensive, empirically proven remedies for the American people they took regulatory action against the very companies marketing colloidal silver a grandfathered medication with centuries of empirical research. Powerful lobbyists pushing pharmaceuticals companies selling expensive, sometimes toxic drugs, produced for profit medications instead of maximum efficiency. The FDA claimed these actions were taken to ensure consumer safety and prevent misleading advertising but this is clearly not the case. To date the only known side effect from colloidal silver is argyria and that only occurs with silver salts (compounds) not Colloidal Silver (17). Over time a kind of truce was declared and Colloidal Silver sales are not subject to regulation so long as they are advertised and sold as a dietary supplement without medicinal claims.

One of the claims the FDA made was Colloidal Silver sellers marketed their product as a cure for AIDS without any evidence. Actually, this claim was not without evidence and based on a 1997 Clinical Study. The trial was very small, only 3 people but clearly revealing. You can read the study (18) here and learn for yourself how intravenous silver reduced the patient's viral load and symptoms to undetectable levels.

At this juncture, I contend that the pharmaceutical industry initiated a deliberate process to sway regulatory agencies and promote the use of exclusively large clinical studies conducted on synthetic drugs. This approach has resulted in escalating research costs and substantial profits for drug companies. The concerns and assertions I have voiced throughout the years regarding the regulation of medicinal products and the evident influence of profit-driven pharmaceutical corporations have been substantiated in "The Real Anthony Fauci" by Robert F. Kennedy Jr., published by Skyhorse Publishing on November 16, 2021. This enlightening book sheds light on the various instances I have witnessed, including the suppression of Colloidal Silver and the targeted harassment of Dr. Atkins, who operated a Complementary Medicine Clinic in the 1980s and 1990s (19).

## **Conclusion**

We recognize the value of medications with a rich historical background and empirical data spanning centuries. Our fundraiser seeks to unlock the full potential of a 1906/1938 FDA medicine that has been used for generations. Despite its historical significance, the medicine lacks the extensive clinical trial data required by modern regulatory standards.

By rallying together, we can bridge this gap by funding a professional team of experts to design and execute a rigorous clinical trial. This trial will evaluate the medicine's safety, efficacy, and optimal usage for a range of indications. The results will contribute to a better understanding of its potential benefits, side effects, and proper dosage.

## **Mission Statement**

At Good Health Silver I3c, our mission is to raise funds to support the design and implementation of a clinical trial for a historically significant medicine that was grandfathered into the FDA. We aim to

advance scientific knowledge and explore the potential benefits of this medication in a modern context.

Our fundraising arm, aims to make a tangible impact on healthcare by reexamining the historical wealth of knowledge surrounding this medication. With your support, we can drive evidence-based research, potentially unlocking new treatment options for patients and expanding our understanding of medicine's historical contributions.

Join us in raising funds for this critical initiative and help bring this important clinical trial to fruition. Together, we can pave the way for a more comprehensive understanding of the medicine's potential and its role in modern healthcare.

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**\*Oxford Dictionary <https://www.oed.com/>**

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