

There are as many different processes to produce reconstituted neutral silver in water as there are hairs on the scalp. Most of these processes are inconsistent and not based on the science of Physics. As a direct result a high ratio of ionic silver to neutral silver is often produced.

Wet Chemistry Proponents have seen fit to ignore the need for increased knowledge and introduce proper descriptions and an acceptable identity of the silver so produced. This is as evidenced by a complete absence of an International Standard. This has been the reason why in 2003 any reference to this silver being recognised as a medicine was banned by Legislation. Export of this material from Australia is very much restricted.

It is for that reason I have taken it upon myself to research the production of so-called Colloidal Silver in an effort to legitimise a technical consistent and scientifically process I refer to as the Photon Electron Transfer. It is a completely predictable **SLOW** process whereby ionic silver is produced by placing a controlled and limited current and voltage potential on two PURE silver electrodes partially submerged in deionised water. Simultaneously the whole process is irradiated by an intense almost mono chromatic light source at a wavelength of between 417 and 420nm. An accurate description of the process done under refrigerated conditions would be:

“Pico and Nano metre sized neutral atomic silver clusters in a static electric suspension in water”.

Since the process requires the removal of an electron and its subsequent return it can be said to be a quantum process, even more so if the clusters are sized at 10nm or below. In that state its outer electrons are quantum confined.

This new and unique silver substance is definitely NOT A COLLOID and does not consist of PARTICLES

Silver as a metal, having its 47th outer electron unpaired and still considered neutral, nevertheless exhibits a negativity due to this outer electron too far away from its counter charge, one of its 47 protons. This becomes more pronounced when pico and nano sized atomic silver clusters are co-valence bonded (electron donation for stability and to remain neutral). In fact the interface between water and silver creates a strong negative electric charge referred to as the Zeta potential. Something similar also occurs when neutral silver is turned into ionic silver and the left-over electron is hydrated and solvated. As a negative charge it automatically attracts the hydrogen side of a water molecule, causing the negative oxygen to turn outward and also present a negative charge. Very similar to the exposure of UV light of silver halides in black & White photography, silver cluster formation is also unpredictable in size and shape, i.e. localised concentrations.

Historical evidence of biocidal efficacy.

Anecdotal evidence of silver's killing factor are numerous, however clinical evidence at this point in time only exists by way of *In Vitro* trials only. What silver does inside the body and in the bloodstream is unknown and especially its effect on sensitive organs like the brain and our endocrine system is a case for extreme caution, especially at extreme pico and low nano metre

size. There is however some known anecdotal evidence of removing skin infections and other topical applications and even surreptitious sampling of samples over time without any apparent ill effect. There are two known clinical trials 'In Vivo'. One is the eradication of a species of *Proteus* bacteria in the gut. Another 'off the cuff' trial involved with a local horse with a badly infected eye. Already a \$600 antibiotic had been applied that caused even more distress to the animal and provided no healing. The owner was considering putting the horse down, when a small number of sprays of quantum sized silver were applied. Feedback later on the condition of the horse provided proof there were no remaining side effects. Sometime later a dog also with an infected eye was treated the same way. Only a few years ago, a study held at the University of Queensland on applying quantum silver in a low concentration was able to eradicate all species of a biofilm protected (drug-resisting) *Enterococcus faecalis* in the mouth for which there is no antibiotic available. Nevertheless, as with anything new, its is prudent to 'err on the side of caution' especially when used 'In Vivo'.

Silver's probable killing factor

1. By scientific definition any unpaired valence electrons can be assigned to be a source of free radicals. Especially silver with its highly conductive property and 'loose' outer electron would qualify. It is already known that the three transitional metals, Gold, Silver and Copper have surfaces on which pathogens cannot survive. It is referred to as the oligo-dynamic effect.
2. When quantum silver clusters approach sizes at 10nm and below, their surface area ratio to volume becomes extremely large and an ability to offer such a surface area to any pathogen and able to get very close.
3. Naturally occurring radiation causing Local Plasmon Resonances, i.e. photonic collisions with quantum confined surface electrons (a polariton is created during the encounter) a blue shift to a shorter wavelength and substantially higher eV can be created that may also effect any nearby pathogens. Naturally, all of these factors are subject to future research and open up healing procedures currently unknown or uncertain!

CONCLUSION

Much can be earned about Quantum sized silver and this short essay may be the start of further in-depth trials and add to our knowledge, something we presently do not possess.

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