

## Silver-Based Wound Care Products

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The antimicrobial properties of silver have been well known for centuries. In the ionic form  $Ag^+$ , silver has good antimicrobial properties against a broad spectrum of gram-positive and gram-negative bacteria<sup>1,2</sup>. It is used in the treatment of burns and wounds for the reduction of bio-burden. Silver, as soluble salts, chelates, or nano-crystals, is applied topically in solutions, creams, or gels. It is also incorporated as a slow release agent into a wide variety of dressing.

There are drawbacks associated with different commercialized silver systems which should be considered when making treatment choices.

- With soluble salts such as silver nitrate and silver sulfadiazine, high levels of silver are initially released but there is limited residual activity. It has been found that these treatments slow the start of wound healing<sup>3</sup>, can cause tissue staining<sup>4</sup>, and in some cases a variety of problems due to the adsorption of silver<sup>5,6</sup>. Silver toxicity has been well documented with these products<sup>7,8</sup>.
- There are a wide variety of silver impregnated dressings available which serve as barriers to infection and sources of slow released silver ions. Toxicity and silver adsorption are minimal with these products. The development of silver resistant bacteria has also been noted with the increasing use of silver based products<sup>9</sup>.

Vetericyn's liquid and gel products (HOCl) compete with and are compatible to silver based technologies in the wound treatment market. While both silver and Vetericyn products have demonstrated excellent antimicrobial efficacy, there are major differences between these technologies:

- Hypochlorous acid (HOCl), the antimicrobial agent in Vetericyn, is naturally produced by the human body for protection; silver is not.
- The effective concentration of hypochlorous acid in Vetericyn is well below toxic levels. Toxicity is a concern with silver products.
- Vetericyn does not stain the skin or clothes.
- While silver products are only used for their antimicrobial properties, Vetericyn has also been shown to possess highly useful anti-inflammatory, anti-histamine and vasodilation properties.

Vetericyn has been tested with best-in-class silver products and dressings and is compatible when applied prior to use of the silver-based product.

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