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Hypochlorous acid solutions for wound care in animal patients

By Jelena Spasic - January 17, 2022



Using the appropriate wound treatment in your animal patients can mean the difference between a quick recovery and prolonged healing marred with complications. Hypochlorous acid solutions are a recent and highly effective approach to wound care.

There are dozens of different wound cleansers on the market that can help with reducing biofilm and cleansing wounds in order to facilitate optimal healing. Relatively new to the wound market are hypochlorous acid solutions.

Hypochlorous solutions – how they're made and what they can do

Electrolyzed water is an all-natural, no-rinse, non-toxic, nonirritating, and environmentally-safe antimicrobial solution composed of three simple ingredients. When salt water is



organisms while not causing harm to cells. HOCl is one of the only agents that is non-toxic to the delicate cells that heal wounds, while being lethal to almost all known dangerous bacteria and viruses that threaten health. Although it may sting slightly when applied to an open wound, a hypochlorous acid solution is otherwise safe to use on open wounds and mucous membranes, including the mouth and eyes, as the acid is non-cytotoxic and has been rigorously tested for safety. It has anti-odor properties and can be frequently used before and after wound debridement. Hypochlorous acid also exists in the form of a hypochlorite salt, which makes it ideal as a wound filler.

The chemistry behind making hypochlorous acid is well known: an electrolytic process breaks down a saltwater solution ($H_2O + NaCl$) into essential elements before the chlorine oxidizes at the positively charged anode. The reaction releases chlorine in the form of hypochlorous acid, which becomes hypochlorous acid. Since the sea salt concentration is above the physiological value of 0.9%, a hyperosmolar, and consequently decongestant, effective in the wound tissue, with effective biofilm reduction. This decreases wound pain and improves local blood flow. Thanks to the ionized sea water, a deep effect is achieved. H₂O clusters in ionized water are smaller and thus penetrate deeper into the tissue.

Sea salt itself has a germ-reducing property

In chemistry, the hydrogen ion concentration is characterized by the pH value. A high concentration of H⁺ ions and have an oxidizing effect. Basic substances, on the other hand, have a high proportion of OH ions and have a reducing effect. Basic substances are therefore antioxidants — that is, they counteract and neutralize oxidation and free radicals. It is also known that enzymes, signal molecules, neurotransmitters and growth factors are important for the individual wound healing phases, can optimally develop their effect in the basic environment (especially in the epithelialization phase). The quality of salt used in HOCl solutions is important; it should be rich in minerals, containing all 84 essential trace elements that are also present in the human body. It acts as a natural preservative in the solution.

AUTHOR PROFILE



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Jelena Spasic harnesses her background in large healthcare systems as well as in international humanitarian medical organization Doctors Without Borders to commercialize and bring to market exciting new [NexoPet](#) products for animal health and wellbeing. She lives in New Jersey but loves spending her summers on a small island in Croatia.

