

ABSTRACT

Treatment of 2nd & 3rd Degree Burns in 48 Pediatric Patients
Without Routine Antibiotics using
New “Super-oxidized Water Technology” *Microcyn*™

by

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Multi-antibiotic resistant bacteria have emerged as an important worldwide problem in many types of wounds including *Acinetobacter baumannii* infections in soldiers wounded in Operation Iraqi Freedom, and in other wounds that become infected with highly drug resistant *Staph aureus*, *Ps. aeruginosa*, *E. coli*, and others. A new disinfectant/antiseptic technology, *Microcyn*™ (FDA approval in the U.S. pending) has been used in Mexico and Europe since November 2003 as a replacement for antiseptics and dermal antibiotics, enabling wound disinfection and inducing wound healing in diabetic leg ulcers, chronic venous stasis ulcers, and major burns. *Microcyn*™ is a stable, super-oxidized, pH-neutral, bactericidal and virucidal solution, which denatures bacterial and viral membrane and envelope proteins. While changes in osmolarity cause rupture of the bacterial cell membrane and cell lysis, *Microcyn* does not damage or destroy human multi-cellular tissue, nor DNA. The sterile, colorless, non-toxic, oxidized water product developed by a Japanese nuclear physicist for the decontamination of water pipelines used to cool

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nuclear facilities in Japan is manufactured using a multi-chamber electrolysis process in which ionic species are selectively produced and isolated. The present study reports treatment of 2nd & 3rd degree burns in 48 pediatric patients without routine antibiotics at the pediatric burn unit of Hospital Civil de Guadalajara, Mexico from March to December 2004. No antibiotics, either systemic or topical were used unless initial cultures grew *Staph aureus*. Two deaths occurred—one child with severe respiratory burn and another previously debilitated by malnutrition and chronic diarrhea. In the remaining 46 patients, no infections were encountered either during the hospital stay or during post hospitalization wound healing. Third degree burns up to 10 cm in diameter healed completely without requiring skin grafts, with better cosmetic results and less chelation than using previous standard burn treatment. Hospital stay was reduced by 50% from a similar pre-study series from an average 20 to 10 days, thereby reducing the average USD \$1,800 cost per day by \$18,000, in addition to an additional savings of \$100 per day by not using routine antibiotics. There were no other adverse side effects. Currently *Microcyn*™ is used routinely for all burn patients admitted to this burn unit without routine use of antibiotics. Technique of wound care will be discussed. This non-antibiotic technology appears to offer a broad new paradigm for the prevention and treatment of antibiotic resistant wound infections, and the manufacturer is currently entertaining requests for clinical trial sites in the U.S. using FDA protocol.

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