

NeoGEN Electric Cell Signaling Mechanisms of Action in the treatment of Wounds.

Electric cell signaling treatment (EcST and frequency-specific electromedicine have shown promising benefits in the treatment of wounds, offering innovative approaches to enhance healing processes. Here are some positive aspects based on scientific research and medical treatment experience:

1. Accelerated Wound Healing:

- Electric cell signaling (EcST) can stimulate cell migration, proliferation, and differentiation, which are essential processes for wound healing.
- Electromedicine techniques, such as those provided by the RST-Sanexas neoGEN medical device, programmed to produce specific-parameter electrical stimulation frequencies, have been demonstrated to accelerate the overall healing time of wounds, particularly chronic wounds that are resistant to traditional treatments.

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2. Cellular Regeneration:

- Specific electric signals can modulate the behavior of cells involved in wound healing, promoting tissue regeneration and the formation of new blood vessels (angiogenesis).
- Electro-treatment promotes the release of growth factors and cytokines, supporting the regeneration of damaged tissues.

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3. Reduced Inflammation:

- Electric cell signaling and electromedicine have anti-inflammatory effects, helping to control excessive inflammation at the wound site.
- Controlled electrical stimulation has been shown to modulate the immune response, leading to a more balanced and effective healing environment.

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4. Enhanced Collagen Production:

- Electric fields can influence collagen synthesis, a crucial component of the extracellular matrix in wound healing.
- Electromedicine has been found to stimulate fibroblasts, the cells responsible for collagen production, thereby promoting tissue strength and integrity.

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5. Pain Management:

- Electric cell signaling can interfere with pain signals, providing a degree of analgesia in wound treatment.
- Electromedical modalities like transcutaneous electrical nerve stimulation (TENS) can be employed to manage pain associated with wounds, improving patient comfort during the healing process.
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6. Antimicrobial Effects:

- Electric fields have antimicrobial properties, helping to reduce the risk of infection in wounds.
- Electromedical techniques can create an environment that inhibits microbial growth, contributing to a cleaner wound healing process.
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7. Improved Blood Flow:

- Specific electric frequency stimulation can enhance blood circulation, ensuring that oxygen and nutrients reach the wound site more efficiently.
- Improved blood flow supports the delivery of immune cells and other factors essential for the healing process.
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8. Treatment of Chronic Wounds:

- Electric cell signaling and electromedicine are particularly beneficial in the treatment of chronic wounds, such as diabetic ulcers and pressure sores.
- These technologies offer alternatives when traditional wound care methods are insufficient or ineffective.

It's important to note that while there is a growing body of scientific evidence supporting the positive effects of electric cell signaling and specific-parameter electromedicine in wound healing, further research is encouraged to fully understand or reveal additional mechanisms involved to optimize treatment protocols for different types of wounds and patient populations.