



## **Non-Confidential Description - PSU No. 3563HY** **“Topical Naltrexone for Full-thickness Wound Healing”**

### **Field of Invention/Keywords:**

diabetes, cell proliferation, naltrexone, wound healing, DNA synthesis, epithelium, immune system disorder

### **Inventors:**

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### **Background**

The epithelium layer of skin provides a protective barrier for underlying tissues from bacterial and viral infections. Patients with diabetes, immune system disorders, and certain skin conditions exhibit complications in wound healing that can lead to systematic infection, pain, ulceration, and often amputation. During wound repair the body undergoes four stages of healing: inflammation, proliferation, formation of granulation tissue, and maturation. Diabetic patients experience delays in the proliferation stage of wound healing, where lack of proliferation of epithelial cells prevents wound closure. Incomplete restoration of the epithelium results in prolonged or incomplete healing.

### **Invention Description**

This invention is a patent pending method of administering naltrexone, typically through a cream, to continuously block the receptor sites of the wounded tissue. Animal studies have demonstrated a 25%-30% reduction in residual wounds due to topical naltrexone treatments. This treatment for wound healing specifically targets the proliferation stage by enhancing cell replication and reducing complications associated with diabetes. The research has shown that DNA synthesis in the epithelium of diabetic patients can be brought to or surpass DNA synthesis in non-diabetic patients. Naltrexone accelerates wound closure in diabetic and non-diabetic patients, making it an optimal treatment to improve wound repair.

- Animal studies demonstrated 25%-30% reduction in wound size
- Targets proliferation stage of wound healing
- DNA synthesis can be brought to or surpass non-diabetic levels
- Naltrexone can be administered as a cream
- [US Pending Patent 14/235610](#) / Publication Number US20140171460 A1

### **Status of the Invention**

Available for licensing

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