



Scientific Overview

Summary of the latest scientific publications on Fluorescent Light Energy (FLE) and its benefits in wound healing processes.

LUMIHEAL® FLE TECHNOLOGY

ZAGO ET AL. 2020. FLUORESCENT LIGHT ENERGY IN WOUND HEALING: WHEN IS A PHOTON SOMETHING MORE?

The present study investigated the role of light polarization on biological effects of FLE, focusing on IL-6 expression from inflamed human dermal fibroblast (HDF) cells by using polarizing filters. The immunomodulatory impact of FLE was also investigated on a human *ex vivo* skin model.

Zago *et al.*, 2020. Proc. SPIE 11221, Mechanisms of Photobiomodulation Therapy XV, 112210A.

FERRONI ET AL. 2020. FLUORESCENT LIGHT ENERGY (FLE) ACTS ON MITOCHONDRIAL PHYSIOLOGY IMPROVING WOUND HEALING

In this paper, the effect of FLE on mitochondrial homeostasis in an *in vitro* model of inflammation was investigated.

Ferroni *et al.*, 2020. J. Clin. Med. 9(2):559.

SCAPAGNINI ET AL. 2019. MANAGEMENT OF ALL THREE PHASES OF WOUND HEALING THROUGH THE INDUCTION OF FLUORESCENCE BIOMODULATION USING FLUORESCENCE LIGHT ENERGY

An *in vitro* study on dermal human fibroblasts (DHF) and an *in vivo* study on canine deep pyoderma (CDP) have been performed to better understand the FLE wound healing mechanism.

Scapagnini *et al.*, 2019. Proc. SPIE 10863, Photonic Diagnosis and Treatment of Infections and Inflammatory Diseases II, 108630W (7 March 2019).

ACUTE WOUNDS

MELLERGAARD ET AL. 2020. EVALUATION OF FLUORESCENT LIGHT ENERGY FOR THE TREATMENT OF ACUTE SECOND-DEGREE BURNS

In this study, the effect of FLE therapy in 18 patients with superficial and deep second-degree burns divided in 2 investigator-initiated trials (IITs) was evaluated. An *ex vivo* investigation on FLE wound healing mode on a human skin model was also performed.

Mellergaard *et al.*, 2020. Military Medicine, 186:416-423.

FOGACCI ET AL. 2018. THE USE OF CHROMOPHORE GEL-ASSISTED BLUE LIGHT PHOTOTHERAPY (LUMIHEAL) FOR THE TREATMENT OF SURGICAL SITE INFECTIONS IN BREAST SURGERY

The case of a 39-year-old patient with a postoperative infection of the surgical wounds treated with Lumiheal as second-line therapy of lesions is reported with satisfactory results.

Fogacci *et al.*, 2018. Breast J. 24:1135.



CHRONIC WOUNDS

DINI ET AL. 2019. BIOMODULATION INDUCED BY FLUORESCENT LIGHT ENERGY VERSUS STANDARD OF CARE IN VENOUS LEG ULCERS: A RETROSPECTIVE STUDY

Retrospective analysis of wound care data comparing 46 venous leg ulcers (VLU) patients treated with standard of care (SoC) in real-life conditions vs wounds of the EUREKA study with both FLE and SoC.

Dini *et al.*, 2019. J Wound Care. 28(11):730-736.

ROMANELLI ET AL. 2018. EVALUATION OF FLUORESCENCE BIOMODULATION IN THE REAL-LIFE MANAGEMENT OF CHRONIC WOUNDS: THE EUREKA TRIAL

The aim of the EUREKA trial was to confirm the efficacy and safety of LumiHeal system in the treatment of chronic wounds such as VLUs, diabetic foot ulcers (DFUs) and pressure ulcers (PUs).

Romanelli *et al.*, 2018. J Wound Care. 27(11):744-753.

NIKOLIS, FAUVERGHE ET AL. 2016. EVALUATION OF BIOPHOTONIC THERAPY IN A NON-HEALING DIABETIC FOOT ULCER: A CASE REPORT

In this case report, a 68-year-old male with a 10-year history of type 2 diabetes DFU case treated with Lumiheal system is described.

Nikolis *et al.*, 2016. Diabetic Foot Canada 4:25-30.

NIKOLIS, GRIMARD ET AL. 2016. A PROSPECTIVE CASE SERIES EVALUATING THE SAFETY AND EFFICACY OF THE KLOX BIOPHOTONIC SYSTEM IN VENOUS LEG ULCERS

Open-label study design to investigate the safety and efficacy of the Lumiheal system in patients with VLUs is reported.

Nikolis *et al.*, 2016. Chronic Wound Care Management and Research, 3:101-111.
