

Abstract Submitted
for the 4CS20 Meeting of
The American Physical Society

Plasma activated oil and cold atmospheric plasma as an emerging technology for wound healing. MILAD RASOULI, ELAHEH AMINI, Kharazmi University — A chronic wound is one that cannot heal and recover anatomic and functional integrity. Despite considerable efforts in developing strategies and marketing various therapeutic products, clinical success in curing chronic wounds has been limited. Cold atmospheric plasma (CAP) as an emerging technology that is a cocktail of physical and chemical factors, offering promising clinical applications by providing a multimodal action of reactive agents. Examples of CAP applications include wound healing, dentistry, antibacterial, food processing, antiviral, agricultural, blood coagulation, and cancer therapy. Two modes, namely direct plasma exposure and plasma-activated oil (PAO) are the two forms of in vitro and in vivo plasma treatments with demonstrated success. Here we investigate the ability of CAP and PAO to enhance cellular migration of dermal fibroblasts and epidermal keratinocytes. Also, we evaluate reactive oxygen and nitrogen species generated by CAP and the antimicrobial activity of CAP and PAO.

Milad Rasouli
Kharazmi University

Date submitted: 30 Sep 2020

Electronic form version 1.4