

INTERNATIONAL ABSTRACTS

FACTORS AFFECTING RESEARCH PRODUCTIVITY OF BURN SURGEONS: RESULTS FROM A SURVEY OF AMERICAN BURN ASSOCIATION MEMBERS

The aim of the authors of this study was to identify factors that promote and impede research participation and productivity of burn surgeons, and elucidate what changes can be made to improve research productivity. Burn surgeon members of the American Burn Association completed a 44-question anonymous survey. The questions analysed factors such as demographics, career accomplishments, current institution type, educational background, research background, barriers to conducting research, and current research productivity. Most respondents reported not having any protected research time (71.4%) or resources provided by their institution (84.5%). A majority believed increasing regulatory policies/institutional review board restrictions have negatively impacted productivity (65.1%). The survey revealed that burn surgeons are more likely to publish research and to receive grants when they have mentors, a history of research prior to completion of residency, and research resources from their institution. Barriers to research productivity include lack of institutional support, lack of protected research time, and increased regulatory policy.

Elkbuli A et al.
J Burn Care Res, 41(2): 293-298, 2020

HERBAL PRODUCTS FOR TREATMENT OF BURN WOUNDS

The purpose of this review is to summarize current knowledge regarding topically-used herbal products with burn wound-healing activity. Antimicrobial, anti-inflammatory and antioxidant mechanisms of their action, as well as penetration of herbal products through burned skin and adverse effects of herbal therapy are also described. The PubMed, Scopus, and Google

Scholar databases were searched for articles published from 2014 to the present. Search terms included “herbs for burn wound healing,” “topical herbal treatments for burn wound healing,” “herbal treatments in burn wound model,” and “herbs for bacterial burn wound infections.” The authors conclude that topical applications of herbal products with antimicrobial, anti-inflammatory and antioxidant activity appear to be a good alternative for the treatment of burn wounds, although the chemical compositions, purity, efficacy, minimal active concentration and toxicity of herbal formulations need to be further investigated.

Herman A & Herman AP
J Burn Care Res, 41(3): 457-465, 2020

CARDIAC DYSFUNCTION AFTER BURN INJURY: ROLE OF THE AMPK-SIRT1-PGC1-NFE2L2-ARE PATHWAY

This article from the USA presents the results of an investigation conducted to test the hypothesis that burn injury acts through the AMPK-sirtuin 1-PGC1 α -nuclear factor erythroid 2-related factor 2 (NFE2L2)-ARE signaling pathway, leading to cardiac mitochondrial impairment resulting in cardiac dysfunction. Male Sprague-Dawley rats underwent sham procedure or 60% total body surface area full-thickness burn. Echocardiograms were performed 24 hours post burn. Heart tissue was harvested at 24 hours post burn for biochemistry/molecular biologic analysis. Results showed that, in vitro, AMPK1 activator and PGC1 α agonist treatment improved Ac16 cell mitochondrial dysfunction, and AMPK1 inhibitor treatment worsened Ac16 cellular damage. Burn-induced cardiac dysfunction and cardiac mitochondrial damage occur via the AMPK-sirtuin 1-PGC1 α -NFE2L2-ARE signaling pathway. The authors conclude that AMPK and PGC1 α agonists might be promising therapeutic agents to reverse cardiac dysfunction after burn injury.

Wen JJ et al.
J Am Coll Surgeons, 230(4): 562-571, 2020