

## Acupuncture for Burns and Sequelae: A Scoping Review of Experimental and Clinical Studies

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### ADMINISTRATIVE INFORMATION

**Support** - None.

**Review Stage at time of this submission** - Preliminary searches.

**Conflicts of interest** - None declared.

**INPLASY registration number:** INPLASY2023110002

**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 01 November 2023 and was last updated on 01 November 2023.

### INTRODUCTION

**Review question / Objective** The aim of this scoping review is to examine how research is conducted on the acupuncture treatment for burns and its sequelae in both experimental and clinical study. By exploring the mechanism identified in experimental studies and the current stage of clinical studies, it would possible to clarify key characteristics related to burns and its sequelae.

**Background** Burn injuries are caused by friction, cold, heat, radiation, chemical or electric sources. Burns are classified as either minor or major, and these are evaluated by the size and depth (e.g. the total body surface area (TBSA) or degree of burn depth). Treatments are determined by the severity of injuries, ranging from conservative treatment to surgery. Burn injuries also lead to long-lasting

physical, functional, aesthetic, psychological and social consequences. Acupuncture treatment has been known for a treatment option for burns in Korea. It can accelerate the local blood circulation, promote growth factors and modulate inflammatory process. However, there is a few experimental and clinical studies on burns and its sequelae. To explore the current stage of the studies and to identify the types of available evidence in these field, we plan to conduct a scoping review for both experimental and clinical studies.

**Rationale** Acupuncture treatment is frequently used to treat burns and its sequelae in Korean Medicine clinic, however, its mechanism and clinical evidence have not yet been established. Although several experimental studies have been published, the number is small, so that it is difficult to infer a consistent mechanism. In the case of

clinical studies, most of them are just case reports or case series. As the protocol for acupuncture treatment for burns and its sequelae has not been developed, there is a need to investigate what types of acupuncture treatments are being applied in currently conducted clinical research. Therefore, by analyzing the status of experimental and clinical studies on the acupuncture treatment for burns and its sequelae, we would identify the mechanisms that has proven so far and systemically review clinical research data, according to the STRICTA form. We expect this study could suggest directions for future follow-up research such as randomised controlled trial or systematic review.

## METHODS

**Strategy of data synthesis** Studies published up to November 10th, 2023 will be retrieved from the following 9 databases: MEDLINE via PubMed, Embase via Ovid, the Cochrane Central Register of Controlled Trials, China National Knowledge Infrastructure (CNKI), CiNii, Research Information Service System (RISS), Korean Studies Information Service System (KISS), Database Periodical Information Academic (DBpia), and Oriental Medicine Advanced Searching Integrated System (OASIS). The World Health Organisation International Clinical Trials Registry Platform will also be screened to reduce the risk of publication bias. Potentially missing eligible studies will be manually scanned as well from the reference lists of other systematic reviews and the relevant conference proceedings.

Examples of searching terms for Pubmed is following:

#1 ("burns"[MeSH Terms] OR "burns"[All Fields] OR "burn"[All Fields] OR "scald"[All Fields] OR "scalded"[All Fields] OR "scalding"[All Fields] OR "scaldings"[All Fields] OR "scalds"[All Fields])

#2 ("Acupuncture Therapy"[Mesh])

#3 ((Acupuncture Therapy[Title/Abstract]) OR (Acupuncture Treatment[Title/Abstract]) OR (Acupuncture Treatments[Title/Abstract]) OR (Treatment, Acupuncture[Title/Abstract]) OR (Therapy, Acupuncture[Title/Abstract]) OR (Pharmacoacupuncture Treatment[Title/Abstract]) OR (Treatment, Pharmacoacupuncture[Title/Abstract]) OR (Pharmacoacupuncture Therapy[Title/Abstract]) OR (Therapy, Pharmacoacupuncture[Title/Abstract]) OR (Acupotomy[Title/Abstract]) OR (Acupotomies[Title/Abstract]) OR (Needling[Title/Abstract]) OR (dry needling[Title/Abstract]) OR (needling therapy[Title/Abstract]) OR (Warm needle acupuncture[Title/Abstract]) OR (needle warming therapy [Title/Abstract]) OR (Electroacupuncture[Title/Abstract]) OR (Acupuncture, Ear[Title/Abstract]) OR (Ear

Acupuncture [Title/Abstract]) OR (Auricular Acupuncture [Title/Abstract]) OR (Ear Acupuncture [Title/Abstract]) OR (Acupuncture, Auricular [Title/Abstract]) OR (Acupuncture, Auricular [Title/Abstract]) OR (Auricular Acupuncture [Title/Abstract]) OR (Acupuncture Points [Title/Abstract]) OR (Acupuncture Point [Title/Abstract]) OR (Point, Acupuncture [Title/Abstract]) OR (Points, Acupuncture [Title/Abstract]) OR (Acupoints Acupoint [Title/Abstract]))

#4 #2 OR #3

#6 #1 AND #4.

**Eligibility criteria** Experimental studies, case studies, observational studies, any type of clinical trials and reviews of acupuncture treatment for animal models or patients with any types of burns and/or its sequelae without restrictions on publication language will be eligible for inclusion.

For the type of intervention, we defined acupuncture treatment as those therapies involving the insertion of needles, including manual acupuncture, electroacupuncture, auricular acupuncture, pharmacopuncture, acupotomy, and dry needling. Other therapy that doesn't puncture the skin or combines other stimulation methods, including acupressure, transcutaneous electrical acupoint stimulation, warm needling, plum blossom needle, fire needling, cupping and moxibustion, will be excluded. Comparison interventions, including active therapies (western medications, traditional chinese medicines, topical antimicrobial creams, dressings, surgery including surgical debridement, burn wound excision, autografting, temporary coverage with skin substitute), sham acupuncture (pseudoacupuncture interventions, non-penetrating sham acupuncture, sham acupuncture at non-acupoints, sham acupuncture at selected acupoints, and needling at inappropriate acupoints), and no treatment, will be included.

Acupuncture either used alone or combined with other therapies which are the same as the comparison intervention will also be included.

**Source of evidence screening and selection** The titles and abstracts of studies will be browsed by 2 independent researchers (S-AK and T-HK), after retrieving all eligible studies in Endnote 20 (Clarivate Analytics) and eliminating duplicate publications. Full texts of all potentially eligible studies will be scanned. Any disagreement on data selection will be solved with the arbiter (JWK).

**Data management** Data will be independently extracted by two authors (S-AK and T-HK) using predefined data extraction forms. S-AK is knowledgeable in the review topic, and T-HK is a

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methodology expert. Disagreements between the reviewers will be resolved by a third arbitrator (JWK).

We will use R software ver.4.3.1. for conducting data extraction and statistical analyses.

**Language restriction** No.

**Country(ies) involved** South Korea.

**Keywords** burns; sequela; acupuncture; scoping review.

**Dissemination plans** The essential protocol amendments will be documented in the full review. The results will be disseminated in a peer-reviewed journal.

**Contributions of each author**

Author 1 - Sung-A Kim - Author 1 will draft the manuscript.

Email: 777tjddk@naver.com

Author 2 - Tae-Hun Kim - The author will investigate data and provide statistical expertise.

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Author 3 - Jung Won Kang - The author will review and edit the manuscript.

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