

# INPLASY PROTOCOL

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

**Conflicts of interest:**  
None declared.

## Silver dressing in the treatment of diabetic foot: A protocol for systematic review and meta-analysis

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**Review question / Objective:** To search for relevant studies on the treatment of DF with silver dressings through evidence-based medicine methods and to draw conclusions with higher levels of evidence to provide a basis for the clinical treatment of DF.

**Condition being studied:** Diabetic foot (DF) is the most serious and common chronic complication of elderly patients with diabetes and in severe cases, the infection can lead to amputation or even death. It is mainly caused by foot (ankle joint or below) infection, ulcer, and (or) deep tissue destruction related to abnormalities of the distal nerves of the lower extremities and various degrees of peripheral vascular disease. Its main clinical manifestations are foot ulcers and gangrene, which are one of the main causes of amputation and disability in diabetic patients. These complications include infection and lower extremity amputation, which have become one of the major causes of disability and death among diabetes patients. With a prevalence rate of 4-10%, amputation is needed to control the infection to save the lives of patients. 70% of amputations worldwide occur in people with diabetic feet and die after amputation. DF not only affects the physical health of patients but also causes patients to produce anxiety and depression and other unhealthy emotions, bringing a heavy economic burden to the family and society.

**INPLASY registration number:** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 29 January 2021 and was last updated on 29 January 2021 (registration number INPLASY202110112).

### INTRODUCTION

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## METHODS

**Participant or population:** Patients diagnosed with diabetic foot, there are no limits to research subjects age, gender, race, condition duration, or intensity. Participants with serious underlying diseases will be excluded.

**Intervention:** The experimental group used silver dressing care, including various types of silver ion dressings.

**Comparator:** The control group used other wound dressings, including saline gauze, petrolatum gauze, sterile gauze, wet wound dressing, alginate dressing, foam dressing, etc.

**Study designs to be included:** The type of literature research is RCT.

**Eligibility criteria:** (1) The type of literature research is RCT. (2) Study participants: patients diagnosed with diabetic foot, there are no limits to research subjects age, gender, race, condition duration, or intensity. Participants with serious underlying diseases will be excluded. (3) The experimental group used silver dressing care, including various types of silver ion dressings. The control group used other wound dressings, including saline gauze, petrolatum gauze, sterile gauze, wet wound dressing, alginate dressing, foam dressing, etc. (4) Outcome indicators include wound healing rate, granulation tissue appearance time, epithelial formation time, and basic wound healing time, including at least one of them. (5) There was no statistical difference in the baseline comparison of diabetic foot patients.

**Information sources:** Search China Knowledge Network (CNKI), China Biomedical Abstracts Database (SinoMed), VIP Database (VIP), Wanfang Database, PubMed, Embase, Cochrane Library, etc. Use corresponding search formulas according to different database requirements. In order to avoid omissions, search scope for including subject words, keywords, or full text. The search time is from the establishment of the database to January 23, 2021. Search terms are: “diabetic foot”, “diabetic feet”, “diabetic foot ulcer”, “foot ulcer”, “Ag”, “silver dressings”, “silver-releasing dressings”, “silver-impregnated dressings”, “Randomized controlled trial”, “RCT”.

**Main outcome(s):** Outcome indicators include wound healing rate, granulation tissue appearance time, epithelial formation time, and basic wound healing time, including at least one of them.

**Quality assessment / Risk of bias analysis:** After reading the title and abstract, include the required documents, import them into Note Express 3.2.0 for centralized management, and then read the full text and remove them one by one. Two researchers independently screened the literature. When the opinions are

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inconsistent, the third-party personnel decides to make the basic data extraction table of the literature after the inclusion of the literature is determined, including the author, publication year, research method, research object, diabetes The patient's diagnostic criteria, allocation methods, intervention measures, sample size, duration of treatment, and outcome indicators are adequate.

**Strategy of data synthesis:** This research uses the Reviewer Manager 5.3 software provided by Cochrane. Mean Difference (MD) was used for measurement data, odds ratio (OR) was used for classification data, and 95% CI was used as the statistical analysis quantity. If the study includes outcome indicators  $\geq 10$ , the funnel plot will be used to assess whether publication bias is included in the trial. If there are differences in symmetry or distribution, there will be publication bias or small sample effects. Under the test level of  $\alpha=0.05$ , use software to generate a forest map to assess article publication bias. When  $P < 0.1$ ,  $I^2 < 50\%$ , select the fixed-effects model. If there is statistical heterogeneity between the results of the study ( $P < 0.1$ ,  $I^2 > 50\%$ ) without clinical heterogeneity, using a random effects model.

**Subgroup analysis:** For results with obvious heterogeneity, the source of the heterogeneity should be analyzed. Subgroup analysis can perform heterogeneity tests based on different sources, such as treatment duration, course of the disease, underlying disease, race, gender, age, etc. If there is no clear source of heterogeneity, only descriptive ones can be analyzed.

**Sensitivity analysis:** The purpose of sensitivity analysis is to eliminate low-quality studies to reduce heterogeneity. By excluding a certain study to observe whether there is a significant change in heterogeneity, the reliability and stability of the results can be evaluated.

**Country(ies) involved:** China.

**Keywords:** silver dressing, diabetic foot, protocol, systematic review.

**Contributions of each author:**

Author 1 - Chunhua Huang.

Author 2 - Ruiqi Wang.

Author 3 - Zhangren Yan.