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## Herbal Sitz Bath for Postoperative Wound Healing after Perianal Abscess Surgery: A protocol for a systematic review and meta-analysis of randomized controlled trials

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**ADMINISTRATIVE INFORMATION**

**Support** - This work was supported by the Science and Technology Program for Traditional Chinese Medicine in Zhejiang Province (2024ZR085).

**Review Stage at time of this submission** - Completed but not published.

**Conflicts of interest** - None declared.

**INPLASY registration number:** INPLASY202690038

**Amendments** - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 8 September 2026 and was last updated on 8 September 2026.

**INTRODUCTION**

**Review question / Objective** The aim of this systematic review is to evaluate the efficacy of herbal sitz bath (Chinese herbal fumigation and washing) on postoperative wound healing after perianal abscess surgery. The review question is: In patients after surgical treatment for perianal abscess, does herbal sitz bath (plus routine care) compared with non-herbal controls (routine dressing care, warm water sitz bath, potassium permanganate sitz bath, or other non-herbal interventions) improve wound healing time and related secondary outcomes?

**Rationale** Perianal abscess is a common anorectal emergency in which postoperative wound healing is often prolonged and painful. Herbal sitz bath (fumigation-washing with Chinese herbal decoctions) is a widely used external therapy of traditional Chinese medicine after anorectal surgery. However, the existing evidence is

scattered, with small sample sizes, and no systematic quantitative synthesis has been available. This review was conducted to systematically evaluate randomized controlled trials (RCTs) comparing herbal sitz bath with non-herbal controls for postoperative wound healing after perianal abscess surgery.

**Condition being studied** Perianal abscess is a common anorectal emergency characterized by acute suppurative infection of the soft tissues around the anal canal and rectum. It typically requires surgical treatment, including incision and drainage or seton procedures. Postoperative management remains challenging because the open surgical wounds heal slowly, with prolonged healing time, persistent pain, edema, exudation, and risk of recurrence or fistula formation. Herbal sitz bath (fumigation-washing with Chinese herbal decoctions) is a widely used traditional Chinese medicine external therapy in postoperative care, but its efficacy for promoting wound healing lacks

systematic quantitative evaluation. This review focuses on patients after surgical treatment for perianal.

abscess and whether herbal sitz bath improves postoperative wound healing outcomes compared with non-herbal controls.

## METHODS

**Search strategy** Databases: CNKI, Wanfang Data, SinoMed/CBM, PubMed; supplementary searches of Embase, Web of Science, and Cochrane CENTRAL (until 2026-09-03). Search period: from inception to 2026-06-30 (supplementary update to 2026-09-03).

Chinese terms: 肛周脓肿、肛痛、坐浴、中药坐浴、中药熏洗、熏洗、洗剂、外洗、随机。

English terms: perianal abscess / anorectal abscess / ischiorectal abscess / perirectal abscess / anal abscess / rectal abscess; sitz bath / hip bath / herbal bath / Chinese herb\* / Chinese medicine / traditional Chinese medicine / zuoyu / fumigation / herbal fumigation\*, using MeSH/subject headings combined with free-text terms.

**Participant or population** Postoperative patients after surgical treatment for perianal abscess (including anorectal abscess), regardless of age, sex, or abscess type. Exclusion: patients with concurrent fistula surgery or other conditions, and Crohn's disease-related abscess.

**Intervention** Herbal sitz bath / herbal fumigation-washing (Chinese herbal compound sitz bath, fumigation agent, or herbal lotion for external washing) administered after surgery (incision and drainage / seton surgery etc.) on the basis of routine treatment.

**Comparator** Routine dressing change/basic care, warm water sitz bath, potassium permanganate sitz bath, or other non-herbal interventions.

**Study designs to be included** Randomized controlled trials (RCTs).

**Eligibility criteria** Inclusion: RCTs as per PICOS above. Exclusion: non-randomized or quasi-randomized studies (e.g., allocation by visit order or operation date); herbal interventions not administered by sitz bath route (oral, intravenous etc.); combined nursing packages in which the effect of sitz bath cannot be isolated; reviews; animal studies; case reports.

**Information sources** Electronic databases: CNKI (China National Knowledge Infrastructure), Wanfang Data, SinoMed/CBM (China Biology

Medicine), PubMed, Embase, Web of Science, and Cochrane Central Register of Controlled Trials (CENTRAL). Chinese databases were searched using Chinese search terms, and English databases using English search terms combining MeSH/Emtree subject headings with free-text terms. Searches were conducted from database inception to 30 June 2026, with supplementary searches of English databases updated to 3 September 2026. No language restriction was applied. Reference lists of included studies and relevant reviews were screened manually for additional eligible studies. No grey literature sources or trial registries were additionally searched.

**Main outcome(s)** Wound healing time (primary outcome), defined as the time from the start of postoperative treatment to complete epithelialization of the surgical wound. It was measured in days and analyzed as a continuous outcome, with mean difference (MD) and 95% confidence interval (CI) used as the effect measure when the unit of measurement was consistent across studies.

**Additional outcome(s)** Time to resolution of wound edema; time to slough (necrosis) detachment; time to resolution of anal distension; time to resolution of exudation; time to resolution of dysuria; VAS pain score; wound exudation score; wound edema score; adverse reactions.

**Data management** Two reviewers independently screened literature and extracted data; disagreements were resolved by discussion or adjudicated by a third reviewer. Extracted items included first author, publication year, sample size, intervention and control details, treatment course, and outcome data (means, standard deviations, numbers). Data were recorded in Excel and analyses performed with RevMan 5.4 plus independent Python scripts for verification.

**Quality assessment / Risk of bias analysis** Risk of bias was assessed independently by two reviewers using the Cochrane Risk of Bias tool (RoB 1.0) across seven domains (random sequence generation, allocation concealment, blinding of participants and personnel, blinding of outcome assessment, incomplete outcome data, selective reporting, other bias), rated as low/unclear/high risk. Publication bias was evaluated by Egger's regression and Begg's rank correlation tests plus funnel plots.

**Strategy of data synthesis** For continuous outcomes with consistent units, mean difference

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(MD) was used; for scale-based outcomes, standardized mean difference (SMD) was used, both with 95% confidence intervals. Heterogeneity was assessed by the chi-squared test and  $I^2$  statistic; if  $I^2 > 50\%$ , a random-effects model (DerSimonian-Laird) was applied and sources of heterogeneity explored. Statistical analyses followed the Cochrane Handbook and PRISMA 2020 guidance.

**Subgroup analysis** Pre-specified subgroup analysis by comparator type: potassium permanganate sitz bath control versus other non-herbal controls, reporting within-subgroup  $I^2$  and the between-subgroup interaction test ( $P$  for interaction).

**Sensitivity analysis** One-study-removed sensitivity analyses were performed to test the robustness of the pooled results (including sequential exclusion of individual studies).

**Language restriction** No language restriction was imposed; both Chinese and English literature were considered (search strategies conducted in Chinese and English).

**Country(ies) involved** China.

**Other relevant information** This protocol was registered retrospectively after the systematic review and meta-analysis had been completed. The study was not prospectively registered (e.g., in PROSPERO) before commencement; the reasons are honestly stated in the manuscript. This retrospective registration was performed to provide a time-stamped, transparent record of the review methods and to enhance research transparency. The protocol content is consistent with the study archived on the Open Science Framework (<https://osf.io/2kje5/>, archived 5 September 2026). Adverse reactions reported in the included trials were also collected and summarized as safety information. The review was supported by the Zhejiang Provincial Traditional Chinese Medicine Science and Technology Program (Grant No. 2024ZR085).

**Keywords** perianal abscess; sitz bath; herbal medicine; traditional Chinese medicine; wound healing; meta-analysis; randomized controlled trial.

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