

# Summary of “Coniferous Resin Salve, Ancient and Effective Treatment for Chronic Wounds – Laboratory and Clinical Studies”

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**History:** “Natural coniferous resins and other terpenic wood extracts have been raw materials for various products in industry, and have been used as traditional medicines in Finland for hundreds of years, particularly as a home-made salve for skin wounds and infections.”

**Objective:** “Due to the author’s own positive empirical experiences of natural coniferous resin salve in wound care, the present “resin-project” was set up in order to investigate (1) the antimicrobial properties of the resin and resin salve by microbiological laboratory techniques, and to study (2) the efficacy, feasibility and safety of the resin salve for wound care in objective clinical trials. The thesis comprises four microbiological investigations [Assay] and two clinical trials.”

**Materials and Method for Assay:** Norway spruce resin (Abilar 10% resin salve) and salt-free butter formulated into a salve prepared according to commonly practiced traditional medicine. Antimicrobial properties were measured with agar.

**Results of Assay:** “Coniferous resin and the resin salve exhibited a clear antimicrobial effect against all Gram positive bacteria tested including the methicillin-resistant *Staphylococcus aureus* (MRSA) and the vancomycin-resistant enterococcus, but only against *Proteus vulgaris* of the Gram-negative bacteria tested in the agar diffusion tests.”

**Conclusion of Assay:** The resin and its subsequent salve are antimicrobial against a spectrum of both bacteria and fungi. This effect can be in part attributed to damages done to the microbial cell structure. Adverse reactions (allergic) only occurred in 2% of patients over the long term.

## Discussion of Two Human Clinical Trials

1. Randomized controlled trial in patients with pressure ulcers
  2. Observational study in a cohort of patients with chronic surgical wounds
- “Natural coniferous resin salve is a promising treatment option in the local treatment of pressure ulcers and chronic surgical wounds. It promotes the healing of advanced, severe pressure ulcers more effectively than standard treatment with hydrofiber dressings. In chronic surgical wounds, resin salve treatment positively associates with progressive healing of the wound. The improvement of skin ulcers and wounds is not limited to the healing of infected wounds only, suggesting that the resin has positive influences on mechanisms that play a role in wound repair... The direct costs of the pharmaceutical materials (resin salve and accessories) in resin salve treatment are low.”