Impact of Medical Grade Honey on Wound Healing: Latest Evidence

Dr. Melinda G. Oberleitner
Associate Dean
College of Nursing and Allied Health Professions
Professor
Department of Nursing
SLEMCO/BORSF Endowed Professor of Nursing
University of Louisiana at Lafayette
Disclosures

- Nothing to disclose
Honey: Medicinal Properties

• Re-evaluation of therapeutic use of ancient plant – and plant-based remedies (such as honey) as alternatives to antimicrobial agents; evidence of increasing resistant pathogens

• Honey is a viscous, supersaturated sugar solution (30% glucose, 40% fructose, 5% sucrose, and 20% water) derived from nectar gathered and modified by the honeybee.

• Honey also contains many other substances such as amino acids, vitamins, minerals, and enzymes.
Medicinal Properties

• Honey, produced by *Apis mellifera* (A. Mellifera), one of the oldest traditional medicines considered to be important in the treatment of several human ailments.
  • First written reference to honey, a Sumerian writing tablet, dates back to 2100-2000 BC and mentions honey’s use as a drug and an ointment.

• Antibacterial properties of natural, unheated honey tested; honey has some broad-spectrum antibacterial activity.
Antibacterial Activity

• At present a number of honeys are sold with standardized levels of antibacterial activity.

• The best known of the honeys is manuka honey, *Leptospermum scoparium* (*L. scoparium*). Manuka honey is a monofloral honey derived from the *Leptospermum* tree (myrtle family) in New Zealand and Australia.

• Reported to have an inhibitory effect on approximately 60 species of bacteria including:
  • Aerobes
  • Anaerobes
  • Gram-positive organisms
  • Gram-negative organisms
Wound Healing Properties

• Honey may exert multiple microscopic actions on wounds.
  • Appears to draw fluid from the underlying circulation, providing both a moist environment and topical nutrition that may enhance tissue growth.
  • Histologically, honey appears to stimulate tissue growth in animal and human controlled trials, with earlier tissue repair noted, fewer inflammatory changes, and improved epithelialization.
  • Macroscopically, reports have also noted the debriding action of honey.
Latest Evidence

• Review published in the Cochrane Collaboration database, 2015

• Reviewed the evidence about the effects of applying honey on the healing of any kind of wound.

• 26 studies involving 3,011 people with different types of wounds.

• Honey compared with many different treatments.
Results

• The differences in wound types and comparators make it *impossible to draw overall conclusions* about the effects of honey on wound healing.

• The evidence for most comparisons is low or very low quality; mainly due to problems with study design and for many outcomes, only a small amount of information available.
Results

- There is **HIGH quality** evidence that honey heals *partial thickness burns* around 4 to 5 days more quickly than conventional dressings.

- There is **MODERATE quality** evidence that honey is more effective than antiseptic washes followed by gauze for healing *wounds infected after surgical operations*.

- It is **NOT clear** if honey is better or worse than other treatments for *burns, mixed acute and chronic wounds, pressure ulcers, Fournier’s gangrene, venous leg ulcers, minor acute wounds, diabetic foot ulcers and Leishmaniasis* as most of the evidence that exists is of low or very low quality.

References


Closing Remarks / Thank You
Impact of Medical Grade Honey on Wound Healing: Latest Evidence

Dr. Melinda G. Oberleitner
Associate Dean
College of Nursing and Allied Health Professions
Professor
Department of Nursing
SLEMCO/BORSF Endowed Professor of Nursing
University of Louisiana at Lafayette