

## The healing properties of honey

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Honey has been used throughout the centuries for its healing properties, including wound healing. These days we have a better understanding about just what properties honey has that make it effective in healing a variety of wounds, both acute and chronic.

### How does honey heal?

The acidity (pH 3.2–4.5) of honey aids in the release of oxygen from the blood, which encourages the wound to heal. This acidity also prevents enzymes from breaking down the tissue in the wound, which encourages wound healing.

The natural high sugar content of honey has an *osmotic* (drawing) effect, which draws water out of the wound bed, which reduces the swelling in the wound. The drawn-out water is replaced by a flow of lymph, which helps heal the wound. Water is also drawn out of bacterial cells which may be present in the wound, which inhibits their ability to multiply. This osmotic action has also been shown to decrease wound odour, which is known to occur in infected wounds (especially diabetic wounds).

When honey is diluted with wound exudate (discharge), it produces *hydrogen peroxide*, which has antibacterial activity. The hydrogen peroxide produced is strong enough to act as an antibacterial, yet not so strong as to damage healing tissue. A certain type of honey from manuka trees (manuka honey) is the only honey that produces a compound called methylglyoxal (MG), which has an antibacterial action. Honey has also been found to have a debriding action on the wound (removes dead and foreign tissue from the wound).

These intrinsic properties of honey have shown honey to have antibacterial, anti-inflammatory, antiviral and antioxidant effects. This may make honey effective in healing a variety of wounds.

### What type of wounds can honey be applied to?

Honey can be used for a variety of wounds, but evidence has shown it to be especially effective in healing partial-thickness burns and infected postoperative wounds. In burn wounds, honey has also been shown to prevent the formation of eschar (dead tissue that often contains inflammation-causing bacteria) which forms over the burn wound. It has also been considered to be an effective alternative option in treating diabetic wounds.

### Which honey should be used?

It is important that the honey used is medical-grade, and not the honey that one buys from the store. Store bought honey has a risk of being infected with *Clostridium* spores. Medical-grade honey is honey that is treated by gamma-irradiation, which ensures that there are no spores, yet enables it to retain its antibacterial activity.

### How to apply honey to wounds

- Remember that only medical-grade honey should be used in the treatment of wounds.
- Patients should be instructed to wash their hands before applying the dressing and that sterile dressings are used.
- The honey should first be applied to the dressing and the dressing is then applied to the wound.
- The dressing should be replaced when it becomes saturated by the drainage from the wound.
- Instruct the patient to wash hands after every dressing change.

Commercially-available honey-based dressings are also available e.g. Activon®, Algivon®, Melcura™ Melladerm® and L-Mesitran® dressings and ointment.

## Conclusion

With the current awareness of the risk with regards to antimicrobial resistance in the forefront, the focus has shifted to alternative measures. There is a renewed interest in effective alternative natural treatments which decrease this risk. Honey is a natural, yet effective antimicrobial product, which is unlikely to induce microbial resistance, even if all the microbes are not successfully killed.

### *Important tips to remember for all wounds*

- Refer all wounds or burns that may be serious, that are not healing, or that are getting worse, to a healthcare professional.
- Always refer wounds in a diabetic patient, or in a patient who may be immunocompromised, to the doctor.

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