

FREQUENTLY ASKED QUESTIONS

1. Is MEDIHONEY® made with regular honey?

No, MEDIHONEY® is made from Active *Leptospermum Scoparium* (**Manuka**) honey, which is part of the tea tree bush genus of plant species indigenous to New Zealand. **Manuka Honey** has been specifically selected because it contains high levels of methylglyoxal, which offers effective antibacterial protection (gram negative and gram positive bacteria), and is the only species of honey shown in randomised controlled studies to help wounds progress towards healing.



2. What's so special about Manuka honey?

Manuka honey is known for its unique antibacterial properties not found in other honeys. Research has focused on its antibacterial action on infected wounds. Manuka honey has even shown proof in killing hospital superbug MRSA. As people become familiar with Manuka honey's strong antibacterial action they understand why it is more expensive than normal table honey. While other honeys might have a degree of antibacterial activity when it is first extracted from the hive (derived from hydrogen peroxide), it's not always stable. Manuka honey is different: it has a further antibacterial factor (a non-peroxide activity or NPA) and synergistic effects which are stable and not affected by light, moderate heat or sterilisation.



3. Where and how is the MEDIHONEY® sourced?

MEDIHONEY® is sourced from New Zealand. The *Leptospermum Scoparium* plant is indigenous to both New Zealand and Australia, however, in some areas of New Zealand, it is felt the local environmental conditions contribute to a particularly strong source which provides the optimum properties found in honey made from its nectar. New Zealand has an extensive sustainable planting programme, to increase Manuka honey production.

The company in New Zealand which harvests MEDIHONEY® is Comvita and is the world's largest supplier of **Manuka** honey. Derma Sciences, Inc. is a part owner of Comvita and is the sole global licensee of Comvita medical grade Manuka honey.

4. Why would one honey be any different than any other honey?

All honeys have a low pH and an osmotic capability and consist of approx. 70% sugars and 20% water. The remaining 10% is what differs between honeys and it is understood this is due to the plant-derived factors including minerals, vitamins, enzymes, organic acids, phytochemicals, flavonoids and other plant derived factors. These properties differ from plant to plant. The methylglyoxal (see below) content can vary enormously from honey to honey, with Manuka containing the highest % over any other honey. This is the component which contributes to the antimicrobial mode of action of MEDIHONEY®. Thus ONLY Manuka honey has been shown to have unique plant-derived components that are beneficial to wound management.

'Medical grade' does not necessarily mean a honey has antibacterial properties. Medical grade means the honey has been filtered to a higher level than food grade honey, and has been sterilised.

5. What is MGO?

Scientists have now discovered one of the principal (and measurable) components responsible for the active antibacterial action of MEDIHONEY®. It is METHYLGLYOXAL (otherwise known as MGO). The level of MGO in MEDIHONEY® is >350mgs/Kg, whereas in other honeys, even medical grade honeys, it can be as low as 18mg/Kg. This measurable quotient is consistent in MEDIHONEY® and tested before leaving the factory in New Zealand. It has been proven to act as part of the non-peroxide activity of honey and is a powerful factor in the sustained antimicrobial property of MEDIHONEY®.

6. What is meant by Non-Peroxide Activity (NPA) of honey?

To understand this it is important to understand the role of hydrogen peroxide in Honey. Aside from "manufacturing" the honey in their hives, another component that bees contribute is the enzyme *glucose oxidase*. This leads to the low level production of hydrogen peroxide (glucose oxidase is converted to gluconic acid and hydrogen peroxide in the wound). However, upon interaction with catalase (an enzyme present in wound fluid/blood/tissue) hydrogen peroxide breaks down into water and oxygen. As a result, in most honeys the effect does not

last long, nor is effective in killing many bacteria. The Antibacterial mode of action of MEDIHONEY® is NOT due to this process, but as a result of other factors (MGO being one of them), the antibacterial effect is not destroyed by catalase therefore is not due to hydrogen peroxide = **Non-Peroxide Activity.**

7. What does UMF mean and how is it measured in Food grade Manuka Honey?

Non- Peroxide activity cannot be seen or tasted, so when buying food grade Manuka Honey, shoppers are totally reliant on accurate and honest labelling on the jar. The UMF® Honey Association is an organization that has set up an international programme of verification for the unique antibacterial factor found in some Manuka honey. New Zealand producers and marketers who meet set criteria are licensed to use the UMF® quality trademark. When buying UMF® Manuka Honey one can be confident that the product inside is true to label. There is an independent, internationally recognised verification programme that provides the opportunity to verify label claims. The label claim is to a level of Non-Peroxide Activity (NPA), a standard which compares the NPA of the honey using phenol (a widely used antiseptic) as a comparative standard. For example UMF10+ Manuka honey has the equivalent non- Peroxide activity as a = Phenol 10%, UMF® 12+ Manuka honey has the equivalent non- Peroxide activity as a 12% phenol solution.^{2,3}

In terms of methylglyoxal levels, UMF® 12+ = 355mgs/Kg of MGO and is the quality of honey used in all Medihoney® wound dressings and tubes.

8. What are the properties in MEDIHONEY® that make it effective for wounds and burns?

The different compounds and physical properties in MEDIHONEY® work synergistically to both kill bacteria and assist wound healing. This is why we do not single out one particular active component of the honey.

There are altogether 5 modes of action of MEDIHONEY®, including:

- Debriding agent
- Immune-stimulation
- Removal of malodour
- Anti-inflammatory
- Antibacterial

9. Can MEDIHONEY® Antibacterial Manuka Honey macerate the skin?

Honey has a very low water content (around 20%). The water that is present is bound to the glucose molecules so that it is not 'free' water. Honey does not donate water to the skin; it is hygroscopic, meaning that it actually draws water into itself instead of releasing water. If honey is applied to a wound, it will draw the fluid from the wound and surrounding tissue into the dressing. The dressing that is placed on top of the honey (the secondary dressing) needs to be absorbent to cope with this fluid.

If the secondary dressing is not absorbent, is not changed often enough or if it can release fluid, then the wound fluid (exudate) can leak back over onto the surrounding skin and macerate it (the skin will look white, wrinkly and be soggy, like when you stay in the bath for too long). It is not honey itself that is macerating the skin but rather the wound exudate fluid that is drawn out from the wound.

10. What is the difference between MEDIHONEY® Medical Honey and MEDIHONEY® Wound Gel?

MEDIHONEY® Antibacterial Medical Honey is 100% sterile Active Leptospermum (Manuka) Honey.

MEDIHONEY® Antibacterial Wound Gel contains 80% sterile Active Leptospermum (Manuka) Honey mixed with 20% natural gelling agents (as used in some cosmetics), which makes it **more viscous** and sometimes easier to apply.

MEDIHONEY® Antibacterial Medical Honey is suitable for medium to heavily exudating wounds and deep cavity wounds where the honey can seep down into the cavity. It can also be used for wounds in and around the mouth because it is safe if ingested and tastes pleasant (e.g. post Radiation/Chemotherapy).

MEDIHONEY® Antibacterial Wound Gel has a consistency more like an ointment. It has been developed specifically to keep the honey static at the site of the wound even in the presence of wound fluid and body heat. It is suitable for wounds that present medium to heavy levels of exudate and are partial or full thickness in presentation.



11. What is the evidence to support the MEDIHONEY's® usage?

There are 219 peer reviewed references published using Medihoney, including three >100 patient, Randomized Controlled Trails (RCTs) comparing MEDIHONEY® to other advanced wound care products in the management demonstrating evidence on a wide variety of wound types and etiologies. All available upon request and many viewable at international.dermasciences.com

12. What are the most common usages of MEDIHONEY[®] dressings?

MEDIHONEY[®] has shown positive performance on a variety of wound types and aetiologies from the start of the wound through to wound closure including:

- Arterial leg ulcers
- Donor sites
- Oncologic wounds
- Traumatic and surgical wounds
- 1st and 2nd degree burns
- Diabetic foot ulcers
- Leg ulcers of mixed aetiology
- Pressure ulcers (I-IV)
- Venous leg ulcers

13. Can MEDIHONEY[®] be used in and on Diabetics?

Yes. It has been proven not to interact with the level of glucose in the blood and thus totally safe to use on all wounds on Diabetics. It is however, always recommended with Diabetics to continuously monitor blood glucose levels.

14. Can MEDIHONEY[®] be used along with Negative Pressure devices?

MEDIHONEY[®] has been shown to work quickly and effectively as a wound debridement agent by removing necrotic, sloughy tissue and by preparing the wound bed for the healthy progression of tissue granulation. MEDIHONEY[®] has successfully been used prior to, during and after Negative Pressure Wound Therapy (NPWT) with tremendous success, thus making the NPWT process work better and cost less.

15. Can MEDIHONEY[®] be used along with MIST therapy?

MEDIHONEY[®] has been used successfully prior to and after MIST therapy.

16. Can MEDIHONEY[®] be used along with Hyperbaric Oxygen Therapy?

MEDIHONEY[®] has been used successfully prior to and after Hyperbaric Oxygen Therapy (HBOT) for the successful closure of hard to heal wounds.

17. Can MEDIHONEY[®] be used under compression for 7-days?

Yes. MEDIHONEY[®] dressings can be left in place under compression and off-loading devices.

18. What are the precautions?

Allergy to honey, in this instance it is recommended not to be used.

Due to the low pH, some patients may notice transient stinging, even pain. If stinging does not stop or persists, a clear protocol for analgesia needs to be followed.

19. What if the wound gets larger?

During the healing process, due to autolytic debridement, it is common for non-viable tissue to be removed from the wound resulting in an initial increase in wound size. Although an initial increase in wound size may be attributed to the normal removal of non-viable tissue, consult a healthcare professional if the wound continues to grow larger after the first few dressing changes.






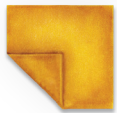

20. How often should the dressings be changed?

MEDIHONEY[®] dressing change frequency depends on the condition of the patient and the level of wound exudate. MEDIHONEY[®] should be reapplied when the secondary dressing has reached its absorbent capacity or as directed by a wound care professional.

21. Should a barrier cream be used prior to application?

Yes. Due to the high osmolarity of MEDIHONEY[®] there can be an increase in exudate and wound fluid to the wound area. Apply a barrier cream, such as MEDIHONEY[®] active Barrier Cream (contains 30% Medihoney with dimethicone, aloe vera, chamomile and other natural substances only), to the peri-wound. This will help to prepare, protect and treat the surrounding area of skin from maceration.

[Prepare. Promote. Progress.] with MEDIHONEY® Dressings

Order Code	Size	QTY/Box	
Wound Gel			
391	10g	20	
395	20g	20	
Medical Honey			
398	20g	20	
405	50g	1	
HCS – Hydrogel Dressing with Super Absorbent Polymer			
Non-adhesive			
780	6cm x 6cm	10	
781	11cm x 11cm	10	
784	20cm x 20cm	5	
785	20cm x 30cm	2	
787	4.5cm x 16.5cm outer 7.5cm x 20cm	10	
Adhesive			
782	7.2cm x 7.2cm, outer 11cm x 11cm	10	
783	7.2cm x 7.2cm, outer 11cm x 11cm	10	
Apinate			
793	1.9cm x 30cm, Rope Dressing	5	
794	5cm x 5cm	10	
795	10cm x 10cm	5	
Tulle			
796	10cm x 10cm	5	
797	5cm x 5cm	5	
Gel Sheet			
798	5cm x 5cm	10	
799	10cm x 10cm	10	
Barrier Cream			
582	50g	1	
800	2g	20	
Derma Cream			
597	50g	1	

For wounds that have not progressed with standard care, look to MEDIHONEY® to jump start the healing process. Contact Derma Sciences today, call +44 (0) 1628 625 916, or visit us on the web at international.dermasciences.com



ANTIBACTERIAL DRESSING
MEDIHONEY®

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2. Blair SE, Cokcetin NN, Harry EJ (2009) The unusual antibacterial activity of medical-grade *Leptospermum* honey: antibacterial spectrum, resistance and transcriptome analysis. Eur J Clin Microbiol Infect Dis 28(10):199–2083. Henriques AF, Jenkins RE, Burnton NF, Cooper RA (2009) The intracellular effects of manuka honey on *Staphylococcus aureus*. Eur J Clin Microbiol Infect Dis 29:16

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