1. Is MEDIHONEY™ made with regular honey?

No, MEDIHONEY™ is made from *Leptospermum scoparium* (Manuka) honey, which is part of the tea tree bush genus of plant species indigenous to New Zealand. *Active Leptospermum* Honey has been specifically selected because it contains high levels of Methylglyoxal, which offers effective antibacterial protection, 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 has been hailed for its unique antibacterial properties not found in other honeys. Research has focused on its benefits on its antibacterial action on infected wounds. Manuka Honey has even shown proof in tackling hospital superbug MRSA. As people become familiar with Manuka Honey’s special antibacterial qualities 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 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 or moderate heat. It is these which are responsible for the much-talked-about benefits of Manuka honey.

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 certain areas of New Zealand (north Island), it is felt the local environmental conditions contribute to a particularly strong content which provides the optimum properties found in honey made from its nectar. The company which harvests MEDIHONEY™ is Comvita and Comvita is the world’s largest supplier of *Leptospermum scoparium* honey. Derma Sciences, Inc. is the sole global licensee of this Comvita medical grade *Leptospermum scoparium* 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 and other plant derived factors. These properties differ from plant to plant. The Methyl Glyoxal (see below) content can vary enormously from honey to honey, with *Leptospermum* containing the highest % over any other honey. This is the component which contributes to the antimicrobial mode of action of MEDIHONEY™. Thus ONLY Active *Leptospermum* honey has been shown to have certain unique plant-derived components that are beneficial to wound management.

5. What is MGO?

Scientists have now discovered one of the principal components responsible for the active antibacterial action of MEDIHONEY™. It is METHYLGLYOXAL (otherwise known as MGO). The level of MGO in MEDIHONEY™ is approx. 400-500mg/Kg, whereas in other honeys, even Medical honeys, it can be as low as 18mg/Kg.¹ This measureable quotient is consistent in MEDIHONEY™ and tested before leaving the factory. 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) and so the antibacterial effect is not destroyed by catalase therefore 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 licenced 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

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 now 5 modes of action of MEDIHONEY™, including:
- Debriding agent
- Removal of malodour
- Antibacterial
- Immune-stimulation
- Anti-inflammatory

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 hydroscopic, 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 enough or it is not changed often enough, this wound fluid will 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 the MEDIHONEY™ Antibacterial Medical Honey and the MEDIHONEY™ Antibacterial Wound Gel?
MEDIHONEY™ Antibacterial Medical Honey is 100% sterile Leptospermum (Manuka) Honey. MEDIHONEY™ Antibacterial Wound Gel contains 80% sterile 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 applying to that present medium to heavy levels of exudate and deep cavity wounds, where the honey can seep down into the cavity to be most effective. MEDIHONEY™ Antibacterial Medical Honey 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 surface 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 three, 100-plus 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 www.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
- Diabetic foot ulcers
- Donor sites
- Leg ulcers of mixed aetiology
- Oncologic wounds
- Pressure ulcers (I-IV)
- Traumatic and surgical wounds
- Venous leg ulcers
- 1st and 2nd degree burns

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 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, as it is thought to be responsible for softening the necrotic tissue first, thus making the NPWT process work better.

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.
- Pain might also be an issue. Due to the low pH, some patients may notice slight 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 as well as 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. Applying a barrier cream, such as MEDIHONEY™ Barrier Cream, to the peri-wound area will help to prepare and protect the surrounding area of skin from an increase in moisture and fluid.
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 www.dermasciences.com