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Honey

Honey has recently re-emerged following centuries of anecdotal use throughout the world. Clinically honey has been used as a topical anti-microbial agent and debriding dressing. Containing glucose oxidase imparted by bees during collection and storage this enzyme facilitates low level release of hydrogen peroxide when in the presence of wound exudate and so supporting cellular proliferation and metabolism through an antioxidant effect. The low pH and high sugar content also create an high osmotic potential which give honey strong debridement and anti-inflammatory properties.

Manuka Honey is currently the honey of choice for wound management in human medicine due to its superior and sustained anti-microbial effect. ***Standard honey is quickly diluted in the wound environment due to its high capacity to draw fluid into the wound through osmosis. The beneficial effects are therefore short lived in an exudative wound bed necessitating frequent reapplication to be effective.***

Honey derived from Manuka plants has been found to have an anti-microbial effect over and above that of standard honey that is retained upon dilution. A UMF (Unique Manuka Factor) rating will be common in association with Manuka Honey indicating the potency of the additional and sustained antimicrobial effect. A UMF of 10 is a guide that the effect is equivalent to a concentration of 10% phenol (a UMF of 15 is equivalent in effect to 15% phenol, and so on...) A UMF of 10 or above + is agreed as a standard effective for use against common wound pathogens including *Pseudomonas* sp, methicillin resistant *Staphylococcus aureus* and *Escherichia coli* as well as yeasts and fungi that commonly cause wound complications.

It is important to consider using only medical grade Manuka honey for use in wounds. Medical grade honey is filtered to high levels to remove potentially irritant particulate matter such as wax and insect debris and most importantly it is gamma sterilized ensuring that important glucose oxidase function is not deactivated by heat, and preventing inadvertent wound contamination with clostridial spores sometimes found in honey that can remain dormant until dilution occurs.

Companies producing honey products for use in wound management have developed a range of presentations to aid in the application of honey to wounds with the aim of prolonging delivery, easing application and increasing dressing wear time.

Key Functions:

- Broad anti-microbial action (including some fungi and MRSA)
- Anti-inflammatory and Anti-oxidant
- Debriding action
- Osmotic effects on plasma movement (poultice-like effect)

The currently available forms of Manuks Honey include those shown in the table below. These have limitations of course, in common with all wound dressings there is no one form that is universally applicable to every wound circumstance and there are difficulties associated with their clinical use. Currently all the products are intended for human use and so the size and logistics are not always suitable for veterinary applications.

Brand example	Manufacturer	Composition	Considerations
Algivon™	Advancis Medical	Alginate impregnated with Medical Grade Manuka Honey (UMF +12)	Can be tricky to apply. Wounds will exude and appear sloughy on initial dressing changes. Absorbent secondary dressings usually required.
Activon Tule™	Advancis Medical (UK)	Pure Medical Grade Manuka Honey (UMF +12)	Can be messy. Refrigerate prior to use to thicken consistency and improve manageability.
Apinate™	Comvita (NZ)	Medical Grade Manuka Honey (UMF +12) carried in an alginate dressing.	As above.