Manuka honey – is it still the bee’s knees?

AROUND 10 YEARS AGO the Activon range of medical-grade manuka honey was launched into the UK veterinary market to follow the success of many years of successful use in human wound management.

Since then, a range of other brands have joined them, all offering the antimicrobial and debridement properties that are a feature of honey. From honey-impregnated seaweed to ribbons, foam and gauze there is a dressing available for just about every kind of wound.

With many practices now accustomed to using manuka honey for wound management, it seems timely to review its applications and its role in veterinary practice.

From wives’ tales to modern day

Using honey for wounds is nothing new, with its properties extolled over many centuries as an aid to healing and for reducing inflammation. For many a miracle cure, for the more scientific a pot of honey will hold many plant-derived phytochemical, which offers a potent antimicrobial effect independent of the pH, enzymes and sugars.

Risk and reward

Despite its potent and evidenced antimicrobial effect, even manuka honey is not immune to contamination by bacterial spores. Pasteurisation is ineffective at inhibiting spores of potentially pathogenic bacteria such as Clostridium botulinum.

Benefits

- May be used to aid debridement where surgical/anaesthetic risk presents.
- May be used to decontaminate alongside debridement (e.g. with wet to dry).
- May be used to aid removal of foreign body/debris.

Contraindications

- Bleeding wounds.
- Healthy granulating wounds.
- Epithelialising wounds.

Considerations

Due to the osmotic action of honey, the exudate level in the wound will likely increase during use and an absorbent secondary dressing is required.

Use of a barrier cream such as Cavilon (3M) around the wound will help to prevent excoriation to the surrounding skin if exudate levels are high.

Manuka honey can be used in wounds with post-surgical dehiscence although it should be considered that dissolvable sutures may break down more rapidly as a result. It is a decision for the clinician based on each wound they are facing and the role the sutures play.

If the sutures are achieving little but a foreign body effect, it may be better to remove them and explore what is going on beneath and any application of manuka honey can have maximum contact with the wound bed.

**Components of honey**

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<tr>
<th>Derived from</th>
<th>Process</th>
<th>Action in the wound</th>
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<tr>
<td>Sugars</td>
<td>Bees collect nectar and pass from bee to bee to reach the comb. As the bees pass on the nectar, each will absorb moisture for hydration and the nectar solution becomes concentrated. When placed in the comb, bees will “fan” the area with their wings to achieve further evaporation of moisture. A standard honey will become around 84% sugar.</td>
<td>The high sugar content of honey causes an osmotic action which softens necrotic or sloughy tissue and aids removal of debris from the wound bed.</td>
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<td>Enzymes</td>
<td>The bees will carry the nectar back to the hive in one of two stomachs. As they do, they pass on glucose oxidase to the solution. As they pass the honey from bee to bee, glucose oxidase concentration increases and functions as an “antimicrobial-in-waiting” to protect the honey from bacterial proliferation while stored in the hive.</td>
<td>Glucose oxidase will release tiny amounts of hydrogen peroxide once honey is diluted in the wound bed. This has an antimicrobial effect similar to that of the neutrophil during early inflammation.</td>
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<td>pH</td>
<td>The pH of honey can range from 3.4 to 6.1 depending upon its components and the source of nectar. Gluconic acid is released during the breakdown of glucose by glucose oxidase.</td>
<td>A low pH will inhibit or restrict the growth of microbes.</td>
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<tr>
<td>The “Manuka” Factor</td>
<td>Nectar will hold many plant chemicals alongside sugars. Methylglyoxal isolated from manuka honey has been identified as a key component which gives manuka honey its exceptional antimicrobial profile.</td>
<td>Honey containing methylglyoxal maintains an antimicrobial effect under greater dilution than standard honey independent of the action of glucose oxidase. This is referred to as a non-peroxide activity (NPA).</td>
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**Warnings**

- Excessive wounds coupled with shock and high exudate (e.g. severe burns).

**Presentations**

- Tube: for application into cavities and abscesses.
- Dressings: presentations include gauze, alginite sheets and ribbon, hydrocolloid, and impregnated polyurethane foam.

**Some DIY tips**

Most brands of manuka honey can be diluted by up to 50% while maintaining an antimicrobial effect. This means

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**Looks at the benefits of manuka honey and explains that while it may be seen as some kind of miracle cure, it is simply good at doing its job of aiding debridement and decontamination**

**George Hollis, BSc, MVWHA, qualified as a podiatrist in Edinburgh in 1997 and is now an independent specialist in wound management and dressing technologies. In 2006 she decided to work independently to help bridge the gap between human advances and potential veterinary applications in wound technologies; now, under the heading of “Intelligent Wound Care”, she lectures nationally on the subject. Georgie founded the Veterinary Wound Library (www.vetwoundlibrary.com) in 2008 to offer an independent platform for both veterinary surgeons and nurses to access expert help for challenging wounds as well as free dressings which can be used in return for a shared case study. Her aim is to develop a resource that supports clinicians while encouraging them to access the very latest in modern wound technologies.