**DIABETES**

Clinical study of **vivamel** dressings used for wound management in diabetic patients has shown that their local application does not affect the blood sugar level. **vivamel** dressings are therefore also recommended for wound management in diabetic patients. 3,5,6

**PRECAUTIONS AND CONTRAINDICATIONS**

Allergic reaction to honey is not common – it is, however, not recommended to use **vivamel** dressing in patients where it exists. Patients with allergy on the bee venom should only be treated under medical supervision. 3,8

Manufacturer: TOSAMA d.o.o., Šaranovičeva 35, 1230 Domžale, Slovenija

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**REFERENCES**

6. Clinical investigation: Razvoj oblog in obližev z nanosom medu. Tosama d.o.o., 2009

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**HOW TO CHOOSE A DRESSING**

**FOR WOUNDS WITH MODERATE TO HEAVY EXUDATE**

**vivamel ALGINATE**

ALGINATE DRESSING WITH MEDICAL HONEY

5 x 5 cm: REF 19701
10 x 10 cm: REF 19703

**FOR FRAGILE WOUNDS WITH LOW TO MODERATE EXUDATE**

**vivamel PROTECT**

POLYURETHANE FOAM TRANSFER LAYER WITH MEDICAL HONEY

*10 x 10 cm: REF 19735

**FOR WOUNDS WITH LOW EXUDATE**

**vivamel CONTACT**

CONTACT LAYER WITH MEDICAL HONEY

5 x 5 cm: REF 19707
10 x 10 cm: REF 19709

**FOR WOUNDS WITH LOW OR NO EXUDATE**

**vivamel TUBE**

MEDICAL HONEY

20 g: REF 19705
*50 g: REF 19702

Liquid honey from the tube may be used as a primary dressing as such, or, if more intensive effect is desired, as an addition to other Vivamel dressings.

* available in 2019

www.tosama.si
**vivamel** dressings contain sterile medical chestnut honey. Their performance in promoting wound healing is clinically proven, and they represent a cost-effective choice. 5, 6

**vivamel** dressings:
- Support debridement and wound cleansing
- Exhibit antimicrobial and anti-inflammatory properties
- Prevent and destabilize biofilm
- Decrease odour
- Promote granulation
- Promote epithelialisation

**WHAT MAKES MEDICAL CHESTNUT HONEY EXCEPTIONAL FOR WOUND HEALING?**

- as a saturated sugar blend, it causes osmotic pressure in the wound, consequently stimulating autolytical debridement, 2, 3
- it contains high amount of enzyme glucose oxidase, which activates proteolytical debridement and contributes to antimicrobial and anti-inflammatory activity, 1, 2
- acts antimicrobial (on Gram-positive and Gram-negative bacteria in the wounds, including MRSA and VRE), 1
- it contains kynurenic acid, which destabilizes and prevents biofilm formation, 2
- it has antymycotic properties (including Candida albicans),
- it contains high amounts of potassium, manganese, zinc, calcium and proline, thus promoting granulation and epithelisation,3
- it contains high amount of polyphenols and flavonoids, which exhibit antioxidative properties.4

**THE EFFECTS OF MEDICAL CHESTNUT HONEY IN THE WOUND HEALING PROCESS**

1. **PROLIFERATIVE PHASE: GRANULATION**
   - Characterized by collagen and extracellular matrix synthesis, angiogenesis and granulation
   - Presence of the enzyme glucose oxidase (GO) 1, 2, 3
     - activates slow-release of low H2O2 concentration which triggers proteolytic debridement and has antimicrobial effect
   - Presence of flavonoids and polyphenols 1, 2, 3
     - ensures anti-inflammatory and antioxidative effect
   - Presence of kynurenic acid 2
     - destabilizes and prevents biofilm formation
   - Acid pH 1, 2, 3
     - does not support bacterial growth

2. **INFLAMMATORY PHASE**
   - Characterized by the removal of non-viable and damaged tissue, fight against bacteria
   - High sugar content in honey (up to 80%) causes osmotic pressure 2, 3
     - the tissue perfusion is increased
     - antimicrobial activity
     - macrophages and lymphocytes are attracted
     - inflammation and oedema are decreased
     - wound cleansing and autolytical debridement are enhanced
   - Presence of the enzyme glucose oxidase (GO) 1, 2, 3
     - activates slow-release of low H2O2 concentration which triggers proteolytical debridement and contributes to antimicrobial and anti-inflammatory activity, 1, 2
   - Presence of flavonoids and polyphenols 2, 3, 7
     - ensures anti-inflammatory and antioxidative effect
   - Presence of kynurenic acid 2
     - destabilizes and prevents biofilm formation
   - Acid pH 2, 3
     - does not support bacterial growth

3. **MATURATION PHASE**
   - Characterized by tissue maturation and remodelling 2
   - Cosmetic effect 3
     - Clinical experience has shown that timely and continuous use of medical chestnut honey dressings leads to healing without or with less scarring.
   - Acidic pH 1, 2, 3
     - provides favourable wound healing environment
   - Viscosity of the honey 3 (optimal balance between glucose, fructose and other sugars)
     - enables migration of epithelial cells
     - provides mechanical protection
   - Presence of flavonoids 1
     - stimulates cell proliferation, regulates metalloproteases (MMP) synthesis
   - Presence of natural sugars 3
     - promotes granulation
     - High amount of potassium, manganese, zinc, calcium and proline 3
     - promotes collagen synthesis

4. **DYNAMIC THERAPY**
   - My first choice
   - Support debridement and wound cleansing
   - Exhibit antimicrobial and anti-inflammatory properties
   - Prevent and destabilize biofilm
   - Decrease odour
   - Promote granulation
   - Promote epithelialisation

**INDICATIONS:** Acute and chronic wounds 6