

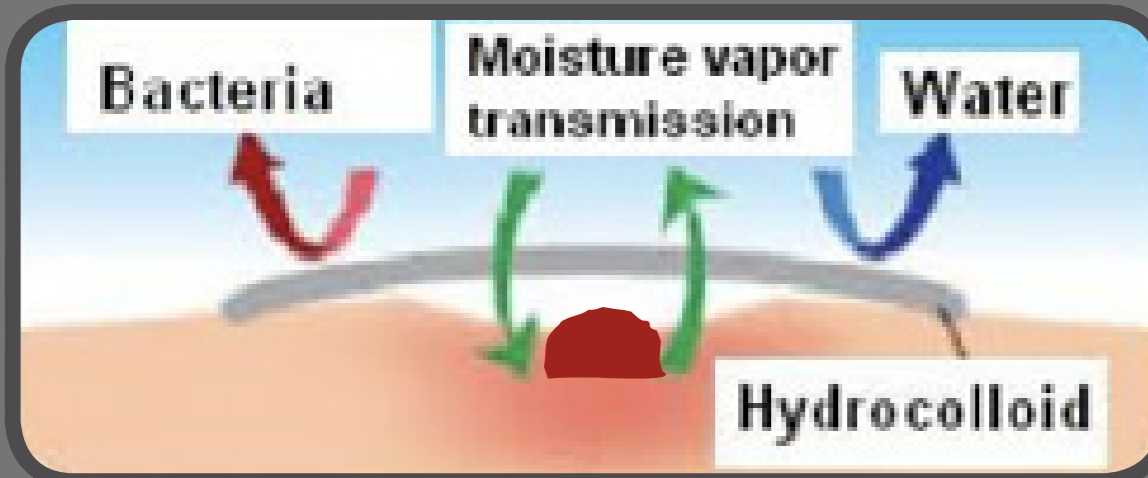


KIND TO SKIN

Hyperflex® a natural based hydrocolloid adhesive

Introduction

In Ostomy, the primary use of the adhesive flange is to attach a pouch to the abdomen around the stoma. The challenge is to optimise the formulation of the adhesive and the structure of the flange to give a balance of good skin adhesion, moisture vapour transmission, pouch support and protection without compromising the surface or structure of the skin around the stoma. Though the Hyperflex® Hydrocolloid adhesive acts as an adhesive it also is capable of absorbing fluids without losing its adhesion.



Aims

The Hyperflex® Hydrocolloid adhesive containing Manuka honey provides the following functions:

- Maintains correct humidity at the skin-flange interface while removing excess exudates through absorption
- Maintains the pH range of normal skin
- Permits the exchange of gases while maintaining a barrier layer to the external environment
- Is biocompatible and does not provoke any reaction through the prolonged contact with skin tissue

- Provides sufficient adhesion to the surface of the skin so that the pouch and contents can be supported, but when required, be removed without trauma
- Ensuring the risk of irritation and damage is significantly reduced

The objective of this appraisal is to demonstrate the specific features of the Hyperflex® Hydrocolloid adhesive containing Manuka honey that contribute to it being an effective, secure, biocompatible, skin friendly adhesive utilised in the management of stoma care.

Materials

The Hyperflex® Hydrocolloid adhesive containing Manuka honey is formulated using five food grade materials.

CMC

Carboxymethyl Cellulose (CMC) is derived from cellulose from cotton linters and is made water-swellable

by introducing carboxymethyl groups along the cellulose chain, which makes hydration possible. CMC is known for its excellent water retaining capacity and swells at a fast rate providing instant wet adhesion and instant tack for the Hyperflex® Hydrocolloid adhesive.



hydrolysis (type B) of collagen or a mixture of the two processes. The chemical structure of gelatine is what makes it water soluble and form gels that are strong, flexible and transparent with a positive binding action. Gelatine is responsible for prolonged hydration in the Hyperflex® Hydrocolloid adhesive.

Pectin

The Hyperflex® Hydrocolloid adhesive contains pectin that is obtained from citrus fruit peels e.g. lemons and limes and is extremely versatile because of its excellent gelling abilities. Pectin is a preferred hydrocolloid because of its skin friendliness and it assists in re-establishing the skins "acid mantle", it absorbs moisture, provides wet adhesion, and hydrates and swells at a relatively slow rate, thus impeding breakdown of the Hyperflex® Hydrocolloid adhesive.



Manuka Honey

The Hyperflex® Hydrocolloid adhesive contains UMF®16+ Manuka honey, a natural product that comes from the Manuka tree ("Leptospermum scoparium") indigenous to New Zealand.

The properties of highly graded Manuka honey are:

- **Unique Manuka Factor (UMF)** – a much higher concentration of natural antibacterial compound called methylglyoxal (MGO)
- a lowering of pH – inhibits microbial growth and releases more oxygen to tissue
- high sugar content – results in high binding of water preventing bacterial growth and reducing oedema
- glucose oxidase – results in the production of hydrogen peroxide contributing to antimicrobial efficacy



Polyisobutylene

Polyisobutylene (PIB) a clear linear polymer of medium molecular weight is used as the base polymer in the Hyperflex® Hydrocolloid adhesive and is manufactured by polymerising isobutylene.

As PIB is a polymer that relies mainly on molecular chain entanglement for cohesive strength the Hyperflex® Hydrocolloid adhesive formulated with PIB is characterised by its high degree of flexibility and tack. PIB also adds unique property profiles to the Hyperflex® Hydrocolloid adhesive -

- Excellent barrier to moisture
- Permanent tackiness
- Odourless
- High take up of hydrocolloid powders & additives
- Elasticity over a wide temperature range



Gelatine

Gelatine is a natural water soluble functional polymer that is manufactured from purified protein obtained by partial acid hydrolysis (type A) or by partial alkaline

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Results

An independent account by Thanassis Pavlopoulos, Sales Supervisor

Patient: Male, 5, temporary ileostomy since 2011 (Megacolon)
Source: Thanassis Pavlopoulos, Sales Supervisor, GCP Medical, Greece
Problem: Negative skin reaction
Treatment: Aurum® with Manuka honey 1 piece ileostomy pouch and WBF® spray

Diagnosis and treatment:

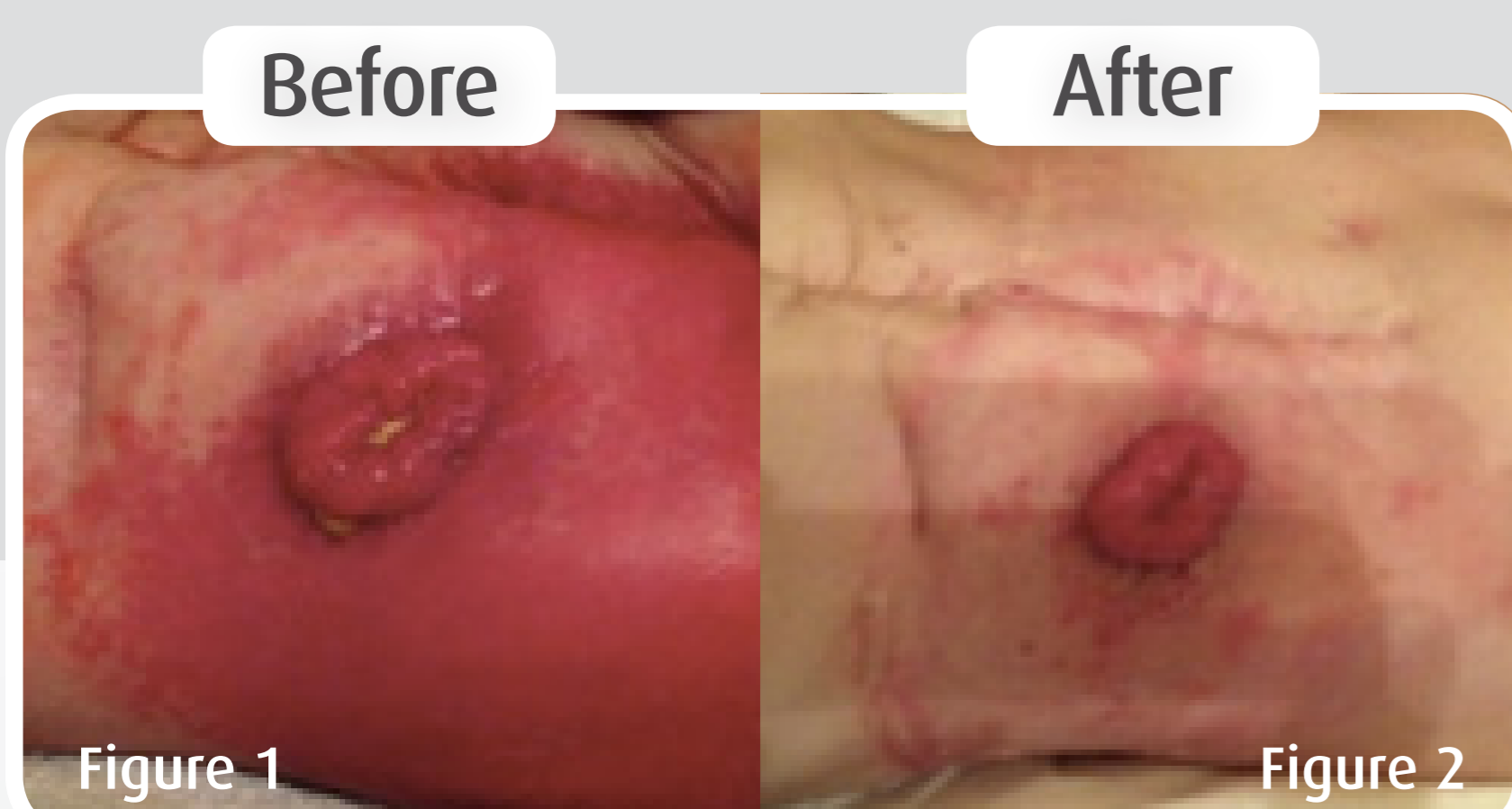
Panos underwent surgery for Megacolon and a temporary ileostomy was formed when he was 2 years old. Panos, now 5 years old, was very active before his surgery and continued to be so after but he didn't understand why he had to wear a pouch. The pouch he was wearing only stayed on his skin for a few hours at a time. This resulted in extended and painful dermatitis around his stoma (Figure 1).

Due to the dermatitis, Panos was reluctant to wear a pouch. This made changing his pouch, which was required 6 or 7 times a day, very difficult for his parents. His parents informed their doctor and GCP Medical S.A were contacted. I was sent to visit the family and suggested using an Aurum® 1 piece ileostomy pouch.

Eosin solution was used for approximately 2½ weeks and thereafter WBF® Spray was used between pouch changes. Within the first month of starting this routine the wear time of each pouch had increased up to 12 hours. Welland Medical Adhesive Remover Spray and Wipes were used to minimise any pain.

Outcome and follow up:

After 2 months of this routine the dermatitis had improved and the wear time increased to just less than 24 hours (Figure 2). Panos' family only have to spend a few minutes a day taking care of his stoma. He can play and be active without consequences and his parents have gained more confidence in helping and supporting him live with his stoma.



An independent account by Bernd Ginsberg, Enterostomal Therapist

Patient: Male, 71, Colostomy since 1989 (Colon Cancer)
Source: Bernd Ginsberg, Enterostomal Therapist, Wegimed GmbH, Germany
Problem: Negative skin reaction
Treatment: Aurum® with Manuka Honey 1 piece Ileostomy Pouch

Diagnosis and treatment:

Mr. B. arrived at hospital (Dermatology Department) presenting itching, red and bruised peristomal skin. The first skin layer was damaged and small blisters filled with fluid showed early stages of an allergic reaction (Figure 3). To remedy this, the head dermatologist used Eosin which helped to reduce the symptoms.

The head dermatologist contacted me as he wanted to find out if the patient would experience an allergic reaction on other stoma products. We conducted a patch test with pieces of the adhesive of Welland Medical Flair® 2, Welland Medical Aurum® and 4 other stoma products.

The patch of 1 stoma product did not stick well, the others stayed on for 48 hours in stage 1 and then 72 hours in stage 2, with the results showing no reaction on the arm. An Aurum® 1 piece ileostomy pouch was selected as Mr. B's replacement product.

Outcome and follow up:

After 2 weeks the dermatologist observed that Mr. B's skin showed signs of improvement. Only some small sections of skin were still damaged (Figure 4). Mr. B reported to feel very well and comfortable.



Conclusion

The Hyperflex® Hydrocolloid adhesive containing Manuka honey is an effective solution in the maintenance of peristomal skin health and a number of factors contribute to this:

- The adhesive flange is manufactured in different thicknesses and sizes to handle different wear times and fluid amounts depending on the size and type of pouch
- All ingredients are food grade which have a history of contact with mucosal skin
- Polyisobutylene contains a chemically saturated aliphatic carbon-carbon backbone (very stable polymer thus requires no stabiliser additive which can cause irritation to some users)
- The formulation contains few components so that, statistically, few skin reactions can be expected
- The flange maintains optimum skin moisture by absorbing excess fluids and reducing the amount of skin maceration
- The presence of pectin assists in re-establishing the skin's "acid mantle", eliminating or preventing dry and irritated skin
- Incorporation of Manuka honey enhances the skin friendly properties due to the unique properties of Manuka honey