Maintaining healthy skin is a challenge for people suffering with incontinence and their carers. Healthcare professionals and patients need to take active steps to manage skin care during episodes of incontinence. Skin is particularly at risk in those patients who are older, in poor health, with skin folds, have a poor nutritional intake or are diabetic.

Damage to the skin from incontinence, or incontinence associated dermatitis, can be painful and compromise an individual’s quality of life; however, it is avoidable and preventable. Honey offers an alternative natural antibacterial to help maintain the skin’s protective layer when incontinence occurs. Honey has been used throughout history in many cultures to treat war wounds and insect bites. In more recent times, honey has proved effective on burns, ulcers and infected surgical wounds.

The dermal layer varies in thickness, from around 5mm in areas such as the back and thighs, to as little as 1mm in the skin of the eyelids. The dermal layer contains collagen, blood vessels and sweat glands. The collagen within the dermal layer provides the skin with strength and flexibility. As humans age, the production of collagen decreases, leading to wrinkled and sagging skin, increasing the potential of damage from mechanical forces (Newton, 2006). Ageing also decreases the capacity of the skin to heal itself – it becomes drier and has more visible crevices in which bacteria can grow.

The hypodermis (or the subcutaneous layer) lies between the dermis and underlying tissues and organs. It is attached to the dermis by collagen and elastin fibres and is composed of adipocytes, a type of cell that specialises in storing fats.

The skin’s surface has an average pH of 5.5, making it slightly acidic. This acid mantle helps to hydrate the skin, protecting it from drying and from harmful bacteria. The protective acid coating also prevents infection from entering the body by inhibiting the bacterial growth and the action of bacterial enzymes (Rippke et al, 2002). Both urine and faeces are alkaline in nature and on coming into contact with the skin produce a chemical reaction. When micro-organisms release urea from urine, ammonia is produced, which increases the pH of the skin leading to further irritation (Cooper, 2002). The combination of urine and faeces increases the irritant effect, causing excoriation and skin breakdown.

Due to the combination of moisture, friction and enzyme activity, incontinence can set up a cycle that eventually leads to skin breakdown (Bale, 2005). When people experience incontinence, they often wash to eliminate odour and promote comfort, but also to remove the harmful agents contained in urine and faeces. However, this increased washing also leads to the skin becoming dry and more alkaline and thus its ability to protect against irritant substances is further compromised.

Incontinence associated dermatitis is characterised by inflammation of the skin and a term used for any skin rash caused by an irritant substance.

Incontinence associated dermatitis is an inflammation of the skin and a term used for any skin rash caused by an irritant substance.
Medi ad
Honey is a substance produced by bees and stored as a sugar food source. Throughout history, humans have used honey, not only as a food product, but also as a therapeutic aid, especially in wound care. Antibiotic resistance is becoming an increasing problem both within acute and community settings and alongside this there is a growing public interest in ‘natural’ or ‘complementary’ therapies, which has lead to increased professional interest in using skin products that contain honey.

The use of honey in skin care

Honey is a substance produced by bees and stored as a sugar food source. Throughout history, humans have used honey, not only as a food product, but also as a therapeutic aid, especially in wound care. Antibiotic resistance is becoming an increasing problem both within acute and community settings and alongside this there is a growing public interest in ‘natural’ or ‘complementary’ therapies, which has lead to increased professional interest in using skin products that contain honey.

Honey contains various nutrients and herbal elements that are found in plants and some of these have antioxidant and antibacterial properties.

Prevalence

Studies indicate that one in three adults will experience urinary incontinence at some time, while one in 10 will experience faecal incontinence (Perry et al, 2000). There are a limited number of studies reporting the incidence of incontinence associated dermatitis with prevalence rates varying from 5.6–50% in long-term care settings (Gray et al, 2007).

With an increasingly elderly population and the rise of infections such as Clostridium difficile causing outbreaks of acute diarrhoea (Department of Health, 2008), there is the potential for an increase in cases of incontinence associated dermatitis. Maintaining healthy skin remains the most effective defence against invasion of micro-organisms and trauma.

Honey also ensures that the wound environment remains moist, which promotes healing, and its high viscosity helps to provide a protective barrier that can prevent infection.

The surface of chronic wounds has been recorded within the alkaline range (7.15–8.9 pH) and the wound surface pH moves from alkaline to neutral and onto acidic as the wound heals (Gethin et al, 2008). Barrier products containing honey help move the pH of the skin from alkaline to acid, reducing the toxicity of bacterial end products (such as ammonia), destroying abnormal wound collagen and increasing the macrophage and fibroblast activity. The result is a promotion of skin healing (Gethin et al, 2008).

Honey contains various nutrients and herbal elements that are found in plants and some of these have antioxidant and antibacterial properties. The floral source of the honey will also affect its antibacterial activity – some honeys, for example, leptospermum honey from Australia and New Zealand, exhibit a significant amount of antibacterial activity that is not accounted for by their high sugar content, hydrogen peroxide production, low water content or low pH (Blair and Carter, 2005).

Dry skin affects 80% of older people and can lead to a less pliable stratum layer, which becomes prone to cracking, flaking and pruritus and subsequently infection (Hess, 1997). The high viscosity of honey provides...
a physical barrier to infection and this can be useful in products designed for use with incontinent patients. Barrier products containing honey can moisturise the skin providing a protective layer against the effects of exudate, urine and faeces.

Staphylococcus aureus is responsible for many infections and it is well recognised that the use of topical antibiotic therapy may contribute to the emerging resistance (George and Cutting, 2007). However, studies have demonstrated the antibacterial properties of honey as well as demonstrating that it is effective against multiresistant S. aureus (MRSA) (Blair and Carter, 2005).

Honey has also proved effective against Candida infection. The incidence of fungal infections is increasing and many species of Candida are becoming resistant to traditional triazole-based antifungal therapies (Irish et al, 2006).

Limited studies have also indicated a use for topical honey preparations around catheter-entry sites to prevent infection (Johnson, 2005).

**Conclusion**

Extra protection is required for people who develop incontinence dermatitis. Good practice requires patients with incontinence to have their skin inspected regularly, gently cleansed with a pH-balanced cleansing agent and treated with appropriate absorbent products and a topical barrier to protect the skin from moisture and infection (Agency for Health Care Policy and Research, 1996).

With the increasing rise of antibiotic resistance, barrier products containing honey used for patients with incontinence associated dermatitis represents an effective option in the prevention and treatment of skin breakdown and the prevention of infection. 

**References**


George NM, Cutting KF (2007) Antibacterial Honey (Medihoney™) in vitro activity against clinical isolates of MRSA, VRE, and other multiresistant gram-negative organisms including Pseudomonas aeruginosa. Wounds 19(9): 231–6


Perry S, Shaw C, Assasa P (2000) An Epidemiological Study to Establish the Prevalence of Urinary Symptoms and Felt Need in the Community: the Leicester MRC Study. Faculty of Public Medicine, Leicestershire


Key Points

- Maintaining healthy skin is a challenge for people suffering with incontinence and their carers.
- Healthcare professionals and patients need to take active steps to manage skin care during episodes of incontinence.
- Skin is particularly at risk in those patients who are older, in poor health, with skin folds, have a poor nutritional intake or are diabetic.
- Honey has been used throughout history in a wide range of cultures to treat war wounds and insect bites.
- In more recent times, honey has successfully proved effective on wounds such as burns, ulcers and infected surgical wounds.