

Introduction

Individuals with compromised skin integrity are at greater risk of skin damage or sustaining a wound, which may create a vicious circle of hard-to-heal wounds if underlying factors are present (Beeckman et al, 2020). Such hard-to-heal wounds are adding to the cumulative burden of wounds on patients, clinicians, families/carers and healthcare systems (Guest et al, 2020). Emollient therapy has been shown to reduce the risk of skin damage or sustaining a wound in individuals with fragile or at-risk skin (Wounds UK, 2015). This Made Easy aims to highlight the importance of preserving skin integrity, particularly in individuals with vulnerable skin, and how use of an emollient such as Hydromol® (Alliance) can help to reduce the risk of damage in a range of clinical scenarios.

The skin

Skin health is integral to both physical and psychosocial health, which can have a significant effect on patients' quality of life (Le Blanc et al, 2018).

The skin consists of three main layers (Wounds UK, 2015; Figure 1):

- The epidermis is the outermost layer of the skin, which provides a waterproof barrier
- The dermis is beneath the epidermis; it has a rich blood supply and contains tough connective tissue, hair follicles, sweat glands and sensory nerve endings
- The deeper subcutaneous tissue (hypodermis) is made up of fat and connective tissue.

The skin performs many functions, including (Callaghan et al, 2018):

- Sensory perception and communication through touch
- Providing a protective barrier, preventing damage to internal tissues
- Providing a barrier to infection
- Temperature regulation
- Production of vitamin D and melanin.

The importance of skin integrity

In healthy individuals, the skin is strong and resilient. However, skin becomes vulnerable to external and internal injury due to ageing and altered physiology (Moncrieff et al, 2015). Skin changes can be extrinsic, such as environmental damage (e.g. regular detergent use or sun exposure) or pressure; or intrinsic, such as the effects of skin conditions (e.g. psoriasis or atopic eczema) or an underlying illness (Le Blanc et al, 2018). When the skin becomes impaired, it is no longer able to withstand mechanical stress, balance homeostasis, or maintain its immunological function (Moncrieff et al, 2015).

The integrity of the skin barrier gradually diminishes with age and, by 60 years, has typically become vulnerable (Moncrieff et al, 2015). Additionally, during an individual's lifespan, there may be periods of enhanced skin vulnerability, which render the individual more prone to the development of skin problems. Critical phases are very early in life (when the skin is not fully mature), when individuals are suffering from dermatological or other systemic and chronic diseases, at advanced age, and at the end of life (Beeckman et al, 2020).

It is important to note that, while skin frailty may be associated with ageing, it does not only apply to older individuals, nor should it be seen as purely a result of ageing (Beeckman et al, 2020). See Table 1 for examples of particular groups that may be at risk of skin frailty, and how this may impact the individual and their health.

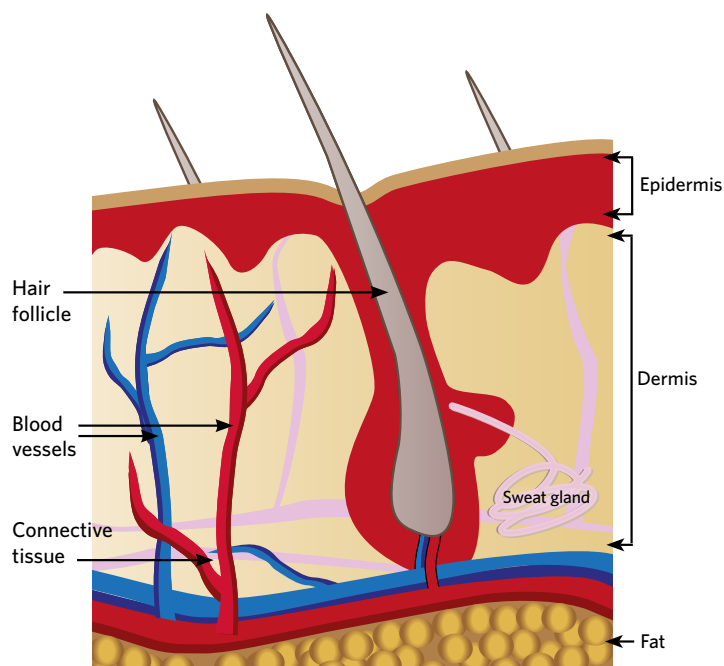


Figure 1. Main layers of the skin

Table 1. Patient groups at risk of skin frailty (adapted from Beekman et al, 2020)

Patient group	Skin changes	Potential problems
Older adults	Becomes thinner, loses elasticity, reduced blood supply, subcutaneous fat decreases, skin hydration decreases, reduction of the dermal-epidermal layer (diminishing adherence of epidermis on dermis; Moncrieff et al, 2015)	Skin tears, PUs, infection, inflammation, dryness/flaking, itching, cellulitis, diabetic ulcers, possible nutrition issues; possible issues relating to dementia
Individuals with mobility issues/ paralysis	Alterations to vascular supply, temperature control, maceration/moisture, loss of collagen, lack of muscle/atrophy, impaired sensation due to damaged nerves in the skin (Rappl, 2008; Callaghan et al, 2018)	Skin tears, PUs, infection, inflammation
Infants and neonates	Immature skin; intrinsic changes due to pressure duration, shear and friction, poor perfusion and maceration (Blume-Peytavi et al, 2016)	Nappy/diaper dermatitis, skin tears, PUs
Individuals with spina bifida and cerebral palsy	Decreased skin perfusion, cutaneous reaction to drugs, perineal dermatitis and inflammation due to incontinence	PU; possible incontinence-associated dermatitis
Bariatric patients	Altered epidermal cells, increased water loss, dry skin, maceration, increased skin temperature, and reduced lymphatic flow and perfusion (Shipman and Millington, 2011)	Infection, PUs, skin tears, diabetic ulcers, psoriasis, moisture lesions, intertrigo
Oncology patients	Radiation leads to inflammation, epidermis damage, decreased perfusion	PU, reduced wound healing, skin infections, cellulitis, radiodermatitis
Chronic illness and other issues	Skin changes due to long-term conditions - e.g. renal, liver, cardiovascular; medications; malnutrition; stomas and devices (Callaghan et al, 2018)	Skin tears, PUs, infection, inflammation, moisture lesions; other related issues

Skin integrity and wound care

The number of wounds being treated by the NHS is rising every year, as wounds are failing to heal and becoming chronic, adding to the cumulative burden of wounds on individuals, their families and carers, clinicians and healthcare systems (Guest et al, 2020). The annual prevalence of wounds increased by 71% between 2012/2013 and 2017/2018 (Guest et al, 2020). There was a substantial increase in resource use over this period and, as the annual cost of wound care has increased at approximately 8–9% per annum, patient management cost increased by 48% in real terms (Guest et al, 2020).

Individuals with frail or vulnerable skin are at increased risk of sustaining a wound; simultaneously, if an individual has skin conditions or comorbidities, their capacity to heal may be impaired. This creates a vicious circle of compromised skin integrity and non-healing.

Individuals with compromised skin integrity are also at increased risk of wounds such as skin tears, pressure ulcers (PUs) and moisture-associated skin damage (MASD; Beekman et al, 2020).

Additionally, in individuals who have a wound, it is important to protect the integrity of the periwound skin to reduce the risk of complications such as infection, and prevent breakdown of the wound and delays to healing (Le Blanc et al, 2021).

While some wounds may be unavoidable, the focus should be on prevention whenever possible, particularly in patients who have vulnerable or frail skin that is at risk of failed or delayed healing (LeBlanc et al, 2018). Prevention is particularly important in the context of the growing burden of wounds, with failure to heal adding to the cumulative burden year on year (Guest et al, 2020).

Emollient therapy

Emollients help to restore the barrier function of the skin, reduce itching, and increase the level of hydration (Callaghan et al, 2018). Emollients should be seen as a vital part of daily skin care, particularly for individuals with fragile or aged skin, or those who have – or are at increased risk of – a wound (Beekman et al, 2020).

The use of emollients has been found to play a key role in the prevention and treatment of grade 1 PUs (Bale et al, 2004). Clinical evidence from an Australian trial in older people



Figure 2. The full Hydromol range of emollients

reported almost a 50% reduction of skin tears when an emollient was applied twice a day (Carville et al, 2014).

The use of emollients can be incorporated into a care bundle to aid with moisture management, and using emollients instead of soap for cleansing can help protect and hydrate vulnerable skin at risk from pressure damage (Callaghan et al, 2018).

Using a range of emollient products to protect and cleanse the skin is known as complete emollient therapy (CET) and should be considered in all patients with at-risk skin, to preserve skin integrity and reduce the risk of wounds such as skin tears and medical adhesive-related skin injury (MARSI).

Use of Hydromol in practice

Hydromol is a range of emollients (Figure 2), which includes different products for indications including dry skin, eczema and ichthyosis. The Hydromol range includes:

- Hydromol Bath & Shower Emollient
- Hydromol Ointment
- Hydromol Intensive (Urea)
- Hydromol Cream (Sodium Pyrrolidone Carboxylate).

The full Hydromol range can be used to provide CET to individuals with vulnerable or at-risk skin. Hydromol Ointment

Tips for patients using Hydromol in practice

- Apply Hydromol as often as possible, at least 3–4 times a day (or twice daily for Hydromol Intensive)
- Apply liberally to the affected area
- Always use bath emollient when bathing. Air or pat dry (do not rub) and liberally apply the cream/ointment
- Although Hydromol Bath & Shower Emollient leaves less residue on surfaces than other leading products, always take care when getting in and out of the shower or bath
- Even when the skin starts to improve, do not stop using emollient therapy – skin problems can occur again quickly



- Take some of your emollient with you wherever you go, and don't wait until you run out to get some more
- If you prefer the cream/ointment warmer or cooler, you can either warm it in your hands or store in a cool place prior to application (however, it should not be heated or chilled)
- Apply the cream/ointment in the direction of hair growth to avoid blocking hair follicles
- Take care with naked flames after applying any product containing paraffin liquid or wax.

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Table 2. Wounds and skin conditions that may benefit from use of emollient use in practice

Wound/skin condition	Benefits of emollient use
Dry skin	Improved overall skin integrity, reducing the risk of damage
Skin conditions such as eczema	Improved overall skin integrity, reducing the risk of damage
Risk of MARSIs/skin tears	Reducing the risk of damage, including MARSIs at dressing change if the individual has a wound requiring adhesive dressing products
Risk of recurring leg ulcer	Part of a care plan to reduce the risk of occurrence in individuals at risk of recurring leg ulcers (e.g. including compression therapy and skin care)
Risk of MASD	Skin integrity and protection to reduce the risk of damage; replenishing natural moisture in the skin with emollients and moisturising products is important, even in the presence of excessive external moisture
Periwound skin protection	Protecting the surrounding skin from further damage or breakdown

is the number-one prescribed ointment in the UK (NHS Business Services Authority [NHSBSA], 2022) and is ideal for use in wound care as it is available in a tube, helping to reduce the risk of infection compared to tubs.

Hydromol Ointment should not be used directly on broken skin, so is ideal for use in preserving overall skin integrity and protecting the periwound skin from breakdown. In patients with dry or vulnerable skin, Hydromol can be used to prevent the risk of damage.

See [Table 2](#) for more information on clinical scenarios or wounds where Hydromol may be particularly beneficial in practice.

Conclusions

Skin integrity is crucial to health and wellbeing. Preserving and improving skin integrity reduces the risk of damage to the skin, particularly in individuals where the skin is vulnerable and they are at risk of sustaining a wound. Prevention is crucial in wound care, to reduce the growing burden of wounds in patients, clinicians, families/carers and healthcare systems.

Use of emollients has been found to preserve skin integrity and reduce the risk of damage (Bale et al, 2004). It has been shown that regular use of an emollient can reduce damage such as skin tears by up to 50% (Carville et al, 2014).

Hydromol Ointment is the number-one prescribed ointment in the UK (NHSBSA, 2022) and provides an ideal option for use in wound care, to preserve the skin and reduce the risk of damage, particularly in patients with vulnerable skin who are at risk of developing a hard-to-heal wound.

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