SKIN DAMAGE: MANAGEMENT IN THE OLDER PERSON

Clinicians in all care settings are commonly faced with the challenge of promoting and maintaining skin integrity and proactive skin care is essential for preventing tissue damage in older people. Understanding the functions of the skin, the age-related changes and the specific challenges of incontinence, as well as considering the aids available, can assist clinicians in all healthcare settings to achieve the best protection for patients’ skin.

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The National Patient Safety Agency (NPSA) leads and contributes on improved, safe, patient care by informing, supporting and influencing the health sector (www.npsa.nhs.uk/nrls). An key aspect of patient safety is the promotion and maintenance of skin integrity, which is one of the most important roles for clinicians in all care settings.

Understanding the functions of the skin, the age-related changes and the specific challenges of incontinence, as well as considering the aids available, can assist clinicians in all healthcare settings to achieve the best protection for patients’ skin.

Protection
The skin is the body’s main protective barrier, shielding it from bacteria, toxins and ultraviolet (UV) light. It also protects the internal tissues and organs, maintaining body temperature.

As skin ages, the epidermis gradually thins resulting in a flattened interface between the epidermis and the dermis. This reduces the skin’s resistance to shearing forces (Voegell, 2010).

The stratum corneum (the outermost layer of the epidermis) also thins with age, decreasing the effectiveness of the skin barrier. A reduction in collagen and elastin causes the skin to be more susceptible to friction and shearing forces. The balance between the enzymes that control remodelling and repair of the dermal matrix is disrupted, contributing to the loss of connective tissue and atrophy of the skin.

Additionally, the vascular bed becomes more fragile, which can lead to haemorrhaging of the skin; a condition known as senile purpura (White et al, 1994).

Sensation
The nerve endings in the skin allow for the detection of pain, prompting the patient to reposition themselves. When the loss of sensation or inability to respond occurs, clinicians should implement a repositioning regimen. This should also encourage the clinician to be more vigilant in showing patients how to take responsibility for their own skin integrity by observing their skin, which is particularly important for those at risk of diabetic foot and pressure damage.

Progress recorded in patients’ medical records may also prompt clinical staff to instigate regimens. When needed, a repositioning regimen should be used and recorded regularly on a repositioning chart. The use of repositioning charts can act as a prompt for clinicians, patients and their carers.

Skin
Human skin can be considered the largest organ of the body (Sibbald et al, 2009) and has a number of very important functions.
Thermo-regulation
The skin allows the body to respond to changes in temperature by constricting or dilating the blood vessels. When cold, the *arrectores pilorum* (small muscles attached to hair follicles) contract, raising the hair and allowing warm air to be trapped. The changes in older skin affect both the loss of hair and its ability to trap warm air, suppressing the response of the *arrectores pilorum*. Both lead to the patient feeling colder, and care must be taken to keep them warm. However, lying next to radiators, using hot water bottles, bathing in excessively hot water and sitting in front of fires can lead to skin damage.

Sweat on the skin has a cooling effect. An extensive loss of skin prevents this natural body response and leads to poor skin temperature control. This can put the skin at further risk, for example if the patient attempts to warm up by increasing bath water temperature, or does not dress appropriately for cold conditions.

Secretion
Sebum is an oily substance secreted by the sebaceous glands, which helps to lubricate the skin. This decreases as the skin ages and, therefore, reduces the body’s natural protection. This may necessitate the use of an emollient to maintain skin protection.

Repeated washing of the skin or urinary or faecal incontinence can have a significant damaging effect on the skin, and a barrier film or cream may be necessary.

An important aspect of secretion is the maintenance of nutrition and fluid balance. There is a need to carefully monitor the intake of fluid to reduce the danger of dehydration and maintain adequate nutrition factors. If left unmonitored, these can increase skin fragility.

The skin excretes waste products in sweat-containing water, urea and albumin (protein). In addition to the loss of albumin through sweat it can also be lost in exudate.

The clinician should carefully monitor patients’ blood protein levels and replace if necessary. If the albumin level is low, dietary intake should be supported with a high protein diet and supplementary protein drinks. This should be considered very carefully, not used to replace meals, but as dietary supplements.

Metabolism
When UV light is present, the skin produces Vitamin D, which is required for calcium absorption. Patients who are not regularly exposed to UV light may require Vitamin D replacement.

Essential skin care
The skin achieves optimum function when it is intact. Several techniques are available to assist the clinician in maintaining patients’ skin integrity.

Essential skin care consists of four areas:
- **Cleansing**
- **Hydrating/moisturising**
- **Protecting**
- **Replenishing**

Washing the skin is a key component in maintaining skin integrity. It is fundamental for clinicians to assist patients when they are unable to maintain their own adequate levels of personal hygiene. An inadequate level of personal hygiene may lead to social isolation (Lindsay, 2005).

Tap water is readily available, efficient as a cleansing agent and is cost-effective. Soap acts as a drying agent, which may remove natural oils from the skin, exacerbating dryness with its alkalinity. Therefore, a pH-friendly soap should be used on intact skin.

Care should be taken with drying the skin, which should be patted dry rather than vigorously rubbed. This will prevent maceration, avoid undue cooling and allow for patient comfort.

Sterile saline should only be used in the first 48-hours post surgery, or where a wound has a probe put into it and the probe enters into the bone due to the loss of tissue (Fernandez and Griffiths, 2008). Patients with lower limb disorders, such as leg ulcers, should have their legs washed at least weekly in a lined bowl/bucket.

The Best Practice statement (Wounds UK, 2006) offers clinicians a clear and practical review of the evidence to support skin integrity.

Hydration/moisturise
The use of emollients, both for bathing and reducing skin dryness are an important consideration for hydrating the skin. These should be applied regularly, and in the direction of the hair. (British Medical Association and Royal Pharmaceutical Society of Great Britain [BMA/RPS], 2011).
Prevention of pressure ulcers has become increasingly high on the political agenda since the RCN and the National Institute for Health and Clinical Excellence (NICE, 2005) and the European Pressure Ulcer Advisory Panel (EPUAP, 2009) developed a collaboration for guidelines on skin care.

More recently, however, Your skin matters, has been one of the eight High Impact Actions for Nursing and Midwifery (Department of Health [DH], 2009).

It is important for clinicians to develop skills in the prevention and management of pressure ulceration and have specific knowledge of the EPUAPs (2009) six guideline areas:
- Aetiology
- Risk assessment
- Nutrition
- Skin assessment
- Positioning
- Support surfaces.

**Aids**

**Sock/hosiery application**

An aid to assist with sock appliance will promote independence and may also encourage the patient to wear well-fitting and supportive shoes. This offers protection against trips, slips and falls, and also protects the feet. A standard sock aid may be supplied for this.

The application of hosiery/thromboembolic deterrent (TED) stockings may be achieved by providing a satin type inner toe liner (if the hosiery is open-toed), or a stocking frame that enables the patient to step into the hosiery and pull the stocking up with ease, despite minimal grip strength.

**Actiglide®** (Activa Healthcare) hosiery appliance, a compression hosiery applicator, assists with the application of below-knee and thigh length compression hosiery or TED hosiery and is a safe way to apply hosiery. Sock aids MUST NOT be used to apply hosiery (Stephen-Haynes et al, 2006).

**All-purpose boots**

All-purpose boots, such as Kerraped® (Ark Therapeutics), are able to accommodate bulky bandages and off-load pressure from the front of the foot. They may be used with neuropathic foot ulcers, or patients who cannot wear their own footwear. Maintaining mobility is important in promoting independence, which also protects the skin.

Appropriate footwear also contributes to preventing falls. Fall prevention is a complex issue affecting health care, social care, public health and accident prevention environments. Falls are recognised internationally as a major health issue affecting a large number of older people.

In the UK, with a population of over four million people aged over 75-years-old, around 75,000 are treated annually for hip fractures with costs approaching £2 billion. The National Patient Safety Agency (NPSA) report from 2009 states that there were 152,000 falls in England and Wales in acute hospital, 26,000 in mental health trusts and 28,000 in community hospitals (NPSA, 2009).

**Silicone adhesive remover**

The use of tape and adhesive dressings can result in a damaged wound site when they are removed. Consequently this can lead to inflammation, oedema and soreness (Dykes et al, 2001).

A silicone-based medical adhesive remover, such as Apeel® (CliniMed), can help to remove adhesive painlessly from any part of the body (Stephen-Haynes, 2008). It should not be used on those with a sensitivity to silicone. The appropriate and easy removal of adhesives can prevent trauma and friction to the skin. Apeel is the only silicone based adhesive remover available on prescription.

**Wound drainage system**

Wound drainage bags may be applied to small fistulae, sinus and drain sites and may be attached to a leg bag for up to 24 hours with or without an access port. Their use can protect the skin from wound exudates which may contain proteolytic enzymes in the wound leading to tissue damage and even destruction (Hampton and Stephen-Haynes, 2005).

**Dressing Protection**

Transparent limb-shaped plastic covers with a flexible seal at the opening, such as LimbO® (Thesis Technology Products Ltd) and Seal Tight® (Autonomed Ltd), are used to keep leg dressings dry during bathing or showering. These are the only products available through prescription.

**Faecal diversion and containment**

The risk of skin breakdown and infection is a concern in patients who have loose or liquid stools and patients may feel uncomfortable and embarrassed (Beitz 2006; Gray et al, 2002).

The goal is to improve patient comfort and protect their skin in the most dignified, safe, effective
and cost-efficient methods. Systems such as Flexi-Seal® FMS (ConvaTec) protect wounds from faecal contamination.

**Conclusion**

Essential skin care and aids can assist in achieving healthy, well-moisturised and intact skin. Encouraging staff to think creatively about protecting skin is important. Essentially, a policy of vigilance needs to be adopted for elderly and fragile skin, and clinicians need to ensure that appropriate monitoring systems are in place.


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**Key points**

- Skin care is an essential element of nursing care.
- Skin care consists of cleansing, moisturising/hydration, protecting and replenishing.
- The appropriate use of aids can assist the clinician with these aspects of wound care.
- Essentially, a policy of vigilance needs to be adopted for elderly and fragile skin, and appropriate monitoring systems should be in place.