Keywords Pressure ulcer prevention/ Skin assessment and care/Tissue viability

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In this article...

- How to identify skin abnormalities that increase the risk of pressure ulcers
- Non-blanching erythema and how to test for it
- Evidence-based interventions to promote skin integrity

Pressure ulcer education 3: skin assessment and care

Pressure ulcers

Key points

Regularly inspecting patients' skin is key to preventing pressure ulcers

A new pressure ulcer education framework covers skin assessment and care

Non-blanchable (or persistent) erythema is an important skin abnormality for which nurses need to check

Nurses should remember to check 'hidden' areas, such as under medical devices or skin folds

Patients need advice on skin care and the importance of good diet and hydration

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Abstract Regularly inspecting patients' skin for abnormalities is a key step in pressure ulcer prevention. A skin module forms part of a new core curriculum for pressure ulcer education to enable nurses and other practitioners to understand the key concepts of effective skin assessment and care. This article, the third in an eight-part series on the new education framework, highlights what practitioners need to know about risk factors associated with impaired skin integrity, how to check for non-blanchable erythema, and evidence-based interventions to promote skin integrity and prevent pressure ulcers.

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Regularly inspecting patients' skin to identify skin abnormalities is a key practice in pressure ulcer prevention. Skin assessment is a core element of the SSKIN care bundle for reducing the numbers of pressure ulcers (Whitlock, 2013). This recognises that, even in the absence of a structured risk assessment, changes in skin signal increased risk and may predict the occurrence of deeper pressure damage.

Non-blanchable (or persistent) erythema (NBE) – or discolouration of the skin that does not turn white when pressed – is one clinically important skin abnormality that should be identified as part of a thorough skin inspection. National and international guidelines for the prevention of pressure ulcers – such as those by the National Institute for Health and Care Excellence (2014) and National Pressure Ulcer Advisory Panel et al (2014) – specify that signs of deteriorating skin status (such as NBE) should be a trigger for drawing up individualised pressure ulcer care plans. This is supported by a recent systematic review by Shi et al (2018), which concluded that patients with NBE are more likely to develop new pressure ulcers than those without, and clinicians should carry out regular skin assessment and take preventive action if NBE is present.

The skin assessment and care element of the new education framework, aSSKINg, is based on this principle (NHS Improvement 2018). The aSSKINg framework, as described in part 1 of this series, is a new core curriculum for pressure ulcer education, designed around an extended SSKIN framework. Skin assessment and care is one of seven aSSKINg modules; it aims to ensure nurses and other clinicians understand the key concepts behind this important area of pressure ulcer prevention, so they can:

- Understand and discuss risk factors associated with impaired skin integrity;
- Identify complex health conditions that affect skin integrity;
- Understand the importance of evidence-based skin interventions;
- Discuss interventions to promote skin integrity.

This requires a basic knowledge of the anatomy of the skin, which has been outlined by Lawton (2019) (page 30-33 of this

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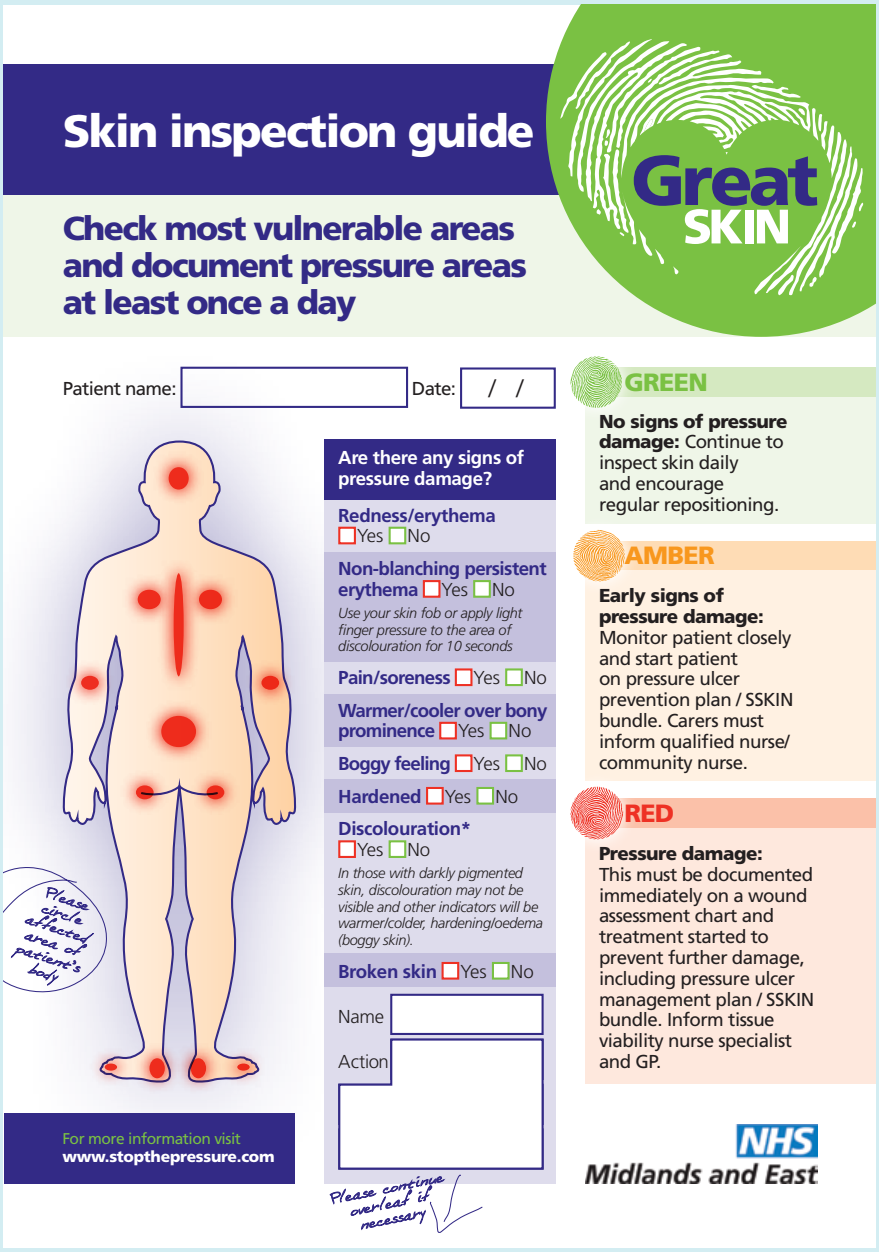
Fig 1. **How to keep skin healthy**



Source: Bit.ly/StPHealthySkin

Fig 2. **Non-blanchable erythema: category 1 pressure ulcer**

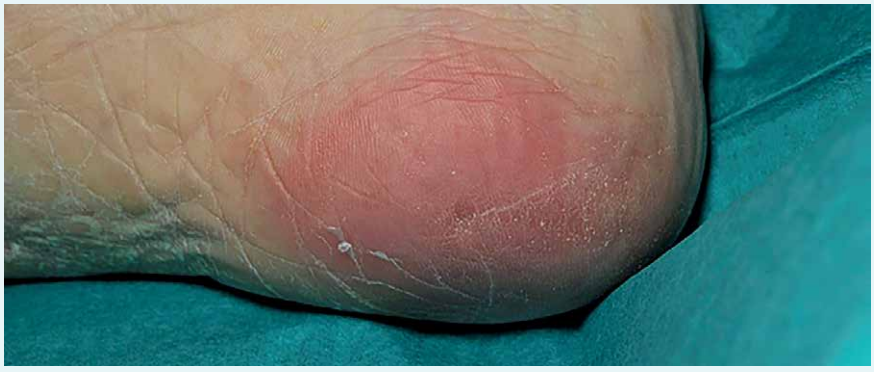


Fig 3. **Category 1 pressure ulcer in dark skin**

issue). Such knowledge allows for an understanding of how skin should be assessed and cared for, and is crucial for categorising pressure ulcers correctly.

Assessment

The patient's skin should be examined systematically from head to toe; although pressure ulcers most commonly occur over bony prominences, they can also occur under devices such as masks, cannulas and catheters, and from skin damage caused by the patient resting on general bed detritus, such as pen lids, remote controls and other items that may be lost in the patient's bed or chair. When examining larger patients, care should be taken to check between/under skin folds for skin damage. When undertaking a skin assessment, it is important to maintain the patient's privacy and dignity; if a patient is assessed as having capacity, their consent must be obtained before proceeding.

The acronym BEST SHOT, from the Stop the Pressure campaign (nhs.stopthepressure.co.uk), is a useful reminder of specific areas of the body to check:

- Buttocks;
- Elbows/Ears;
- Sacrum;
- Trochanters;
- Spine/Shoulders;
- Heels;
- Occipital area;
- Toes.

The 'O' for 'occipital area' can also be amended to 'other' and triggers put in place to ensure devices are lifted to check the skin beneath (Fig 1).

Using BEST SHOT, skin is checked for any changes in colour, temperature or texture; NBE is the first stage of pressure ulceration (Fig 2), described as a category 1 pressure ulcer (NHS Improvement, 2018). In patients with darker skin, redness is not always obvious, so practitioners should look for a change in colour of the skin

Table 1. **What to look for when examining skin**

Skin condition	Questions	Actions	Why is this important?
Dry	● Is the patient dehydrated locally or systemically? ● Does the patient have a known skin condition such as eczema?	● Review the patient's fluid intake to ensure adequate water is being taken ● Review the patient's medications – could anything be contributing to dehydration? ● Review how the skin is cleansed – highly perfumed soaps can dehydrate the skin ● Use simple non-perfumed moisturisers to rehydrate the skin	● Dehydrated skin is rougher than healthy skin and may increase the amount of friction between the skin and surface ● Very dry skin is more susceptible to local infection as the barrier function is reduced

Moist	● Is the patient incontinent?
	● Does the patient have:
	  ● A raised temperature?
	  ● Localised oedema?
	  ● Increased sweating?
	  ● Leakage from a wound or stoma?
	  ● Saliva on the skin?
		● Ensure the skin is kept clean and dry
		● Where possible, manage the cause of the increased fluid
		● Consider using protectant creams or films on the skin
			● Wet skin is much more susceptible to breakdown

Cold compared with the surrounding area	● Has the patient been in one position for longer than four hours? ● Is the cold due to the environment (for example, has the patient been uncovered)?	● Look for additional signs of skin damage; cold usually indicates necrosis (tissue death) ● Instigate a repositioning plan, ensuring the area is fully offloaded (no pressure on the affected area)	● Where tissue is hypoxic (lacks oxygen) or has died, there is no working blood supply and there may be localised necrosis
Hot compared with the surrounding area	● Does the patient have a localised infection? ● Is this inflammation?	● Look for additional signs of skin damage ● Inflammation is the first response to hypoxia and, at this initial stage, it is reversible	● As blood flows to the area as part of the inflammatory response, the local tissue will usually be red/discoloured and warm ● The area may also be slightly oedematous and hard/tight
Red/ discoloured	● Does the area blanch?	● Look for additional signs of skin damage ● If the area does not blanch, document as NBE ● Instigate a repositioning plan, ensuring the area is fully offloaded	● As blood flows to the area as part of the inflammatory response, the local tissue will usually be red/discoloured and warm. If the blood supply is intact, the temporary application of pressure will initiate a blanching response; if the damage is irreversible (NBE) the skin will remain red/ discoloured
'Boggy' (soft and squelchy)	● Does the patient have localised pain, tenderness or numbness? ● Is there a dark or purple discolouration over the area?	● Look for additional signs of skin damage (this is usually a sign of deep-tissue injury and usually indicates necrosis) ● Instigate a repositioning plan, ensuring the area is fully offloaded	● While the surface of the skin may be intact, the change in texture indicates that necrosis may have occurred deeper in the tissue – this is highly likely to be a higher category of pressure damage
Hard/tight	● Does the patient have localised pain, tenderness or numbness? ● Is this inflammation?	● Look for additional signs of skin damage ● If the area is also discoloured and does not blanch, document as NBE ● Instigate a repositioning plan, ensuring the area is fully offloaded	● While the surface of the skin may be intact, the change in texture indicates that an inflammatory response has been instigated and there is localised oedema

NBE = non-blanchable erythema

Fig 4. **Using a clear plastic key fob to test a red area for blanching**

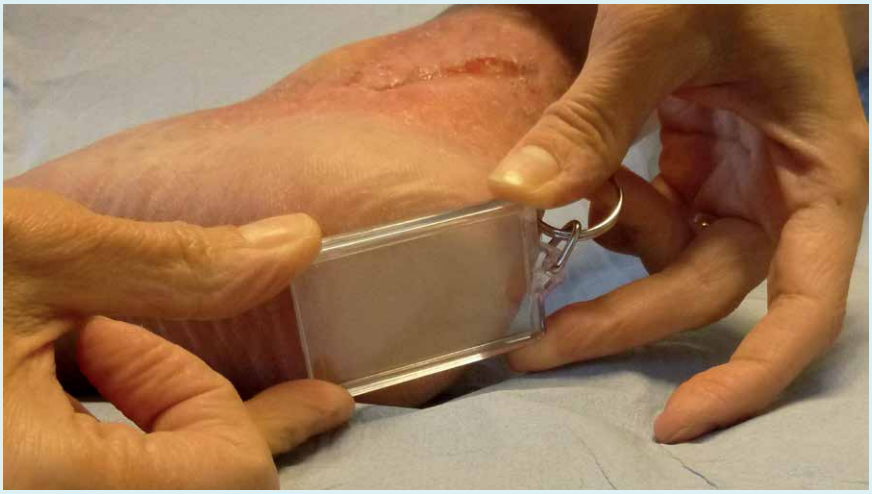
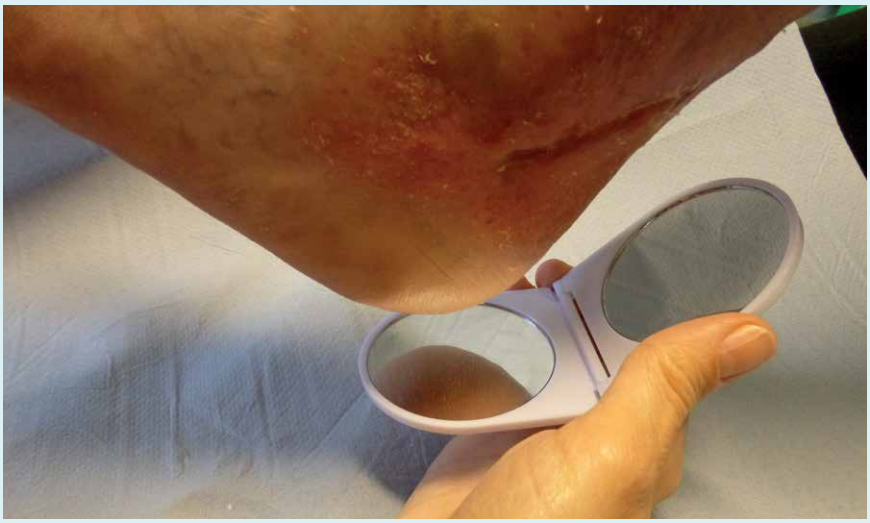


Fig 5. **Using a mirror to check difficult-to-see areas**



compared with the surrounding area (Fig 3). Other signs of NBE are a change in texture and the patient reporting pain, tingling or numbness in the area.

To test for NBE, apply light finger pressure to the reddened area for a count of three. If the area becomes white on removal and then returns to red, this is described as blanching (meaning to go pale), signifying healthy skin. No blanching denotes NBE and should be recorded as a category 1 pressure ulcer.

Clear plastic discs or key fobs are sometimes used to allow the skin to be observed more clearly (Fig 4); if the skin is white beneath the plastic it is healthy. These plastic implements should be cleaned with hard-surface disinfectant wipes in between use. When examining areas that are difficult to see, such as heels, a mirror may be used to help (Fig 5).

The texture of the skin may also indicate deterioration or a condition that increases risk. As an example, sweaty, oedematous skin increases the risk of damage from friction and shear; Table 1 lists factors to look for when examining skin. Any other wounds (for example, moisture-associated skin damage, skin tears) should also be documented.

It is good practice to include a body map showing the position of the skin damage, as well as a written description. Photography is also useful, particularly to record the size and severity of the damage. When taking photographs, follow local policies regarding consent. Simple tips for photography are:

- Take a broader shot to locate the wound;
- Go in close to show more detail;
- Keep the background clear and uncluttered;
- Include something, such as a disposable paper measuring device, to give scale to the image.

Skin care

Keep the patient's skin clean and dry by using a simple cleanser and patting, not rubbing, dry. For skin that is at increased risk from moisture, use a skin barrier. Encourage patents to participate in their own skin inspection and care, and offer advice on good nutrition, particularly hydration, as these are vital in maintaining skin health (Lecko, 2018).

Conclusion

The skin serves an important role as a barrier; any breaches in it increase the risk of infection and also increase the metabolic demand on patients, so maintaining healthy skin should be seen as a fundamental aspect of care. The skin module of the aSSKINg education framework for pressure ulcer prevention provides practitioners with the knowledge they need to be able to do this. **NT**

References

Lawton S (2019) Skin 1: anatomy, physiology and function. *Nursing Times;* 115: 12, 30-33.

Lecko C (2018) Assessing nutritional status to reduce risk of pressure ulcers. *Nursing Times;* 114: 6, 44-46.

NHS Improvement (2018) *Pressure Ulcers: Revised Definition and Measurement: Summary and Recommendations.* Bit.ly/NHSIPressureUlcerDefinitions

National Institute for Health and Care Excellence (2014) *Pressure Ulcers: Prevention and Management.* nice.org.uk/cg179

National Pressure Ulcer Advisory Panel et al (2014) *Prevention and Treatment of Pressure Ulcers: Quick Reference Guide.* Bit.ly/NPUAPUlcerGuidance

Shi C et al (2018) Skin status for predicting pressure ulcer development: a systematic review and meta analysis. *International Journal of Nursing Studies;* 87: 14-25.

Whitlock J (2013) SSKIN bundle: preventing pressure damage across the health-care community. *British Journal of Community Nursing;* Suppl: S32-39.

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